

Positioning Systems

Linear Axes KK/KF

Positioning Systems

Linear axes with ballscrew

Linear axes are used in many areas of industry to transport or to position. HIWIN supplies linear axes with ballscrews for a range of applications.

The linear axes of the KK and KF series are particularly suitable for applications requiring high feed forces and precision in combination with high rigidity.



Assembly instructions and catalogue for download

Here you can download the corresponding assembly instruction and the current catalogue as PDF files.

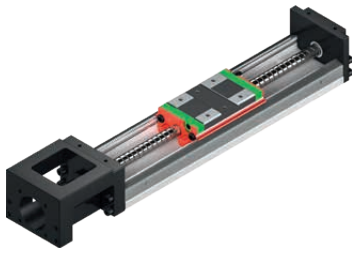
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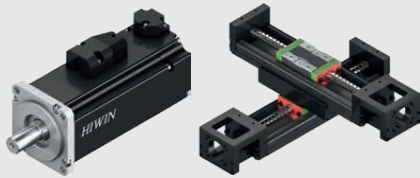
1. Product overview



KK/KF Linear Axes

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- Ready-to-install complete axis
- Universal use
- Compact design
- Adaptable and robust
- High precision and rigidity



Accessories

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- Sensor rail with limit switch
- Cross table adapter
- Covers
- Grease nipples
- HIWIN servo motor

KK/KF Linear Axes

General information

2. General information

2.1 Characteristics of KK/KF linear axes

HIWIN KK/KF linear axes are compact positioning axes with high feed forces. High levels of accuracy and rigidity are achieved through a linear guideway in the steel profile with integrated ballscrew.

The axis is available in different sizes and lengths and can be adapted to the application requirements through additional options such as aluminium covers, bellow covers, limit switches and additional blocks.

Typical properties

- Ready-to-install complete axis
- Universal use
- Compact design
- Adaptable and robust
- High precision and rigidity

Advantages KK axis

- Double row version
- Standard version
- Horizontal installations possible
- Vertical installations possible with suitable clamping or braking device
- Application with high accuracy
- Compact design

Additional advantages KF axis

- Four row version
- Optimised synchronisation characteristics
- Reduced running noise
- Same dimensions as KK axis
- SynchMotion™ technology

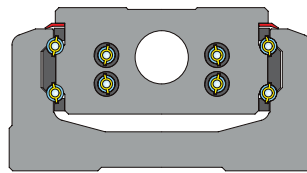


Fig. 2.1 4-row linear axis KF

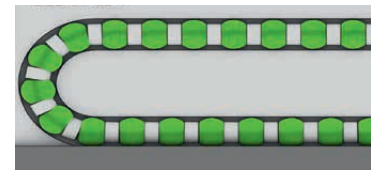
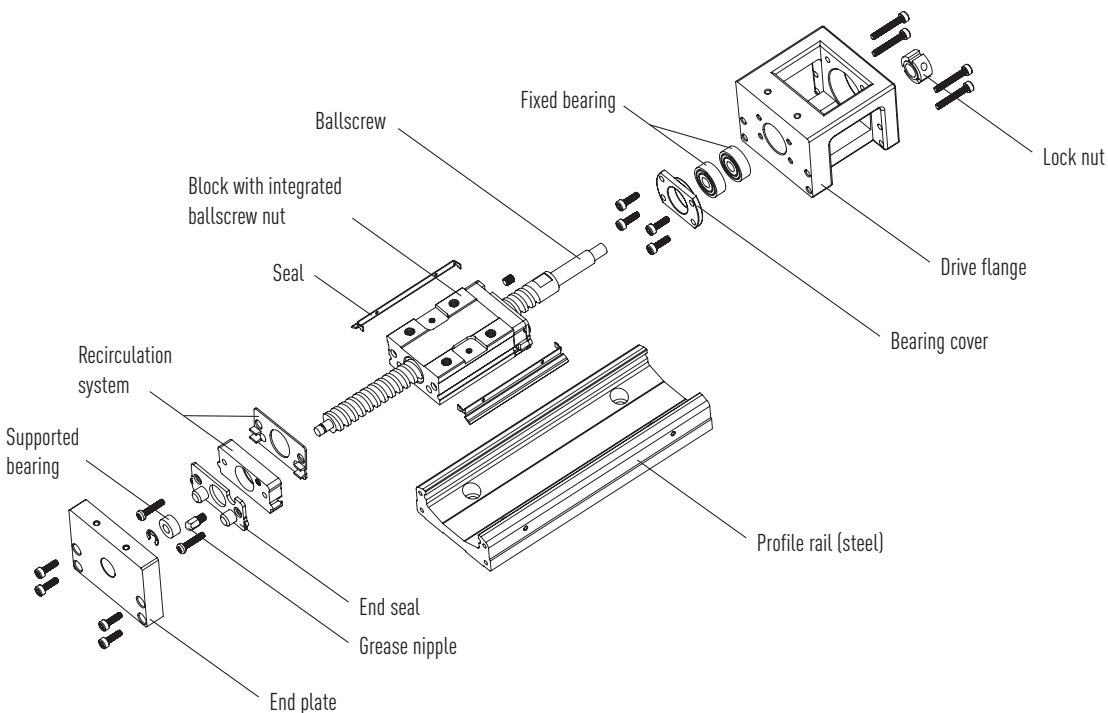


Fig. 2.2 SynchMotion™ technology

2.2 Structure of KK/KF linear axes



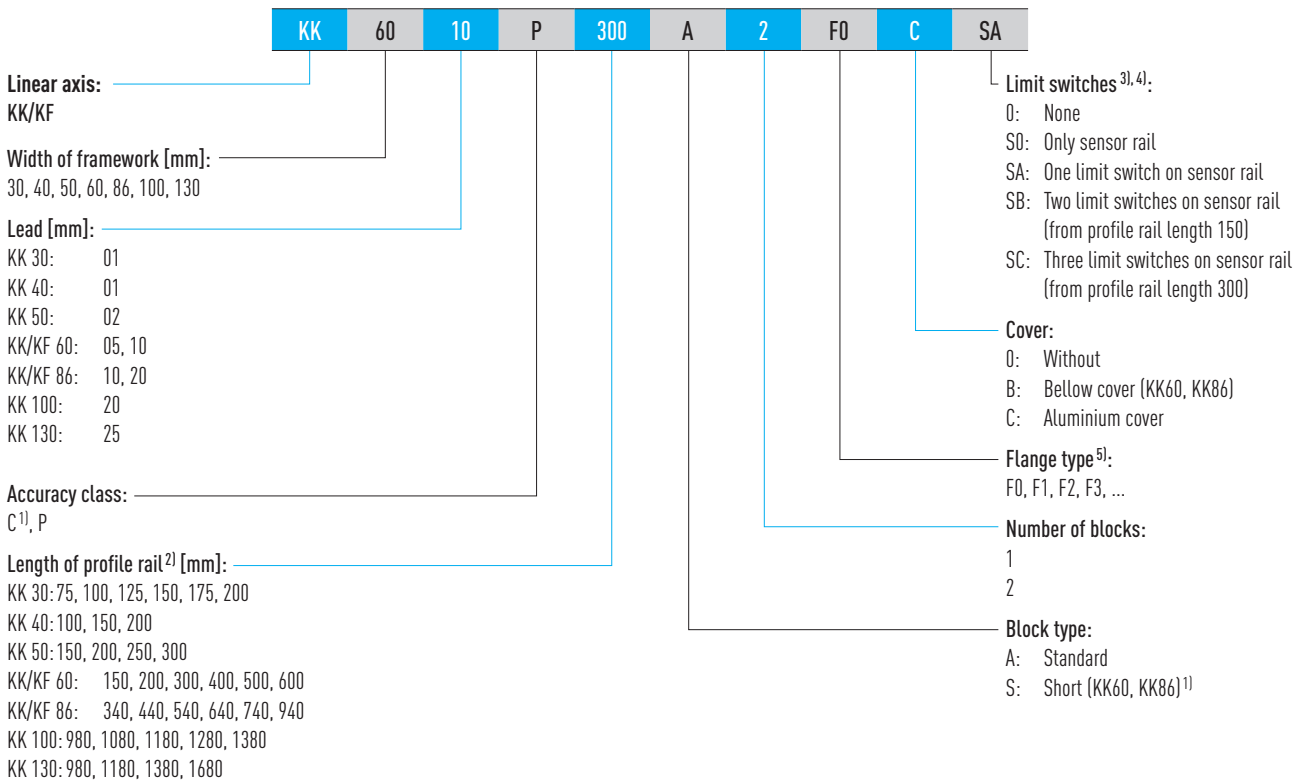
Speciality KK axis

- Double row version
- Full spherical

Speciality KF axis

- Four row version
- SynchMotion™ technology

2.3 Order code for KK/KF Linear axes



¹⁾ On request

²⁾ Shortened lengths are available on request

³⁾ Not available for model KK30

⁴⁾ Limit switches are normally closed contacts, normally open contacts are available via accessories

⁵⁾ The suitable flange type for adapting the HIWIN servomotors EM1 can be found in section [12.5](#)

KK/KF Linear Axes

General information

2.4 Service life calculation

The repeated load on blocks and spindles results in signs of fatigue and eventually pitting on the track surface. The service life of a linear axis is defined as the total distance travelled until pitting appears on the surface of the track or spindle.

2.4.1 Nominal service life (L)

The service life may vary significantly even between linear axes that were manufactured in the same way and are used under the same motion conditions. So the nominal service life serves as a guideline to estimate the service life of a linear axis. The nominal service life corresponds to the total distance travelled that will be achieved by 90 % of a group of identical linear axes used under the same conditions without failure.

Calculation of nominal service life (L)

The actual calculation influences the nominal service life of a linear axis. When the selected dynamic load rating and the dynamic equivalent load are known, the nominal service life can be calculated using the formulas F 2.1 and F 2.2.

- Nominal service life of ballscrew

F 2.1

$$L = \left(\frac{C_{dyn}}{f_p \times F_{xm}} \right)^3 \times 10^6$$

L Nominal service life in revolutions
 C_{dyn} Dynamic load rating [N]
 F_{xm} Dynamic equivalent load (axial) [N]
 f_p Ballscrew load factor

- Nominal service life of linear guideway

F 2.2

$$L = \left(\frac{C_{dyn}}{f_w \times F_{bm}} \right)^3 \times 50 \text{ km}$$

L Nominal service life in kilometres
 C_{dyn} Dynamic load rating [N]
 F_{bm} Dynamic equivalent load [N]
 f_w Linear guideway load factor

Load factor (f_p , f_w)

The loads that act on a linear axis include the weight of the block, the inertia at the start and end of a movement and the load torque created by the projecting load. These load factors are especially difficult to gauge when vibrations or impact loads are added. The load should therefore be multiplied by the empirical load factor. In short-stroke applications (stroke < 2 × block length) the calculated load factor should be doubled.

Table 2.1 Ballscrew load factor

Type of load	f_p
Operation without impact	1.1 – 1.2
Operation under normal conditions	1.3 – 1.8
Operation with high impact and vibrations	2.0 – 3.0
Short-stroke applications (< 3 × nut length)	3.0 – 5.0

Table 2.2 Linear guideway load factor

Type of load	Travel speed	f_w
No impact or vibrations	up to 15 m/min	1.0 – 1.2
Normal load	15 m/min to 60 m/min	1.2 – 1.5
Minor impacts	60 m/min to 120 m/min	1.5 – 2.0
With impact and vibrations	over 120 m/min	2.0 – 3.5

2.4.1.1 Calculation of service life of linear guideway

Because the load of a block varies considerably, an equivalent load must be used to calculate the service life. The equivalent load is defined as the load that causes the same wear on the bearings as the variable load. Constant operating conditions are not taken into account.

- Combined dynamic equivalent load

F 2.3

$$F_{bm} = F + M \times \frac{C_0}{M_0}$$

F_{bm} Dynamic equivalent load [N]
 C_0 Static load rating [N]
 M_0 Static moment [Nm]
 M Directly effective moment (around X, Y or Z axis) [Nm]
 F Effective force (in Y or Z direction) [N]

This formula is a simplified way of calculating the dynamic equivalent load. If you require more information, please contact HIWIN.

Example calculation of service life of linear guideway

- Service life calculation for a KK60 linear axis (when $f_w = 1$)

Specification: $M_Y = 20 \text{ Nm}$ Moment
 $M_{Y0} = 152 \text{ Nm}$ Static moment¹⁾
 $C_{dyn} = 13,230 \text{ N}$ Dynamic load rating¹⁾
 $C_0 = 21,462 \text{ N}$ Static load rating¹⁾

¹⁾ For calculated values for load ratings and static moment, see [Table 2.4](#)

$$F_{bm} = F + M \times \frac{C_0}{M_{Y0}} \quad \rightarrow \quad F_{bm} = 0 + 20 \text{ Nm} \times \frac{21462 \text{ N}}{152 \text{ Nm}} \quad \rightarrow \quad F_{bm} = 2823.95 \text{ N}$$

$$L = \left(\frac{C_{dyn}}{f_w \times F_{bm}} \right)^3 \times 50 \text{ km} \quad \rightarrow \quad L = \left(\frac{13230 \text{ N}}{1 \times 2823.95 \text{ N}} \right)^3 \times 50 \text{ km} \quad \rightarrow \quad \underline{\underline{L = 5141 \text{ km}}}$$

With a moment of $M_Y = 20 \text{ Nm}$, the nominal service life of the block in a KK/KF60 linear axis is 5,141 km.

For more information, please contact HIWIN.

2.4.1.2 Calculation of service life of ballscrew

The bases of calculation are based on DIN 69051 and/or ISO 3408. For detailed information about configuring a ballscrew, please refer to our "Ballscrews and Accessories" catalogue.

a) Average speed n_m

F 2.4

$$n_m = n_1 \times \frac{t_1}{100} + n_2 \times \frac{t_2}{100} + n_3 \times \frac{t_3}{100} + \dots$$

n_m Average speed, total [1/min]
 n_n Average speed in phase n [1/min]
 t_n Amount of time in phase n [%]

b) Average operating load F_{xm}

- With alternating load and constant speed:

F 2.5

$$F_{xm} = \sqrt[3]{F_{x1}^3 \times \frac{t_1}{100} \times f_{p1}^3 + F_{x2}^3 \times \frac{t_2}{100} \times f_{p2}^3 + F_{x3}^3 \times \frac{t_3}{100} \times f_{p3}^3 \dots}$$

F_{xm} Average operating load in axial direction [N]
 F_{xn} Operating axial loading in phase n [N]
 f_{pn} Operating condition factor in phase n
 f_p See [Table 2.1](#)

- With alternating load and alternating speed:

F 2.6

$$F_{xm} = \sqrt[3]{F_{x1}^3 \times \frac{n_1}{n_m} \times \frac{t_1}{100} \times f_{p1}^3 + F_{x2}^3 \times \frac{n_2}{n_m} \times \frac{t_2}{100} \times f_{p2}^3 + F_{x3}^3 \times \frac{n_3}{n_m} \times \frac{t_3}{100} \times f_{p3}^3 \dots}$$

KK/KF Linear Axes

General information

Service life with axial load on both sides

- Service life in revolutions

F.2.7

$$L_1 = \left(\frac{C_{dyn}}{F_{xm1}} \right)^3 \times 10^6$$

$$L_2 = \left(\frac{C_{dyn}}{F_{xm2}} \right)^3 \times 10^6$$

F.2.8

$$L = \left(L_1^{-10/9} + L_2^{-10/9} \right)^{-9/10}$$

- L_1 Service life in revolutions, forward motion
- L_2 Service life in revolutions, backward motion
- C_{dyn} Dynamic load rating [N]
- F_{xm1} Average operating load, forward motion [N]
- F_{xm2} Average operating load, backward motion [N]
- L Service life in revolutions

- Conversion of service life into operating hours

F.2.9

$$L_h = \frac{L}{n_m \times 60}$$

- L_h Service life in operating hours
- n_m Average speed [rpm], see formula F.2.4
- L Service life in revolutions

- Conversion of distance travelled [km] into operating hours

F.2.10

$$L_h = \left(\frac{L_{km} \times 10^6}{P} \right) \times \frac{1}{n_m \times 60}$$

- L_h Service life in operating hours
- L_{km} Service life in distance travelled [km]
- P Lead [mm]
- n_m Average speed [rpm], see formula F.2.4

2.5 Ambient conditions

- Ambient temperature: +5 °C to +40 °C
- Installation site: dry
- Atmosphere: not explosive

2.6 Glossary

Positioning accuracy

According to VDI/DGQ 3441, positioning accuracy describes the maximum deviation between the actual and nominal positions. Positioning accuracy is influenced by the following factors: lead error of spindle, system play, controller parameterisation and the accuracy of the linear unit, transmission, motor and measuring system.

Repeatability

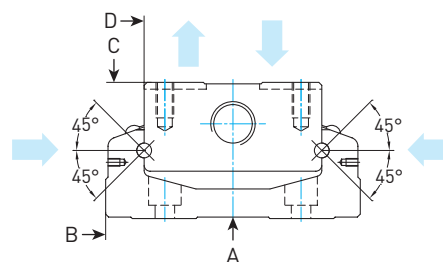
Repeatability describes how accurately the block is stopped and positioned when approaching a given position from the any direction several times. It is stated as the maximum deviation between the actual positions attained.

Starting torque

The starting torque is the torque needed to overcome the frictional torque.

Guide parallelism

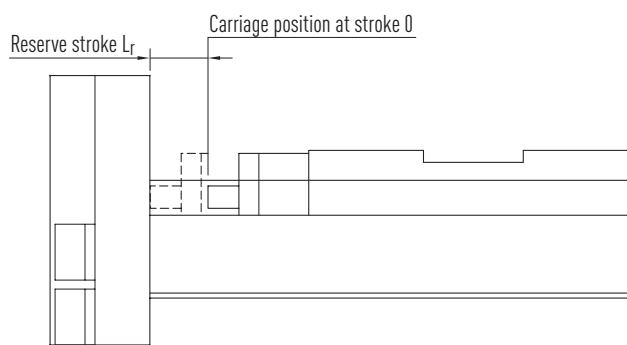
The guide parallelism is measured by aligning a measuring rule parallel to a linear axis mounted on a table. The parallelism of contact faces D and B on the block and profile and of the block top face C to mounting surface A of the profile is then measured. It is assumed that the axis is ideally installed and that the measurement is taken across the centre of the block. Guide parallelism is calculated by subtracting the minimum value from the maximum value.



Reserve stroke

The reserve stroke L_r equals the distance that can be travelled in addition to the stroke on both sides of the end positions (stroke 0, stroke max) before the carriage reaches the mechanical end position at the installed dampers. The reserve stroke is defined for each axis size at the factory.

The reserve stroke for each axis size can be found in the dimension tables for the individual sizes.



2.7 Technical data of KK/KF linear axes

2.7.1 Accuracy and maximum values of KK/KF linear axes

Table 2.3 Accuracy and maximum values of KK/KF linear axes

Model	Lead [mm]	L1 [mm]	v_{max} [mm/s]	a_{max} [m/s ²]	Max. drive torque [Nm]	Positioning accuracy [mm]	Repeatability [mm]	Guideway parallelism [mm]	Starting torque [Nmm]
KK3001P0075	1	129	160	5	0.05	0.020	± 0.003	0.010	12
KK3001P0100	1	154	160	5	0.05	0.020	± 0.003	0.010	12
KK3001P0125	1	179	160	5	0.05	0.020	± 0.003	0.010	12
KK3001P0150	1	204	160	5	0.05	0.020	± 0.003	0.010	12
KK3001P0175	1	229	160	5	0.05	0.020	± 0.003	0.010	12
KK3001P0200	1	254	160	5	0.05	0.020	± 0.003	0.010	12
KK4001P0100	1	159	190	5	0.20	0.020	± 0.003	0.010	12
KK4001P0150	1	209	190	5	0.20	0.020	± 0.003	0.010	12
KK4001P0200	1	259	190	5	0.20	0.020	± 0.003	0.010	12
KK5002P0150	2	220	270	5	0.61	0.020	± 0.003	0.010	40
KK5002P0200	2	270	270	5	0.61	0.020	± 0.003	0.010	40
KK5002P0250	2	320	270	5	0.61	0.020	± 0.003	0.010	40
KK5002P0300	2	370	270	5	0.61	0.020	± 0.003	0.010	40
KK/KF6005P0150	5	220	550	15	1.26	0.020	± 0.003	0.010	150
KK/KF6005P0200	5	270	550	15	1.26	0.020	± 0.003	0.010	150
KK/KF6005P0300	5	370	550	15	1.26	0.020	± 0.003	0.010	150
KK/KF6005P0400	5	470	550	15	1.26	0.020	± 0.003	0.010	150
KK/KF6005P0500	5	570	550	15	1.26	0.025	± 0.003	0.015	150
KK/KF6005P0600	5	670	340	15	1.26	0.025	± 0.003	0.015	150
KK/KF6010P0150	10	220	1,100	15	1.26	0.020	± 0.003	0.010	150
KK/KF6010P0200	10	270	1,100	15	1.26	0.020	± 0.003	0.010	150
KK/KF6010P0300	10	370	1,100	15	1.26	0.020	± 0.003	0.010	150
KK/KF6010P0400	10	470	1,100	15	1.26	0.020	± 0.003	0.010	150
KK/KF6010P0500	10	570	1,100	15	1.26	0.025	± 0.003	0.015	150
KK/KF6010P0600	10	670	670	15	1.26	0.025	± 0.003	0.015	150
KK/KF8610P0340	10	440	740	15	2.79	0.025	± 0.003	0.015	150
KK/KF8610P0440	10	540	740	15	2.79	0.025	± 0.003	0.015	150
KK/KF8610P0540	10	640	740	15	2.79	0.025	± 0.003	0.015	150
KK/KF8610P0640	10	740	740	15	2.79	0.025	± 0.003	0.015	150
KK/KF8610P0740	10	840	740	15	2.79	0.030	± 0.003	0.020	170
KK/KF8610P0940	10	1,040	610	15	2.79	0.040	± 0.003	0.030	250
KK/KF8620P0340	20	440	1,480	15	2.79	0.025	± 0.003	0.015	150
KK/KF8620P0440	20	540	1,480	15	2.79	0.025	± 0.003	0.015	150

KK/KF Linear Axes

General information

Table 2.3 Accuracy and maximum values of KK/KF linear axes

Model	Lead [mm]	L1 [mm]	v_{max} [mm/s]	a_{max} [m/s ²]	Max. drive torque [Nm]	Positioning accuracy [mm]	Repeatability [mm]	Guideway parallelism [mm]	Starting torque [Nmm]
KK/KF8620P0540	20	640	1,480	15	2,79	0.025	± 0.003	0.015	150
KK/KF8620P0640	20	740	1,480	15	2,79	0.025	± 0.003	0.015	150
KK/KF8620P0740	20	840	1,480	15	2,79	0.030	± 0.003	0.020	170
KK/KF8620P0940	20	1,040	1,220	15	2,79	0.040	± 0.003	0.030	250
KK10020P0980	20	1,089	1,120	15	8,65	0.035	± 0.005	0.025	170
KK10020P1080	20	1,189	980	15	8,65	0.035	± 0.005	0.025	170
KK10020P1180	20	1,289	750	15	8,65	0.040	± 0.005	0.030	200
KK10020P1280	20	1,389	630	15	8,65	0.045	± 0.005	0.035	230
KK10020P1380	20	1,489	530	15	8,65	0.050	± 0.005	0.040	250
KK13025P0980	25	1,098	1,120	15	18,4	0.035	± 0.005	0.025	250
KK13025P1180	25	1,298	1,120	15	18,40	0.040	± 0.005	0.030	250
KK13025P1380	25	1,498	830	15	18,40	0.040	± 0.005	0.030	250
KK13025P1680	25	1,798	550	15	18,40	0.050	± 0.007	0.040	270

2.7.2 Load ratings and torques of KK/KF linear axes

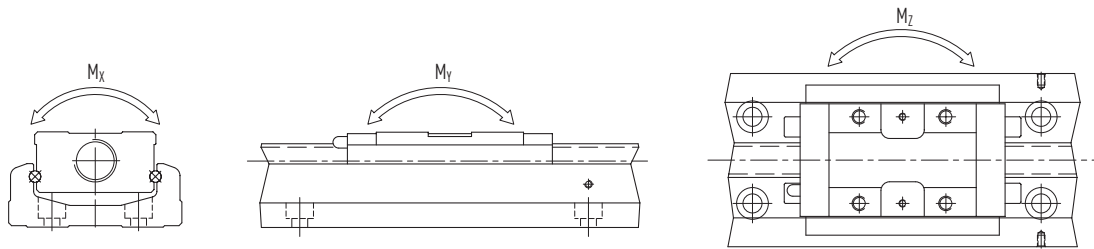


Table 2.4 Load ratings of KK/KF linear axes: linear guideway, standard block

Model	C_{dyn} [N]	C_0 [N]	Static moment block A1			Static moment block A2		
			M_x [Nm]	M_y [Nm]	M_z [Nm]	M_x [Nm]	M_y [Nm]	M_z [Nm]
KK30	2,210	3,510	41	14	14	82	73	73
KK40	3,920	6,468	81	33	33	162	182	182
KK50	8,007	12,916	222	116	116	444	545	545
KK60	13,230	21,462	419	152	152	838	760	760
KF60	16,403	20,238	416	171	171	832	968	968
KK86	31,458	50,764	1,507	622	622	3,014	3,050	3,050
KF86	38,140	45,545	1,349	566	566	2,698	3,153	3,153
KK100	39,200	63,406	2,205	960	960	4,410	4,763	4,763
KK130	48,101	84,829	3,885	1,536	1,536	7,770	7,350	7,350

Please note: The load-bearing capacities of the linear guideway and the ballscrew are often limited not by their load-bearing strength, but the screw connection. We therefore recommend checking the maximum permitted load-bearing capacity of the screw connection in accordance with VDI 2230.

Table 2.5 Load ratings of KK linear axes: linear guideway, short block

Model	C_{dyn} [N]	C_0 [N]	Static moment block S1			Static moment block S2		
			M_x [Nm]	M_y [Nm]	M_z [Nm]	M_x [Nm]	M_y [Nm]	M_z [Nm]
KK60	7,173	11,574	241	72	72	482	367	367
KK86	21,051	29,475	847	166	166	1,694	1,309	1,309

Table 2.6 Load ratings of KK/KF linear axes: ballscrew and fixed bearing

Model	Shaft			Fixed bearing	
	Ø [mm]	C _{dyn} [N]	C ₀ [N]	C _{0 axial} [N]	F _{max axial} [N]
KK3001Pxxxx	6	647	1,088	—	—
KK4001Pxxxx	8	735	1,538	1,910	750
KK5002Pxxxx	8	2,136	3,489	1,910	1,500
KK/KF6005Pxxxx	12	3,744	6,243	4,480	3,120
KK/KF6010Pxxxx	12	2,410	3,743	4,480	1,870
KK/KF8610Pxxxx	15	7,144	12,642	9,240	6,320
KK/KF8620Pxxxx	15	4,645	7,655	9,240	3,825
KK10020Pxxxx	20	7,046	12,544	10,600	6,270
KK13025Pxxxx	25	7,897	15,931	18,485	7,950

Please note: The load-bearing capacities of the linear guideway and the ballscrew are often limited not by their load-bearing strength, but the screw connection. We therefore recommend checking the maximum permitted load-bearing capacity of the screw connection in accordance with VDI 2230.

KK/KF Linear Axes

KK30 linear axes

3. KK30 linear axes

3.1 KK30 linear axes without cover

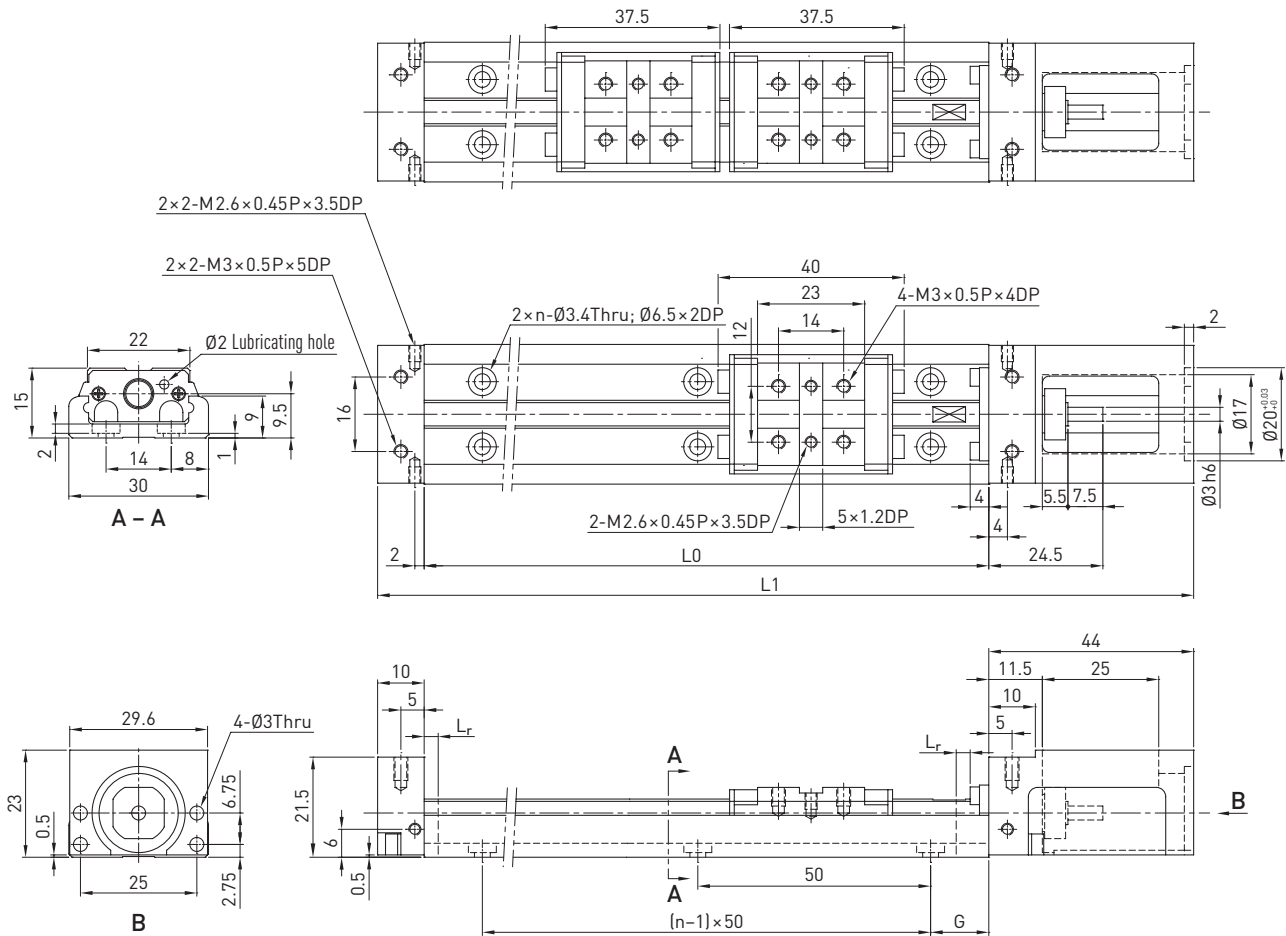


Table 3.1 Dimensions and weights of KK30 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L_r [mm]	G [mm]	n	Weight [kg]	
				Block A1	Block A2				Block A1	Block A2
KK3001P0075	1	75	129	25	—	3	12.5	2	0.20	—
KK3001P0100	1	100	154	50	—	3	25.0	2	0.23	—
KK3001P0125	1	125	179	75	39	3	12.5	3	0.26	0.30
KK3001P0150	1	150	204	100	64	3	25.0	3	0.29	0.33
KK3001P0175	1	175	229	125	89	3	12.5	4	0.32	0.36
KK3001P0200	1	200	254	150	114	3	25.0	4	0.35	0.39

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

3.2 KK30 linear axes with aluminium cover

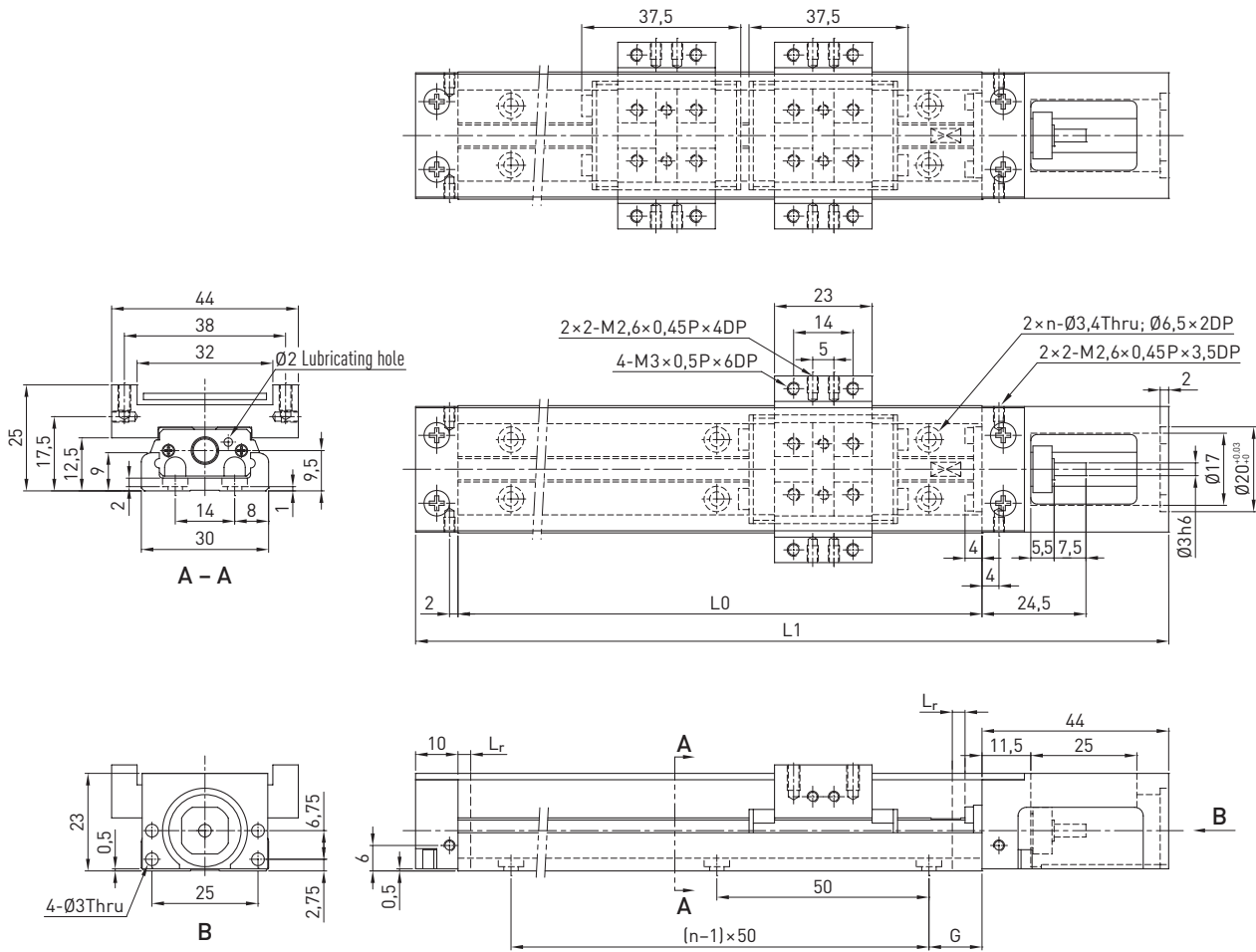


Table 3.2 Dimensions and weights of KK30 linear axes with aluminium cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L_r [mm]	G [mm]	n	Weight [kg]	
				Block A1	Block A2				Block A1	Block A2
KK3001P0075	1	75	129	25	—	3	12.5	2	0.24	—
KK3001P0100	1	100	154	50	—	3	25.0	2	0.27	—
KK3001P0125	1	125	179	75	39	3	12.5	3	0.30	0.36
KK3001P0150	1	150	204	100	64	3	25.0	3	0.33	0.39
KK3001P0175	1	175	229	125	89	3	12.5	4	0.37	0.43
KK3001P0200	1	200	254	150	114	3	25.0	4	0.40	0.46

Reference edge

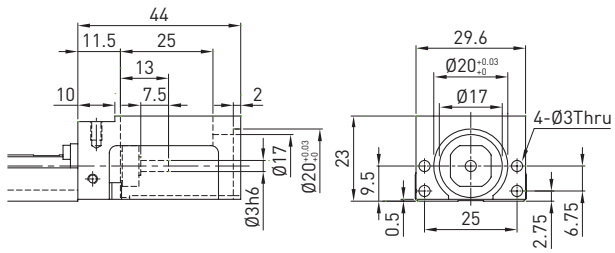
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

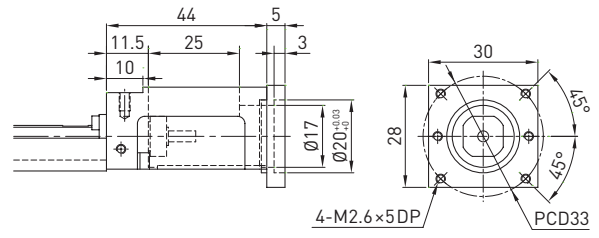
KK30 linear axes

3.3 KK30 adapter flanges

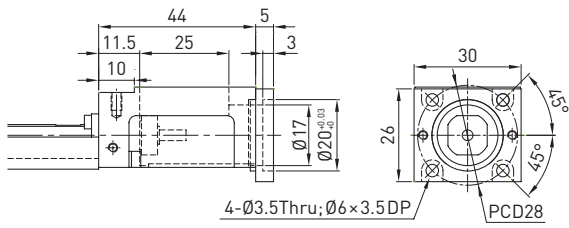
Motor adapter flange F0



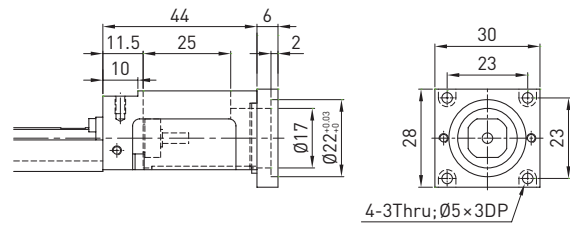
Motor adapter flange F1



Motor adapter flange F2



Motor adapter flange F3



4. KK40 linear axes

4.1 KK40 linear axes without cover

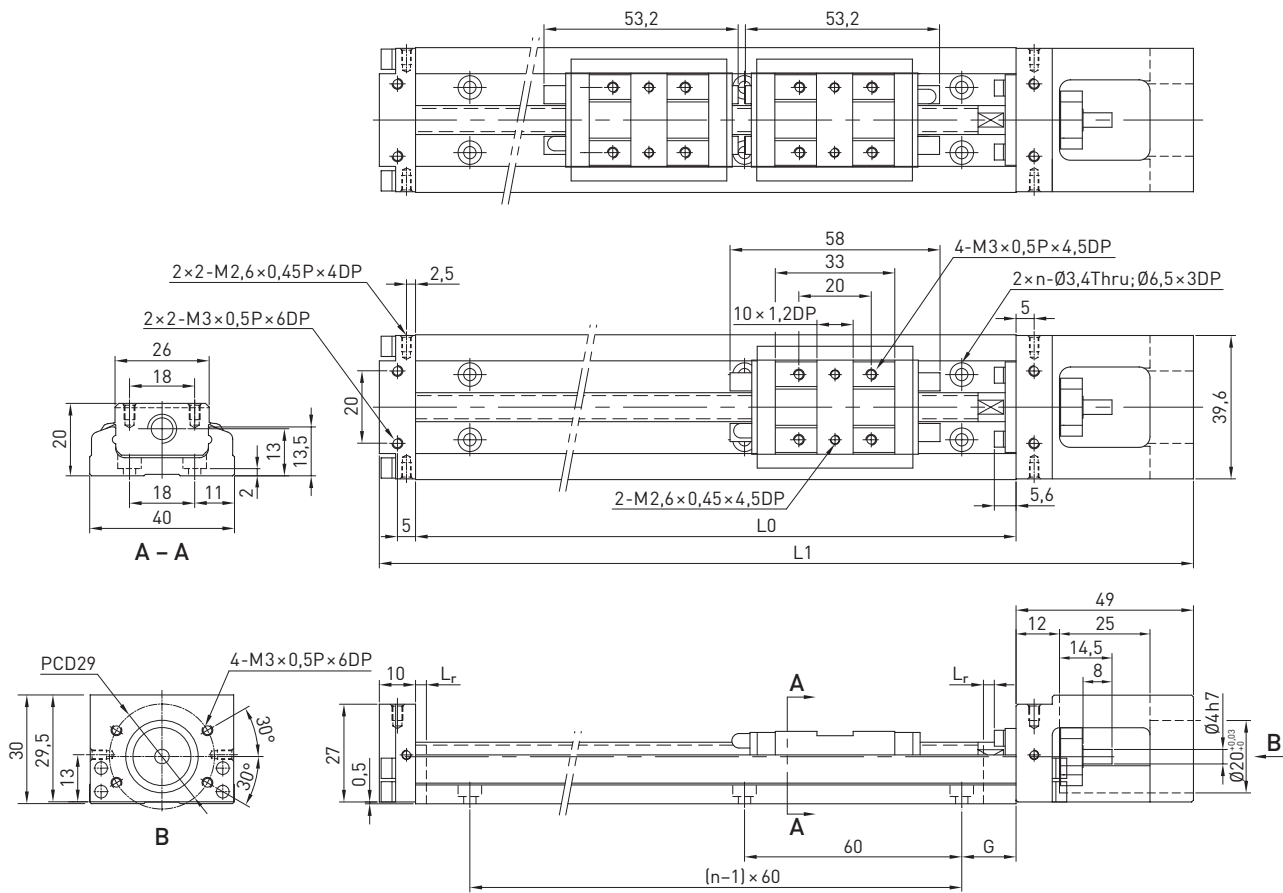


Table 4.1 Dimensions and weights of KK40 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	Weight [kg]	
				Block A1	Block A2				Block A1	Block A2
KK4001P0100	1	100	159	30	—	3	20	2	0.48	—
KK4001P0150	1	150	209	80	28	3	15	3	0.60	0.67
KK4001P0200	1	200	259	130	78	3	40	3	0.72	0.79

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK40 linear axes

4.2 KK40 linear axes with aluminium cover

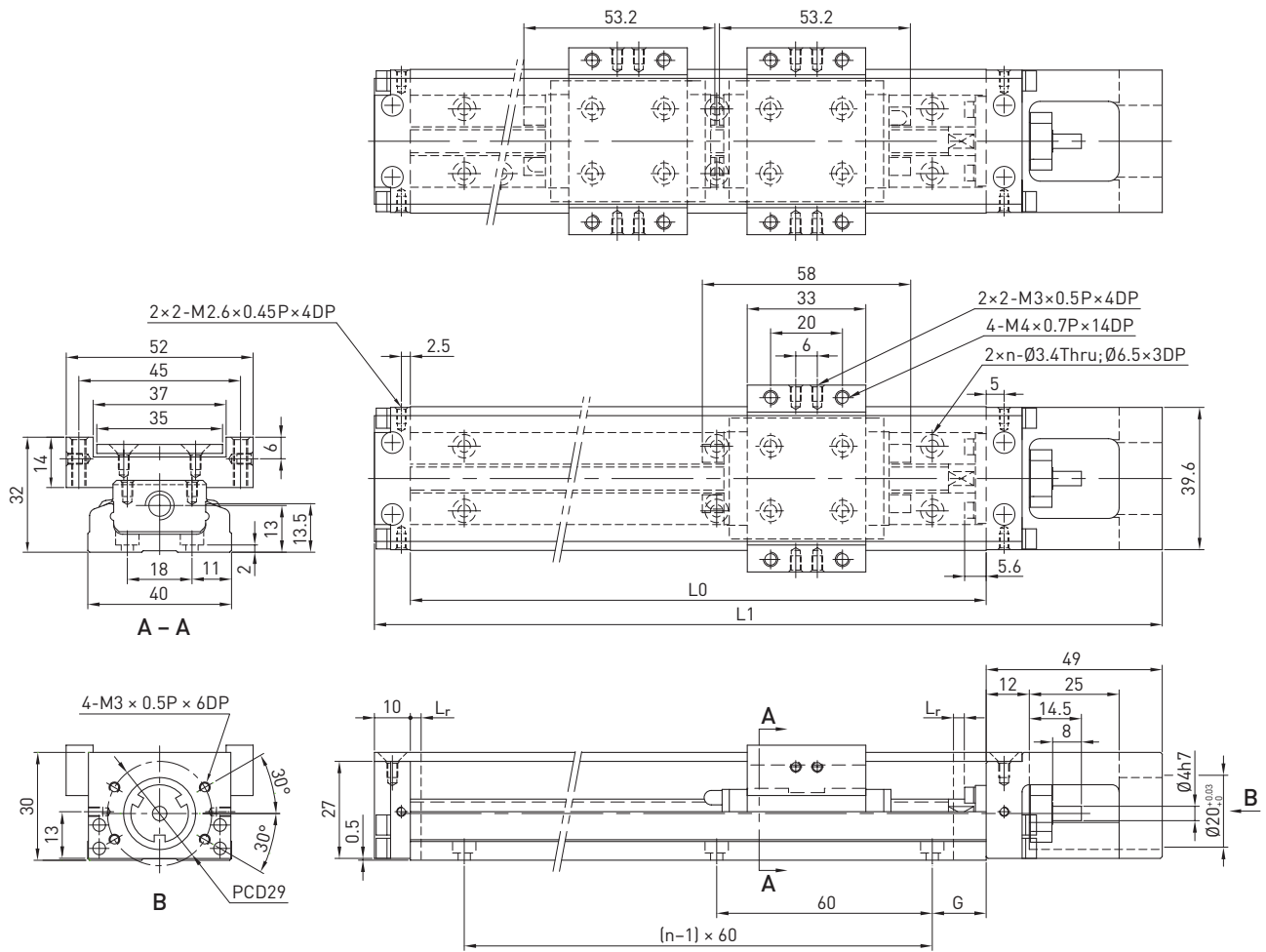


Table 4.2 Dimensions and weights of KK40 linear axes with aluminium cover

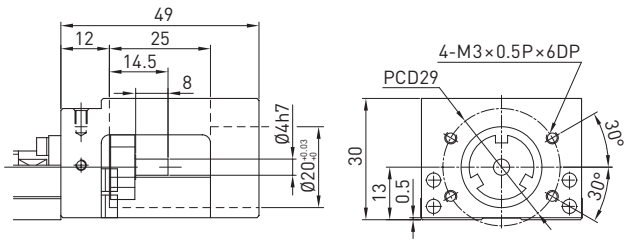
Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	Weight [kg]	
				Block A1	Block A2				Block A1	Block A2
KK4001P0100	1	100	159	30	—	3	20	2	0.55	—
KK4001P0150	1	150	209	80	28	3	15	3	0.68	0.76
KK4001P0200	1	200	259	130	78	3	40	3	0.82	0.89

Reference edge

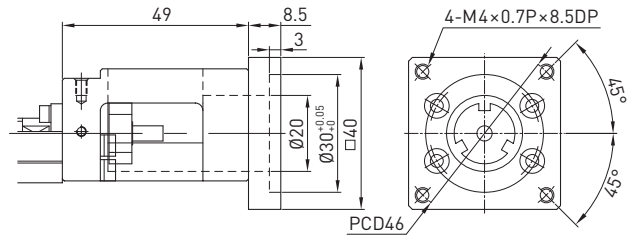
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

4.3 KK40 adapter flanges

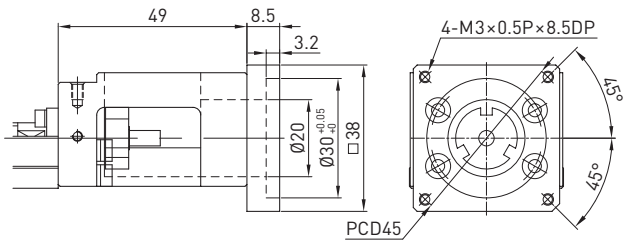
Motor adapter flange F0



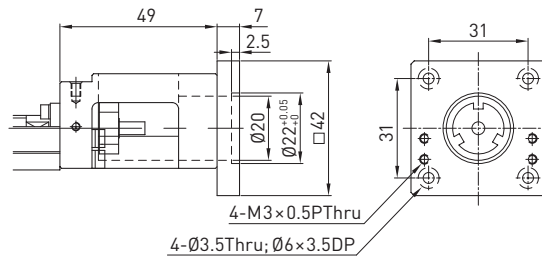
Motor adapter flange F1



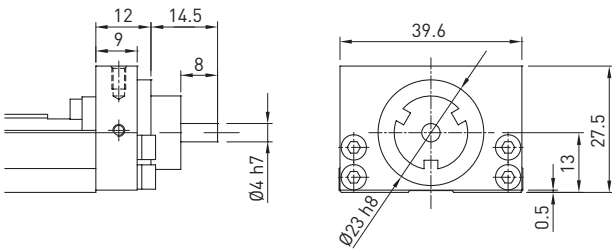
Motor adapter flange F2



Motor adapter flange F3



Motor adapter flange H0



KK/KF Linear Axes

KK50 linear axes

5. KK50 linear axes

5.1 KK50 linear axes without cover

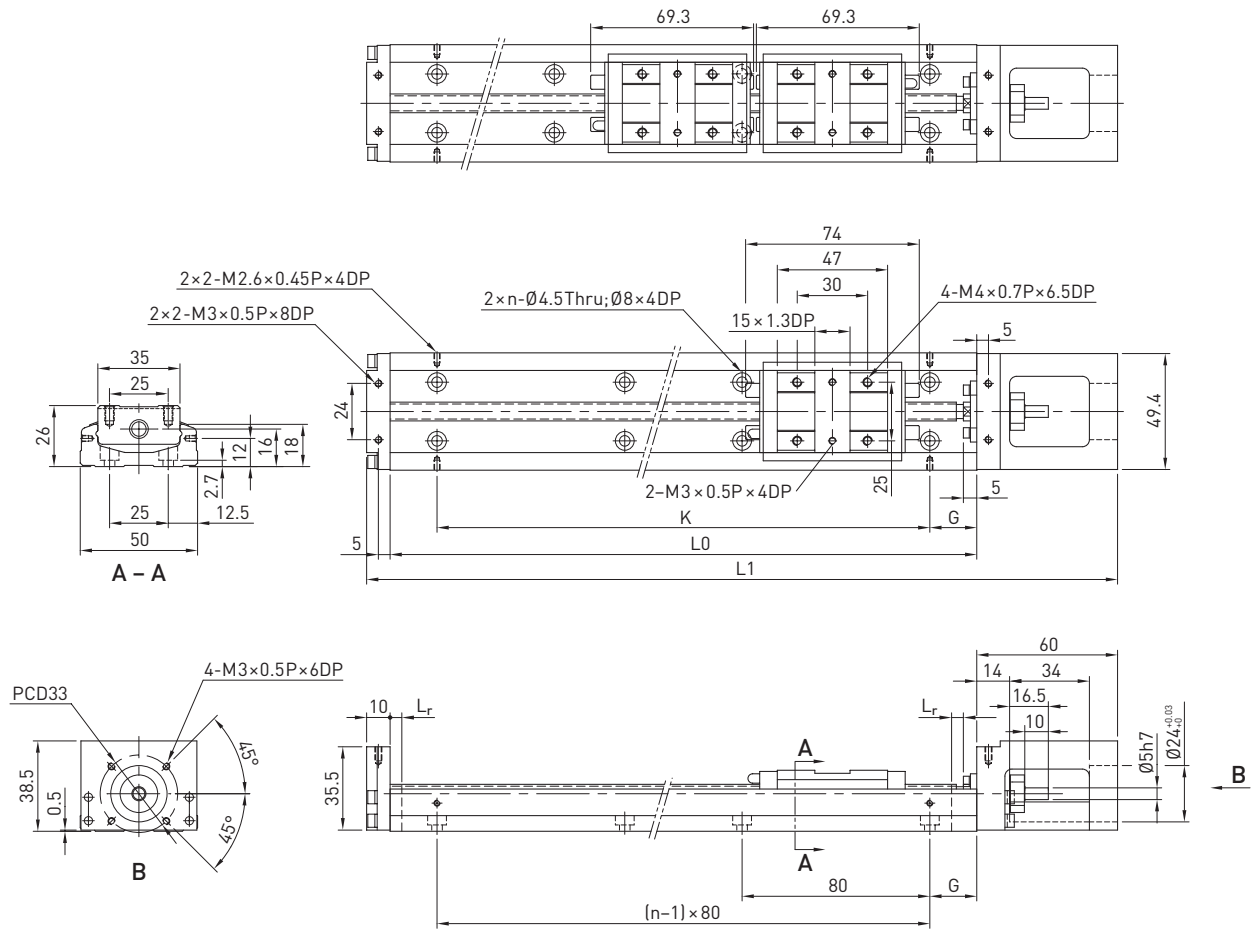


Table 5.1 Dimensions and weights of KK50 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KK5002P0150	2	150	220	60	—	5	35	80	2	1.0	—
KK5002P0200	2	200	270	110	45	5	20	160	3	1.2	1.4
KK5002P0250	2	250	320	160	95	5	45	160	3	1.4	1.6
KK5002P0300	2	300	370	210	145	5	30	240	4	1.6	1.8

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

5.2 KK50 linear axes with aluminium cover

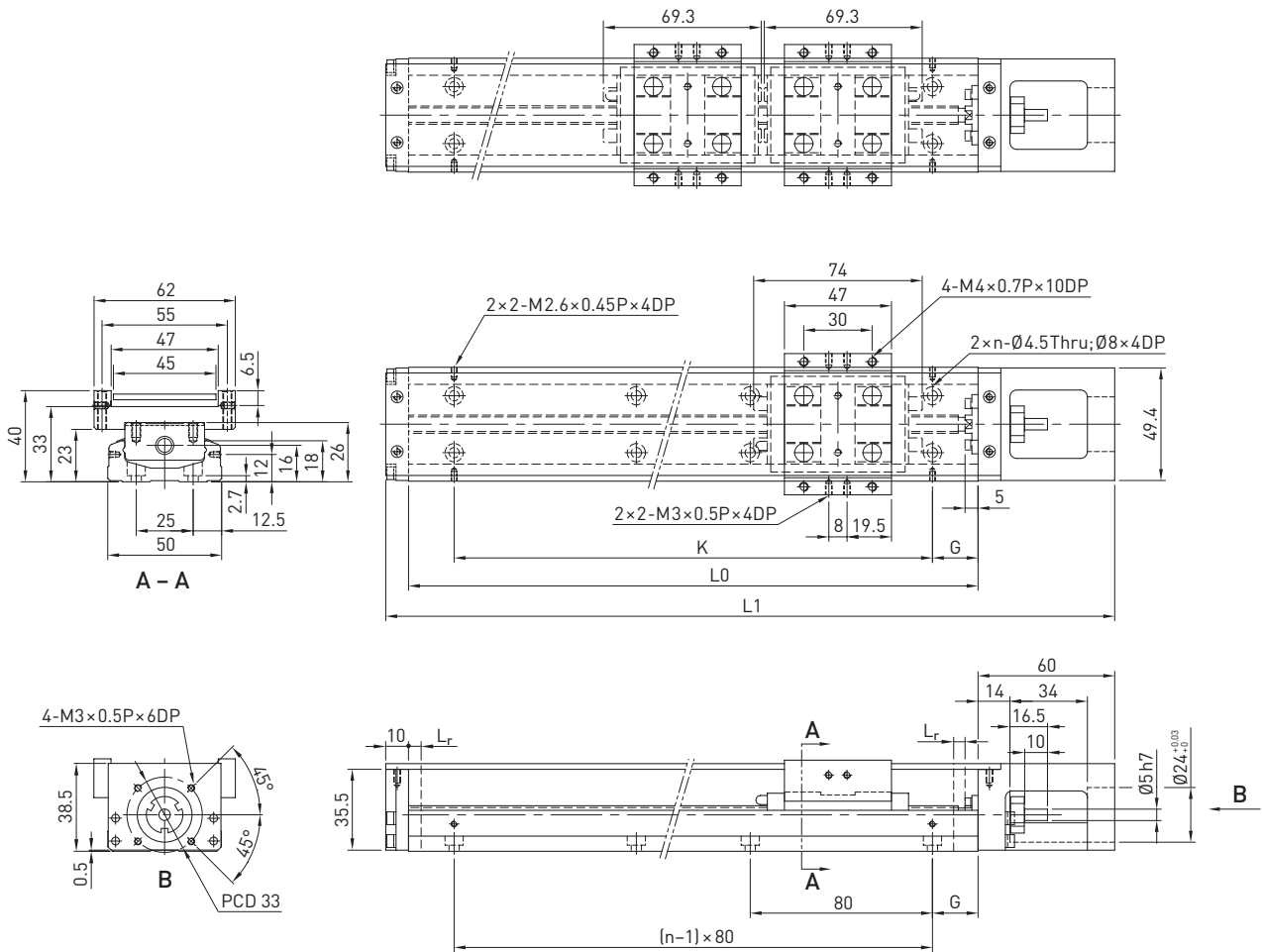


Table 5.2 Dimensions and weights of KK50 linear axes with aluminium cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L_r [mm]	G [mm]	K [mm]	n	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KK5002P0150	2	150	220	60	—	5	35	80	2	1.1	—
KK5002P0200	2	200	270	110	45	5	20	160	3	1.3	1.5
KK5002P0250	2	250	320	160	95	5	45	160	3	1.6	1.8
KK5002P0300	2	300	370	210	145	5	30	240	4	1.8	2.0

Reference edge

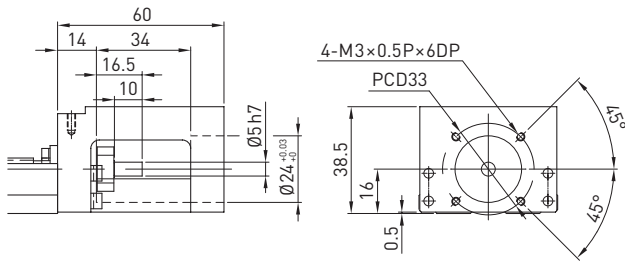
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

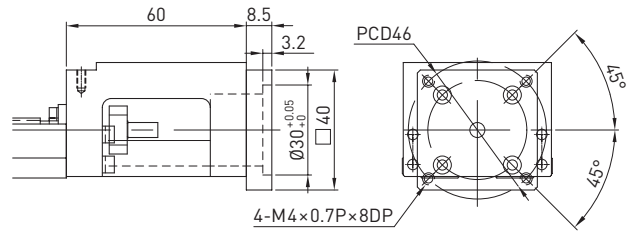
KK50 linear axes

5.3 KK50 adapter flanges

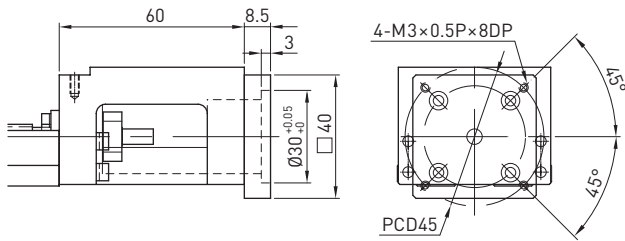
Motor adapter flange F0



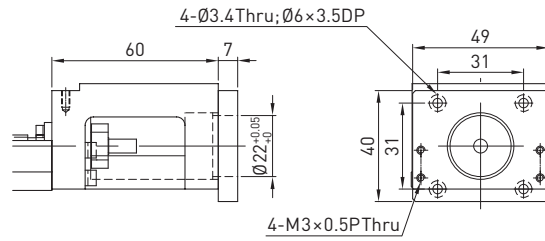
Motor adapter flange F1



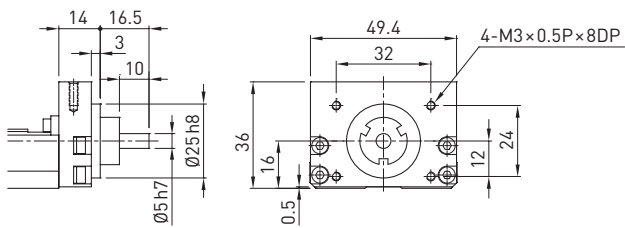
Motor adapter flange F2



Motor adapter flange F3



Motor adapter flange H0



6. KK60 linear axes

6.1 KK60 linear axes without cover, standard block

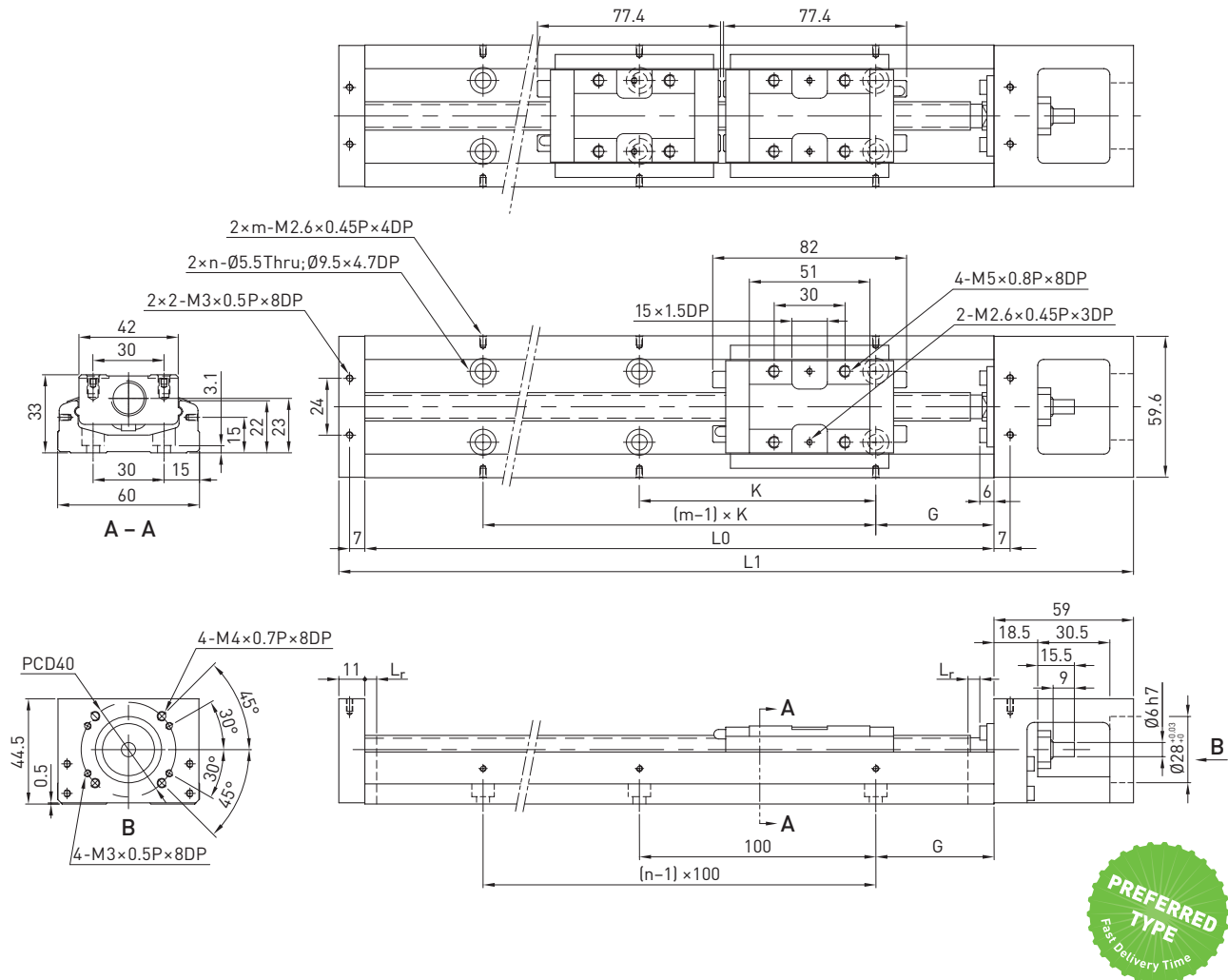


Table 6.1 Dimensions and weights of KK60 linear axes without cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK6005P0150	5	150	220	50	—	5	25	100	2	2	1.5	—
KK6005P0200	5	200	270	100	—	5	50	100	2	2	1.8	—
KK6005P0300	5	300	370	200	125	5	50	200	3	2	2.4	2.7
KK6005P0400	5	400	470	300	225	5	50	100	4	4	3.0	3.3
KK6005P0500	5	500	570	400	325	5	50	200	5	3	3.6	3.9
KK6005P0600	5	600	670	500	425	5	50	100	6	6	4.2	4.6
KK6010P0150	10	150	220	50	—	5	25	100	2	2	1.5	—
KK6010P0200	10	200	270	100	—	5	50	100	2	2	1.8	—
KK6010P0300	10	300	370	200	125	5	50	200	3	2	2.4	2.7
KK6010P0400	10	400	470	300	225	5	50	100	4	4	3.0	3.3
KK6010P0500	10	500	570	400	325	5	50	200	5	3	3.6	3.9
KK6010P0600	10	600	670	500	425	5	50	100	6	6	4.2	4.6

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK60 linear axes

6.2 KK60 linear axes without cover, short block

(available upon request)

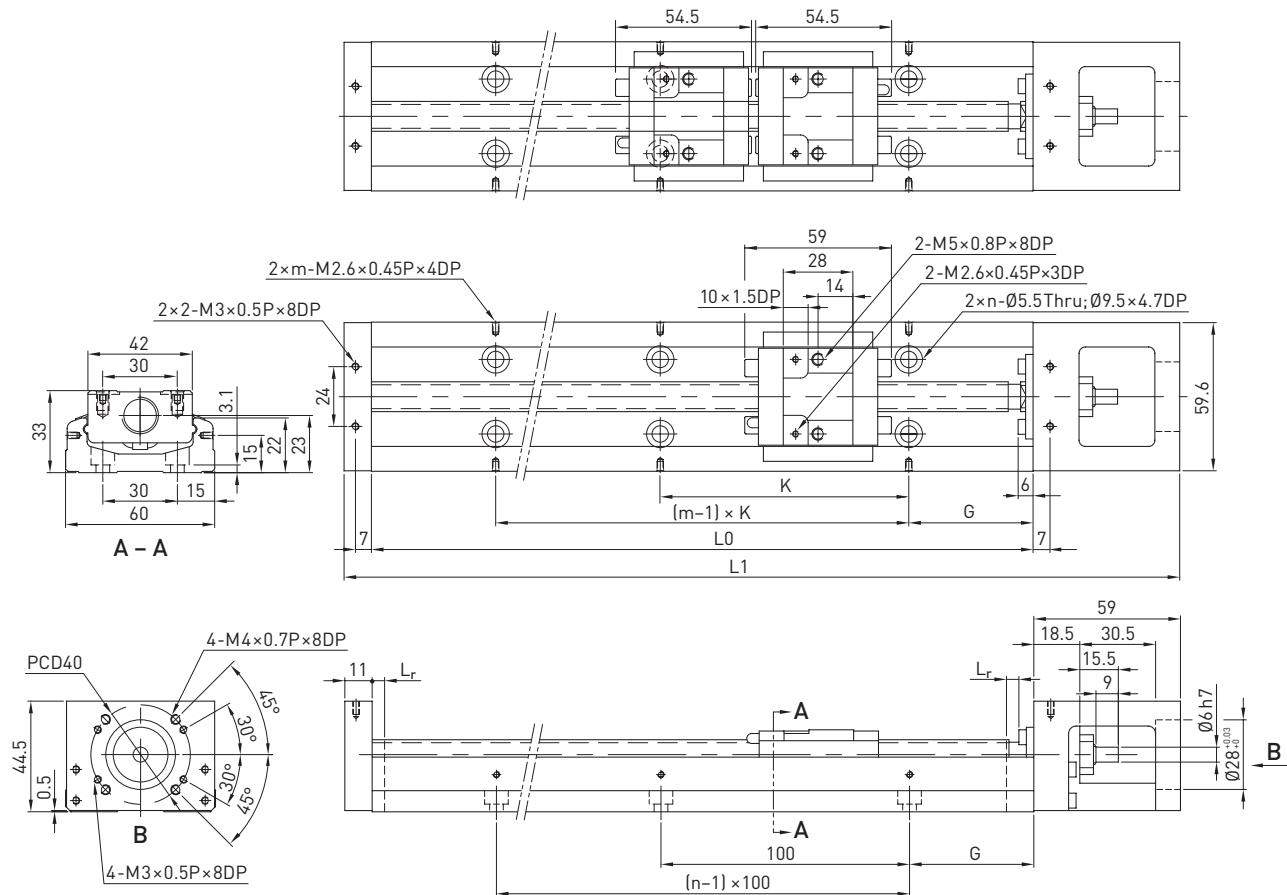


Table 6.2 Dimensions and weights of KK60 linear axes, short block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L_r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block S1	Block S2						Block S1	Block S2
KK6005P0150	5	150	220	75	24	5	25	100	2	2	1.4	1.6
KK6005P0200	5	200	270	125	74	5	50	100	2	2	1.7	1.9
KK6005P0300	5	300	370	225	174	5	50	200	3	2	2.3	2.5
KK6005P0400	5	400	470	325	274	5	50	100	4	4	2.9	3.1
KK6005P0500	5	500	570	425	374	5	50	200	5	3	3.5	3.7
KK6005P0600	5	600	670	525	474	5	50	100	6	6	4.1	4.3
KK6010P0150	10	150	220	75	24	5	25	100	2	2	1.4	1.6
KK6010P0200	10	200	270	125	74	5	50	100	2	2	1.7	1.9
KK6010P0300	10	300	370	225	174	5	50	200	3	2	2.3	2.5
KK6010P0400	10	400	470	325	274	5	50	100	4	4	2.9	3.1
KK6010P0500	10	500	570	425	374	5	50	200	5	3	3.5	3.7
KK6010P0600	10	600	670	525	474	5	50	100	6	6	4.1	4.3

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

6.3 KK60 linear axes with aluminium cover, standard block

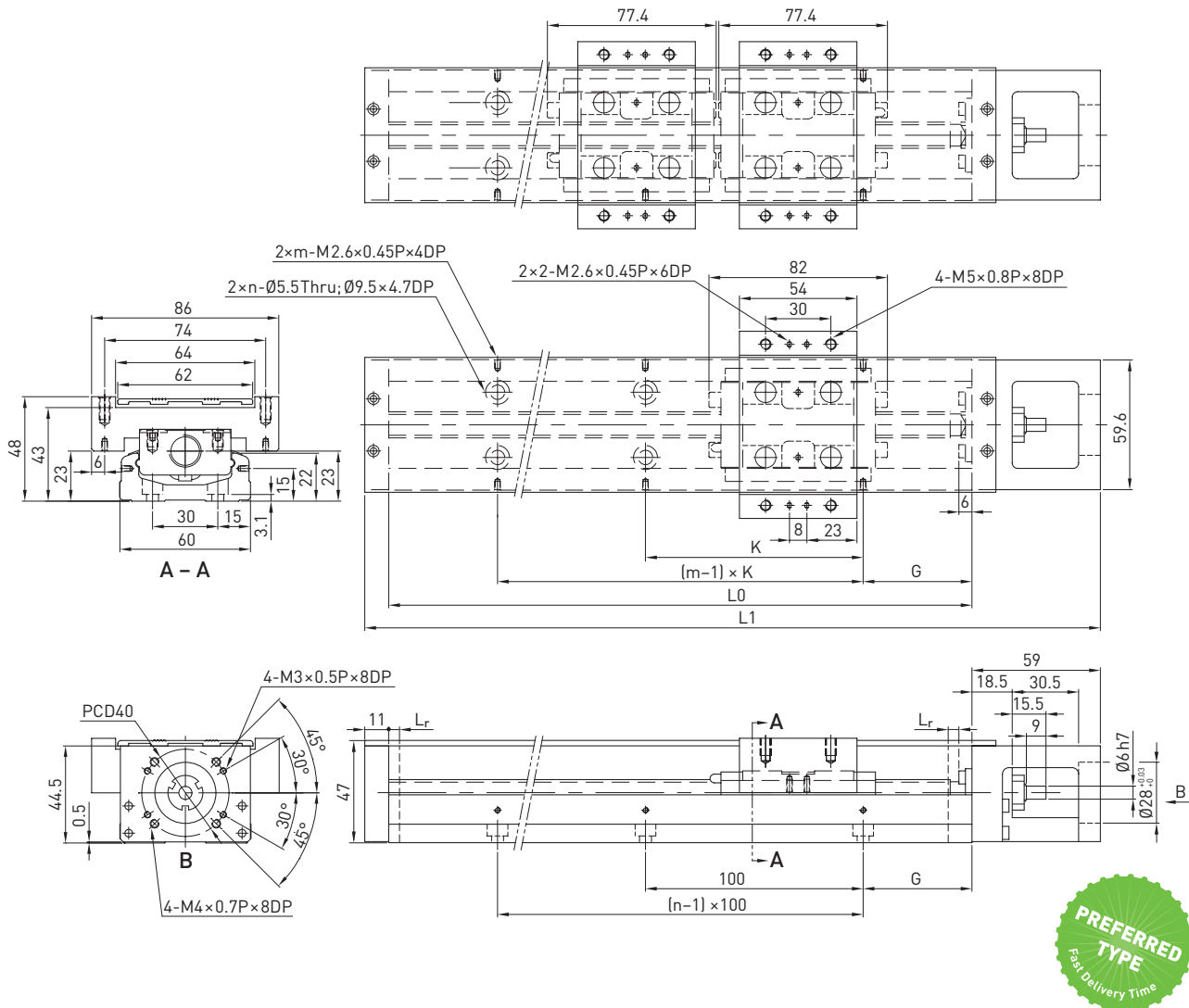


Table 6.3 Dimension and weights of KK60 linear axes with aluminium cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK6005P0150	5	150	220	50	—	5	25	100	2	2	1.7	—
KK6005P0200	5	200	270	100	—	5	50	100	2	2	2.1	—
KK6005P0300	5	300	370	200	125	5	50	200	3	2	2.7	3.0
KK6005P0400	5	400	470	300	225	5	50	100	4	4	3.3	3.6
KK6005P0500	5	500	570	400	325	5	50	200	5	3	3.9	4.2
KK6005P0600	5	600	670	500	425	5	50	100	6	6	4.4	5.0
KK6010P0150	10	150	220	50	—	5	25	100	2	2	1.7	—
KK6010P0200	10	200	270	100	—	5	50	100	2	2	2.1	—
KK6010P0300	10	300	370	200	125	5	50	200	3	2	2.7	3.0
KK6010P0400	10	400	470	300	225	5	50	100	4	4	3.3	3.6
KK6010P0500	10	500	570	400	325	5	50	200	5	3	3.9	4.2
KK6010P0600	10	600	670	500	425	5	50	100	6	6	4.4	5.0

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK60 linear axes

6.4 KK60 linear axes with aluminium cover, short block

(available upon request)

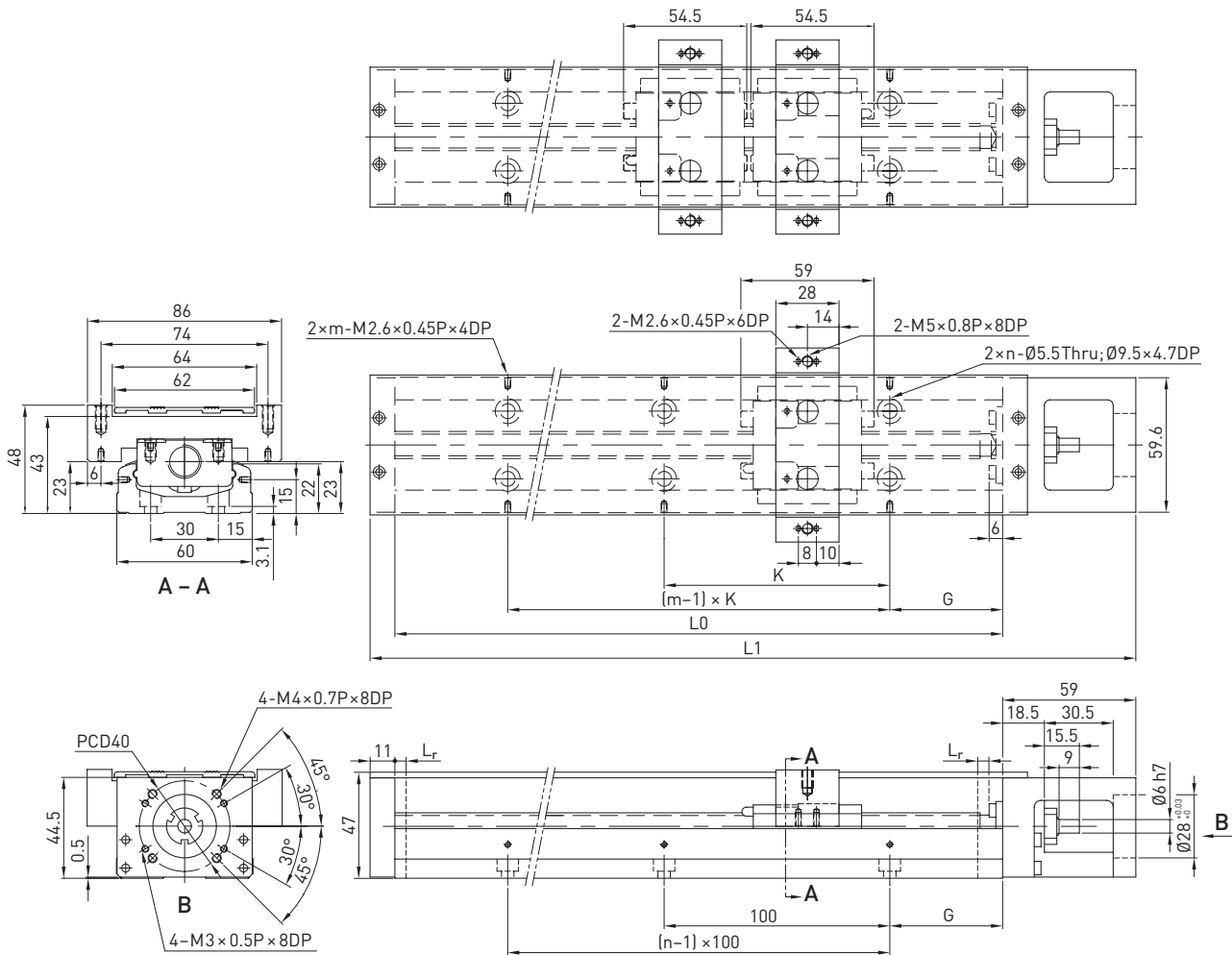


Table 6.4 Dimension and weights of KK60 linear axes with aluminium cover, short block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block S1	Block S2						Block S1	Block S2
KK6005P0150	5	150	220	75	24	5	25	100	2	2	1.6	1.8
KK6005P0200	5	200	270	125	74	5	50	100	2	2	1.9	2.1
KK6005P0300	5	300	370	225	174	5	50	200	3	2	2.5	2.7
KK6005P0400	5	400	470	325	274	5	50	100	4	4	3.1	3.3
KK6005P0500	5	500	570	425	374	5	50	200	5	3	3.7	3.9
KK6005P0600	5	600	670	525	474	5	50	100	6	6	4.4	4.6
KK6010P0150	10	150	220	75	24	5	25	100	2	2	1.6	1.8
KK6010P0200	10	200	270	125	74	5	50	100	2	2	1.9	2.1
KK6010P0300	10	300	370	225	174	5	50	200	3	2	2.5	2.7
KK6010P0400	10	400	470	325	274	5	50	100	4	4	3.1	3.3
KK6010P0500	10	500	570	425	374	5	50	200	5	3	3.7	3.9
KK6010P0600	10	600	670	525	474	5	50	100	6	6	4.4	4.6

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

6.5 KK60 linear axes with bellow cover

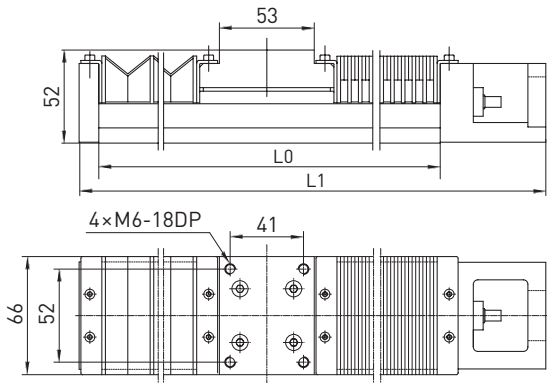


Table 6.5 Dimension and weights of KK60 linear axes with bellow cover

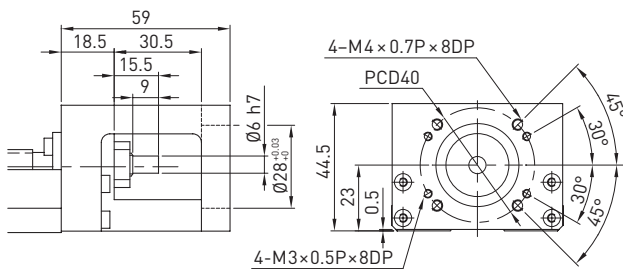
Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]	Reserve stroke L _r [mm]	Weight [kg]
KK6005P0150	5	150	220	35	5	1.7
KK6005P0200	5	200	270	67	5	2.1
KK6005P0300	5	300	370	141	5	2.7
KK6005P0400	5	400	470	220	5	3.3
KK6005P0500	5	500	570	290	5	3.9
KK6005P0600	5	600	670	366	5	4.6
KK6010P0150	10	150	220	35	5	1.7
KK6010P0200	10	200	270	67	5	2.1
KK6010P0300	10	300	370	141	5	2.7
KK6010P0400	10	400	470	220	5	3.3
KK6010P0500	10	500	570	290	5	3.9
KK6010P0600	10	600	670	366	5	4.6

Reference edge

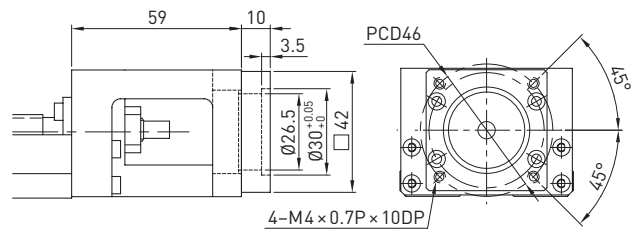
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

6.6 KK60 adapter flanges

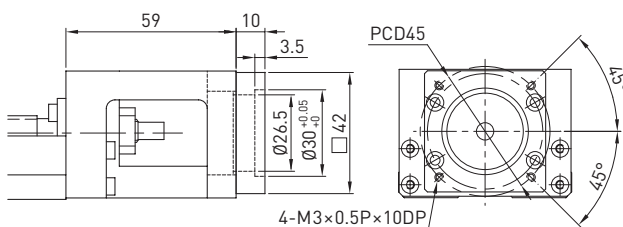
Motor adapter flange F0



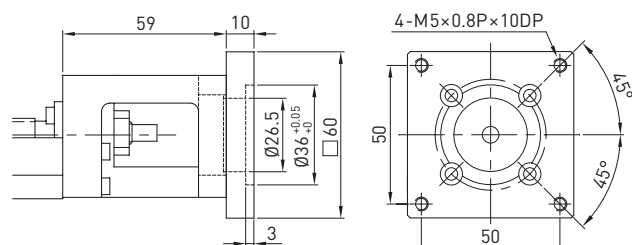
Motor adapter flange F1



Motor adapter flange F2



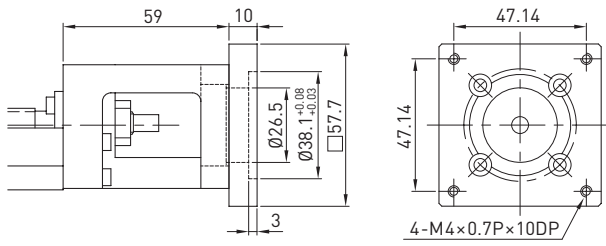
Motor adapter flange F3



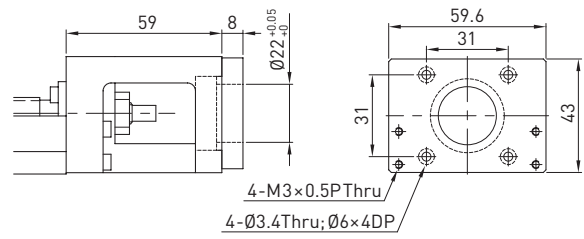
KK/KF Linear Axes

KK60 linear axes

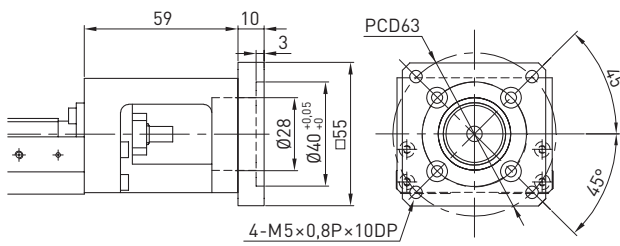
Motor adapter flange F4



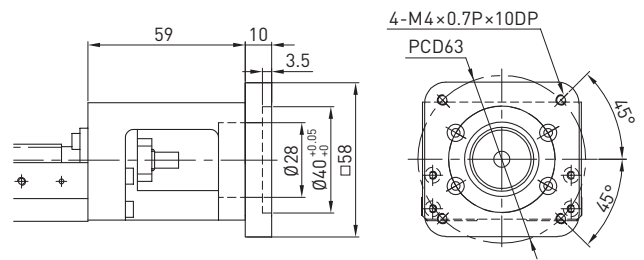
Motor adapter flange F5



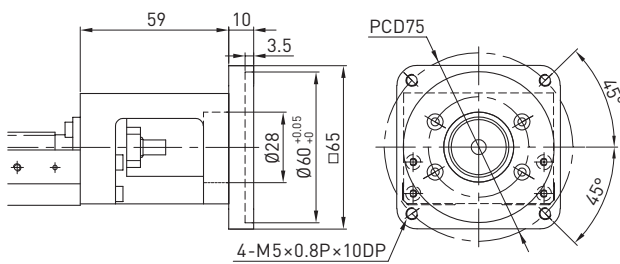
Motor adapter flange F6



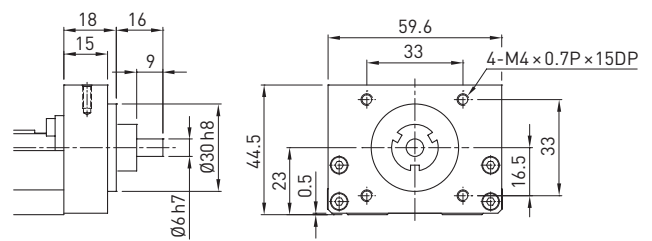
Motor adapter flange F8



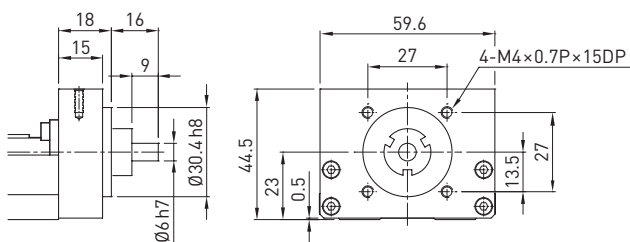
Motor adapter flange F10



Motor adapter flange H0



Motor adapter flange H1



7. KF60 linear axes

7.1 KF60 linear axes without cover, standard block

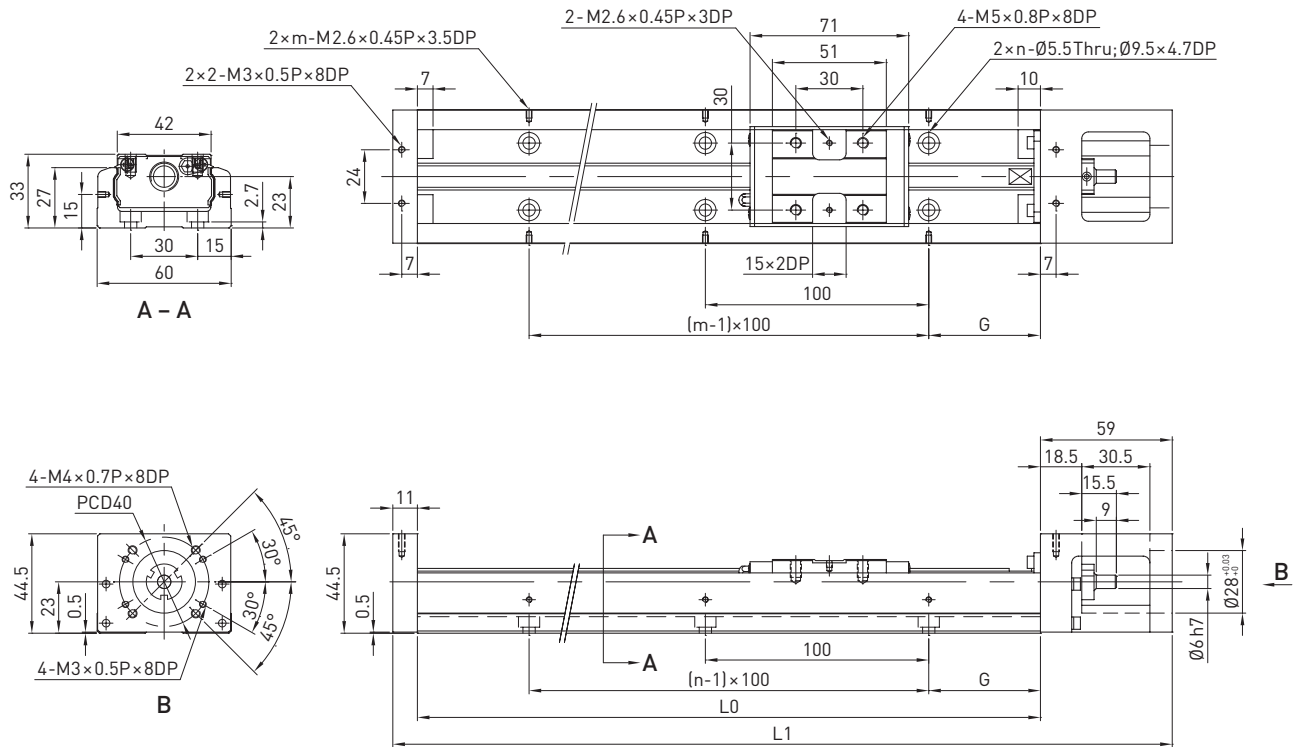


Table 7.1 Dimensions and weights of KF60 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KF6005P0150	5	150	220	52	—	5	25	2	2	1.6	—
KF6005P0200	5	200	270	102	—	5	50	2	2	1.9	—
KF6005P0300	5	300	370	202	129	5	50	3	3	2.6	2.9
KF6005P0400	5	400	470	302	229	5	50	4	4	3.2	3.5
KF6005P0500	5	500	570	402	329	5	50	5	5	3.9	4.2
KF6005P0600	5	600	670	502	429	5	50	6	6	4.5	4.8
KF6010P0150	10	150	220	52	—	5	25	2	2	1.6	—
KF6010P0200	10	200	270	102	—	5	50	2	2	1.9	—
KF6010P0300	10	300	370	202	129	5	50	3	3	2.6	2.9
KF6010P0400	10	400	470	302	229	5	50	4	4	3.2	3.5
KF6010P0500	10	500	570	402	329	5	50	5	5	3.9	4.2
KF6010P0600	10	600	670	502	429	5	50	6	6	4.5	4.8

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KF60 linear axes

7.2 KF60 linear axes with aluminium cover, standard block

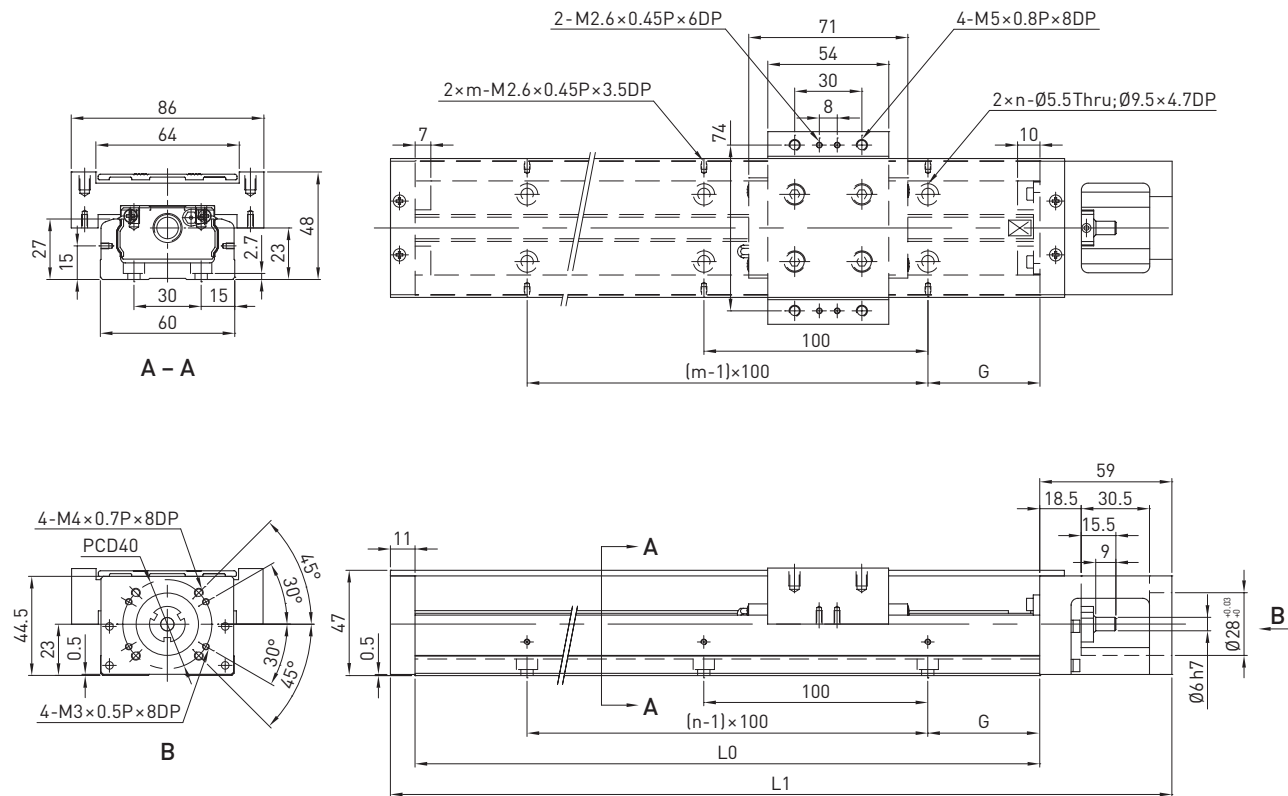


Table 7.2 Dimensions and weights of KF60 linear axes with aluminium cover

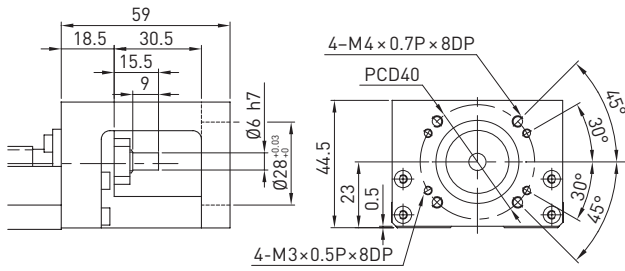
Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L_r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KF6005P0150	5	150	220	52	—	5	25	2	2	1.8	—
KF6005P0200	5	200	270	102	—	5	50	2	2	2.2	—
KF6005P0300	5	300	370	202	129	5	50	3	3	2.9	3.2
KF6005P0400	5	400	470	302	229	5	50	4	4	3.5	3.8
KF6005P0500	5	500	570	402	329	5	50	5	5	4.2	4.5
KF6005P0600	5	600	670	502	429	5	50	6	6	4.9	5.2
KF6010P0150	10	150	220	52	—	5	25	2	2	1.8	—
KF6010P0200	10	200	270	102	—	5	50	2	2	2.2	—
KF6010P0300	10	300	370	202	129	5	50	3	3	2.9	3.2
KF6010P0400	10	400	470	302	229	5	50	4	4	3.5	3.8
KF6010P0500	10	500	570	402	329	5	50	5	5	4.2	4.5
KF6010P0600	10	600	670	502	429	5	50	6	6	4.9	5.2

Reference edge

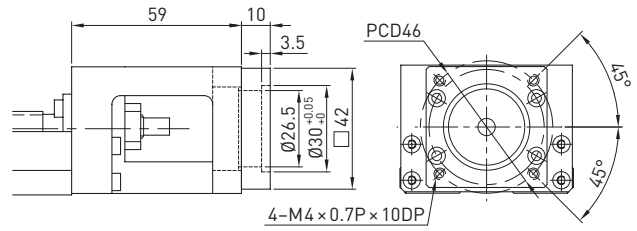
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

7.3 KF60 adapter flanges

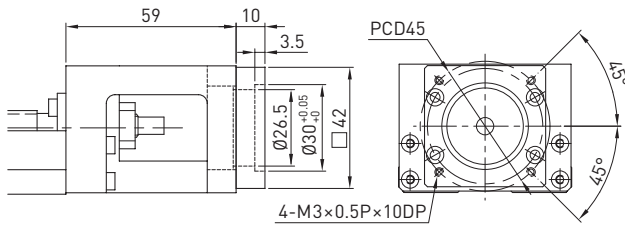
Motor adapter flange F0



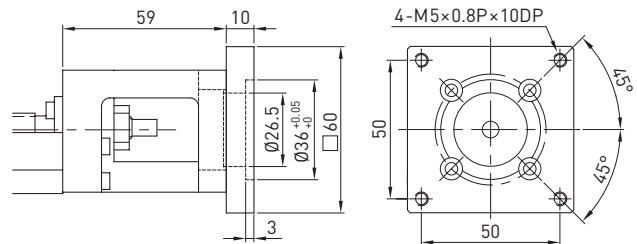
Motor adapter flange F1



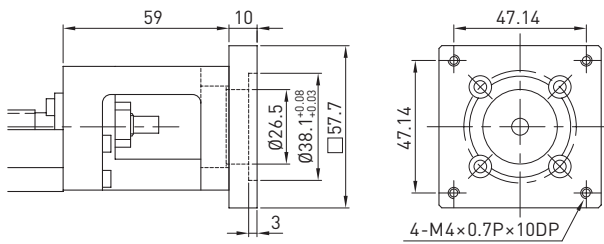
Motor adapter flange F2



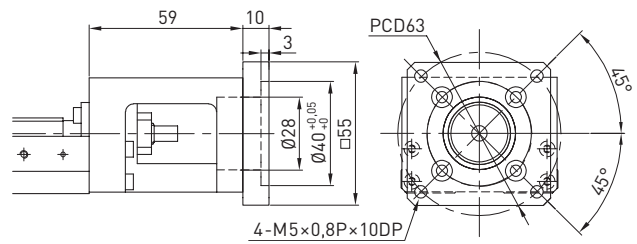
Motor adapter flange F3



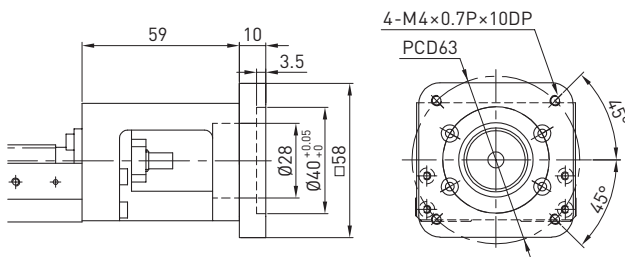
Motor adapter flange F4



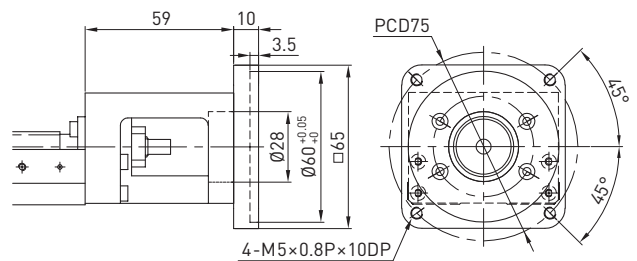
Motor adapter flange F6



Motor adapter flange F8



Motor adapter flange F10



KK/KF Linear Axes

KK86 linear axes

8. KK86 linear axes

8.1 KK86 linear axes without cover, standard block

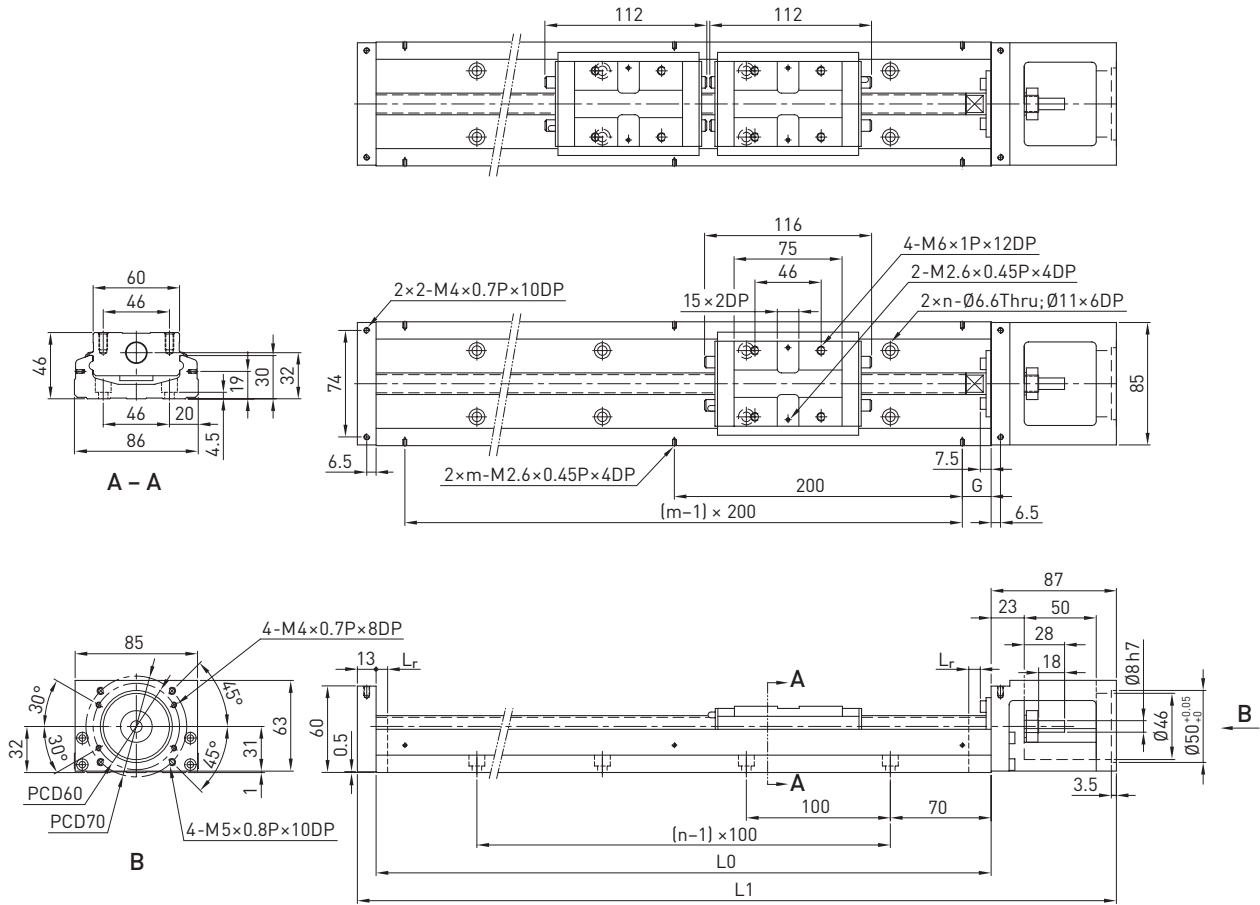


Table 8.1 Dimensions and weights of KK86 linear axes without cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KK8610P0340	10	340	440	194	84	8	70	3	2	5.7	6.5
KK8610P0440	10	440	540	294	184	8	20	4	3	6.9	7.7
KK8610P0540	10	540	640	394	284	8	70	5	3	8.0	8.8
KK8610P0640	10	640	740	494	384	8	20	6	4	9.2	10.0
KK8610P0740	10	740	840	594	484	8	70	7	4	10.4	11.2
KK8610P0940	10	940	1,040	794	684	8	70	9	5	11.6	12.4
KK8620P0340	20	340	440	194	84	8	70	3	2	5.7	6.5
KK8620P0440	20	440	540	294	184	8	20	4	3	6.9	7.7
KK8620P0540	20	540	640	394	284	8	70	5	3	8.0	8.8
KK8620P0640	20	640	740	494	384	8	20	6	4	9.2	10.0
KK8620P0740	20	740	840	594	484	8	70	7	4	10.4	11.2
KK8620P0940	20	940	1,040	794	684	8	70	9	5	11.6	12.4

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

8.2 KK86 Linear axes without cover, short block
(available upon request)

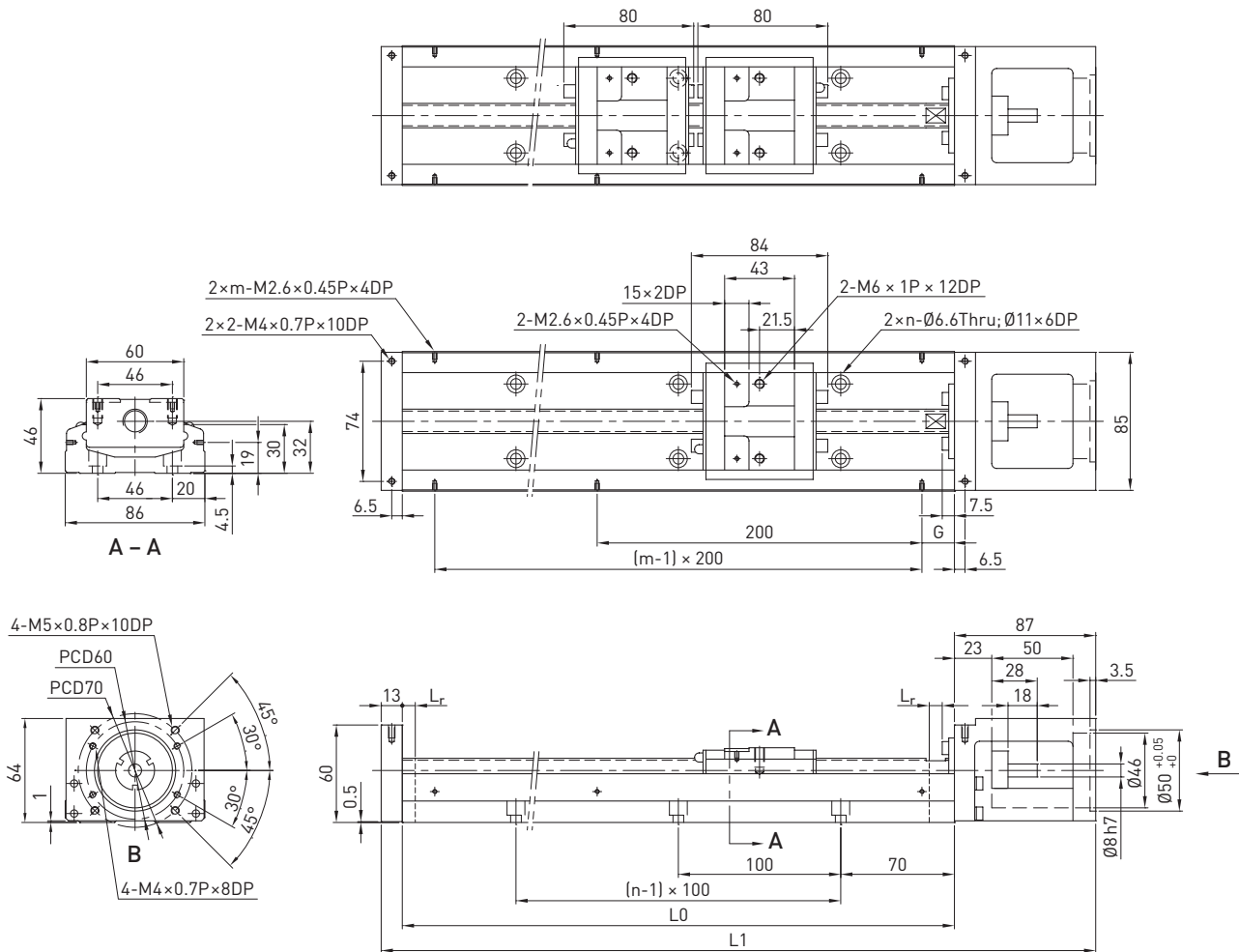


Table 8.2 Dimensions and weights of KK86 linear axes without cover, short block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block S1	Block S2					Block S1	Block S2
KK8610P0340	10	340	440	230	154	8	70	3	2	5.4	5.9
KK8610P0440	10	440	540	330	254	8	20	4	3	6.6	7.1
KK8610P0540	10	540	640	430	354	8	70	5	3	7.7	8.2
KK8610P0640	10	640	740	530	454	8	20	6	4	8.9	9.4
KK8610P0740	10	740	840	630	554	8	70	7	4	10.1	10.6
KK8610P0940	10	940	1,040	830	754	8	70	9	5	11.3	11.8
KK8620P0340	20	340	440	230	154	8	70	3	2	5.4	5.9
KK8620P0440	20	440	540	330	254	8	20	4	3	6.6	7.1
KK8620P0540	20	540	640	430	354	8	70	5	3	7.7	8.2
KK8620P0640	20	640	740	530	454	8	20	6	4	8.9	9.4
KK8620P0740	20	740	840	630	554	8	70	7	4	10.1	10.6
KK8620P0940	20	940	1,040	830	754	8	70	9	5	11.3	11.8

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK86 linear axes

8.3 KK86 linear axes with aluminium cover, standard block

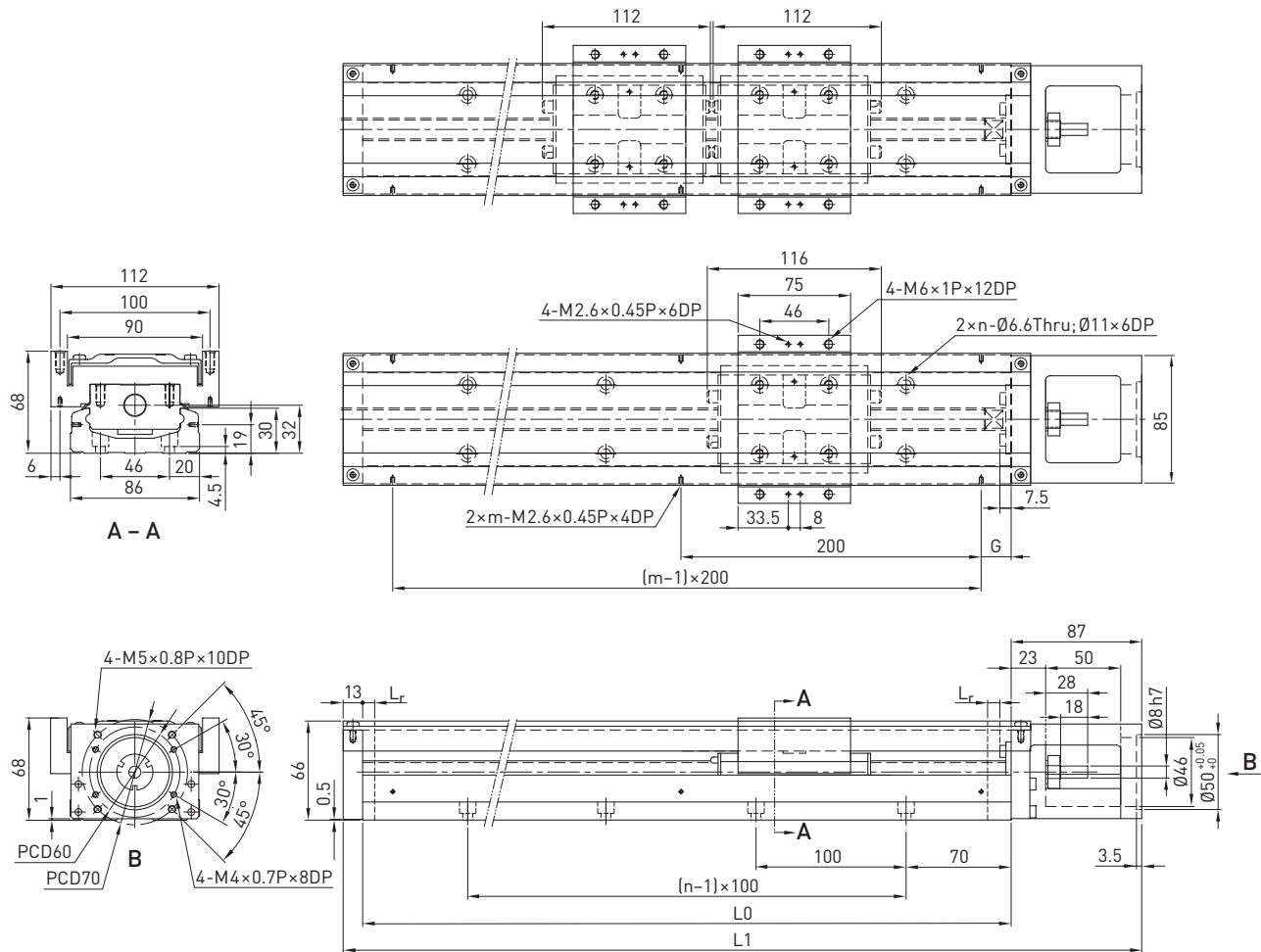


Table 8.3 Dimensions and weights of KK86 linear axes with aluminium cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KK8610P0340	10	340	440	194	84	8	70	3	2	6.5	7.3
KK8610P0440	10	440	540	294	184	8	20	4	3	7.8	8.6
KK8610P0540	10	540	640	394	284	8	70	5	3	9.0	9.8
KK8610P0640	10	640	740	494	384	8	20	6	4	10.3	11.3
KK8610P0740	10	740	840	594	484	8	70	7	4	11.6	12.4
KK8610P0940	10	940	1,040	794	684	8	70	9	5	13.0	13.8
KK8620P0340	20	340	440	194	84	8	70	3	2	6.5	7.3
KK8620P0440	20	440	540	294	184	8	20	4	3	7.8	8.6
KK8620P0540	20	540	640	394	284	8	70	5	3	9.0	9.8
KK8620P0640	20	640	740	494	384	8	20	6	4	10.3	11.3
KK8620P0740	20	740	840	594	484	8	70	7	4	11.6	12.4
KK8620P0940	20	940	1,040	794	684	8	70	9	5	13.0	13.8

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

8.4 KK86 linear axes with aluminium cover, short block
(available upon request)

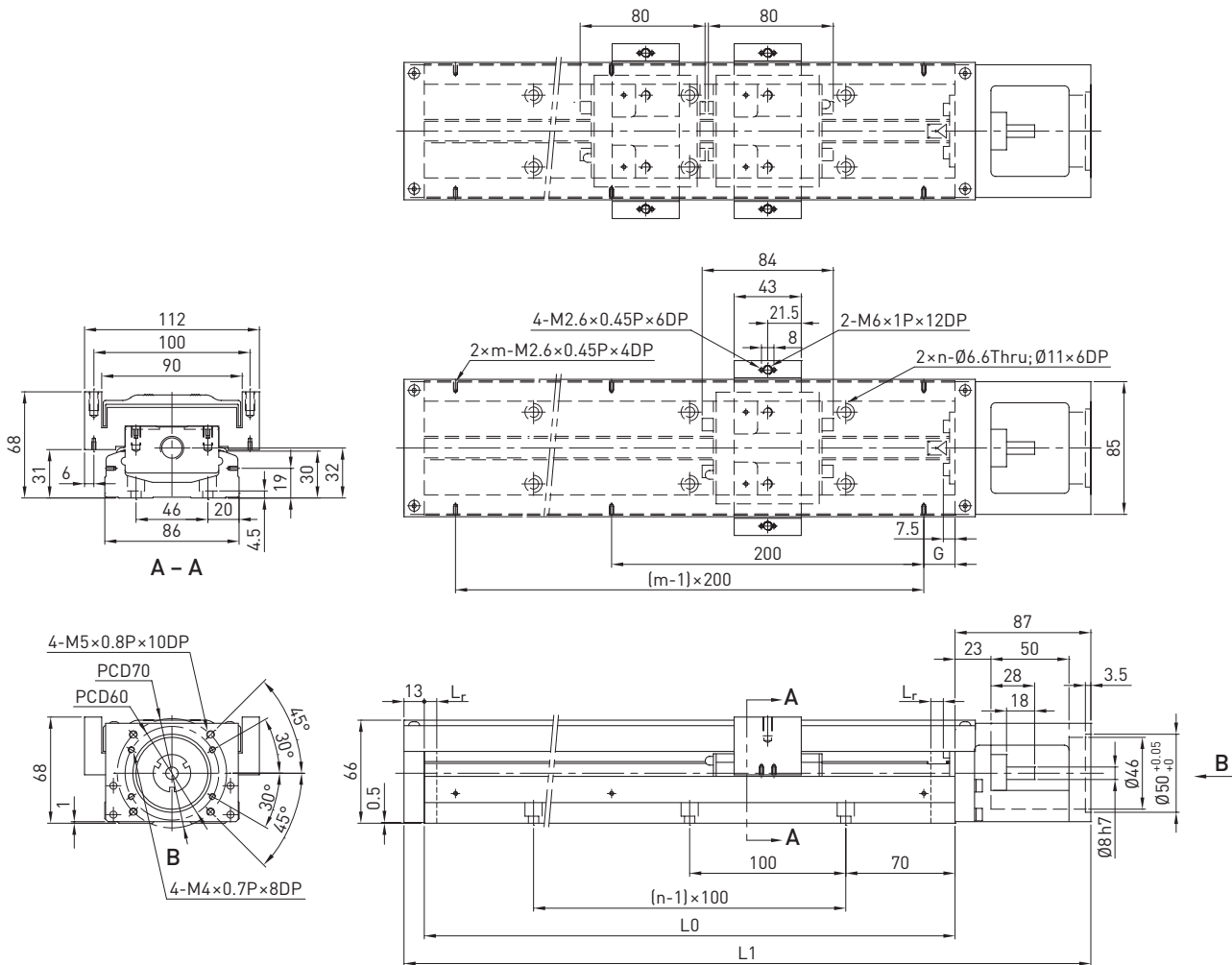


Table 8.4 Dimensions and weights of KK86 linear axes with aluminium cover, short block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block S1	Block S2					Block S1	Block S2
KK8610P0340	10	340	440	230	154	8	70	3	2	6.3	7.1
KK8610P0440	10	440	540	330	254	8	20	4	3	7.6	8.4
KK8610P0540	10	540	640	430	354	8	70	5	3	8.8	9.6
KK8610P0640	10	640	740	530	454	8	20	6	4	10.1	11.1
KK8610P0740	10	740	840	630	554	8	70	7	4	11.4	12.2
KK8610P0940	10	940	1,040	830	754	8	70	9	5	12.8	13.6
KK8620P0340	20	340	440	230	154	8	70	3	2	6.3	7.1
KK8620P0440	20	440	540	330	254	8	20	4	3	7.6	8.4
KK8620P0540	20	540	640	430	354	8	70	5	3	8.8	9.6
KK8620P0640	20	640	740	530	454	8	20	6	4	10.1	11.1
KK8620P0740	20	740	840	630	554	8	70	7	4	11.4	12.2
KK8620P0940	20	940	1,040	830	754	8	70	9	5	12.8	13.6

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK86 linear axes

8.5 KK86 linear axes with bellow cover

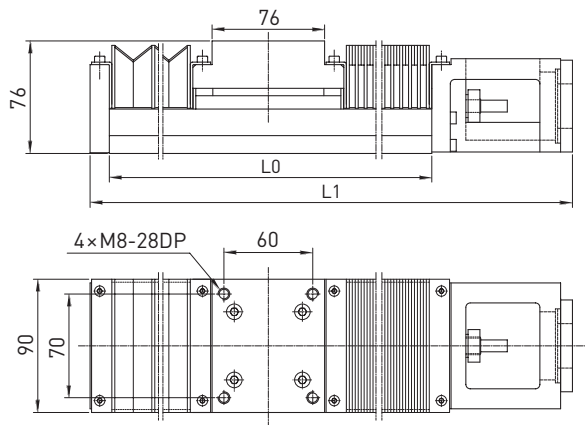


Table 8.5 Dimensions and weights of KK86 linear axes with bellow cover

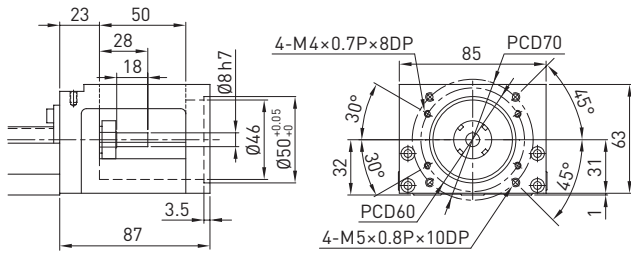
Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]	Reserve stroke L _r [mm]	Weight [kg]
KK8610P0340	10	340	440	158	8	6.3
KK8610P0440	10	440	540	232	8	7.6
KK8610P0540	10	540	640	311	8	8.8
KK8610P0640	10	640	740	394	8	10.0
KK8610P0740	10	740	840	475	8	11.3
KK8610P0940	10	940	1,040	638	8	12.7
KK8620P0340	20	340	440	158	8	6.3
KK8620P0440	20	440	540	232	8	7.6
KK8620P0540	20	540	640	311	8	8.8
KK8620P0640	20	640	740	394	8	10.0
KK8620P0740	20	740	840	475	8	11.3
KK8620P0940	20	940	1,040	638	8	12.7

Reference edge

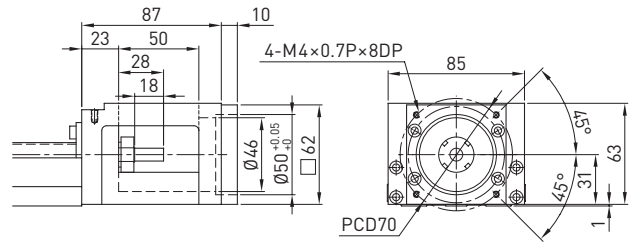
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

8.6 KK86 adapter flanges

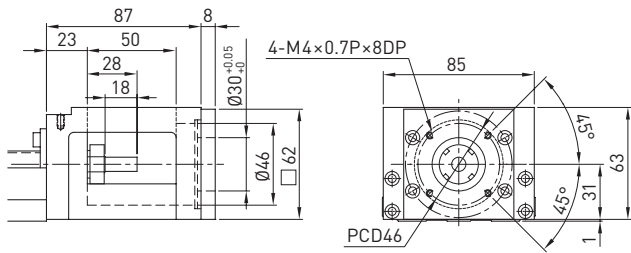
Motor adapter flange F0



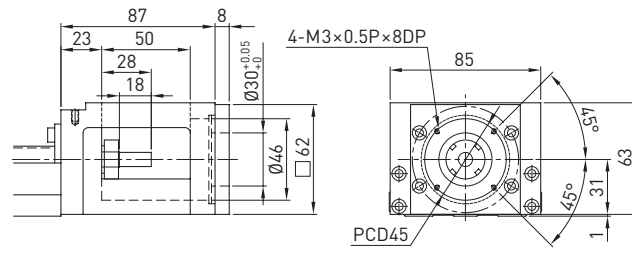
Motor adapter flange F1



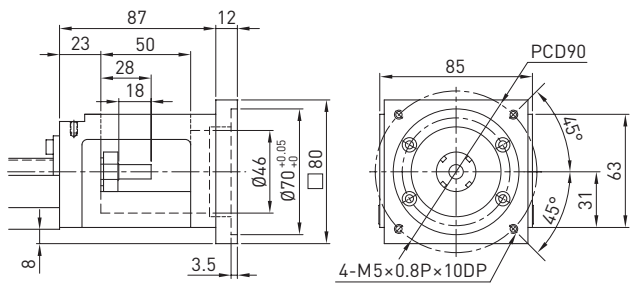
Motor adapter flange F2



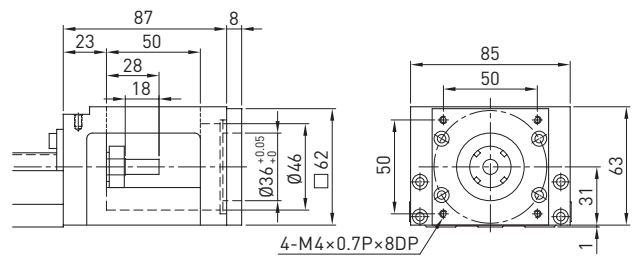
Motor adapter flange F3



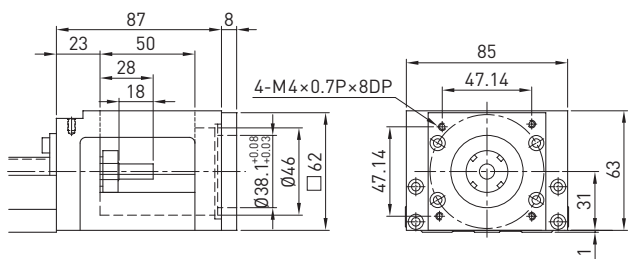
Motor adapter flange F4



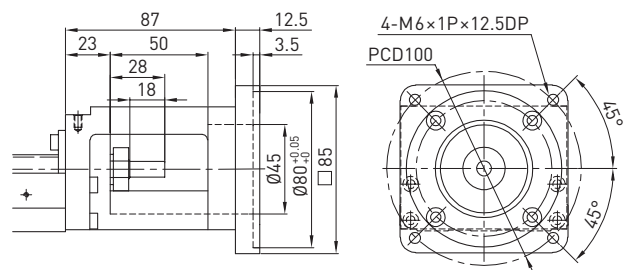
Motor adapter flange F5



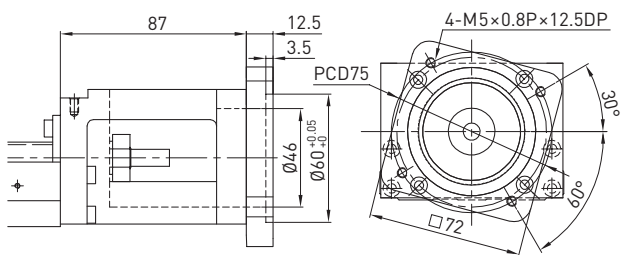
Motor adapter flange F6



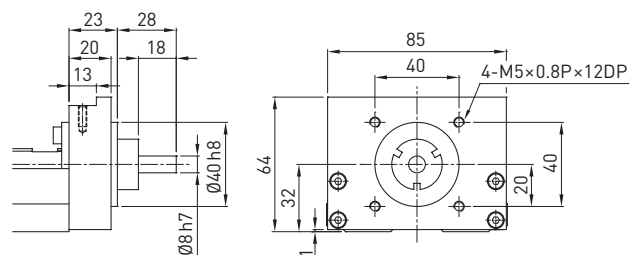
Motor adapter flange F7



Motor adapter flange F8



Motor adapter flange H0



KK/KF Linear Axes

KF86 linear axes

9. KF86 linear axes

9.1 KF86 linear axes without cover, standard block

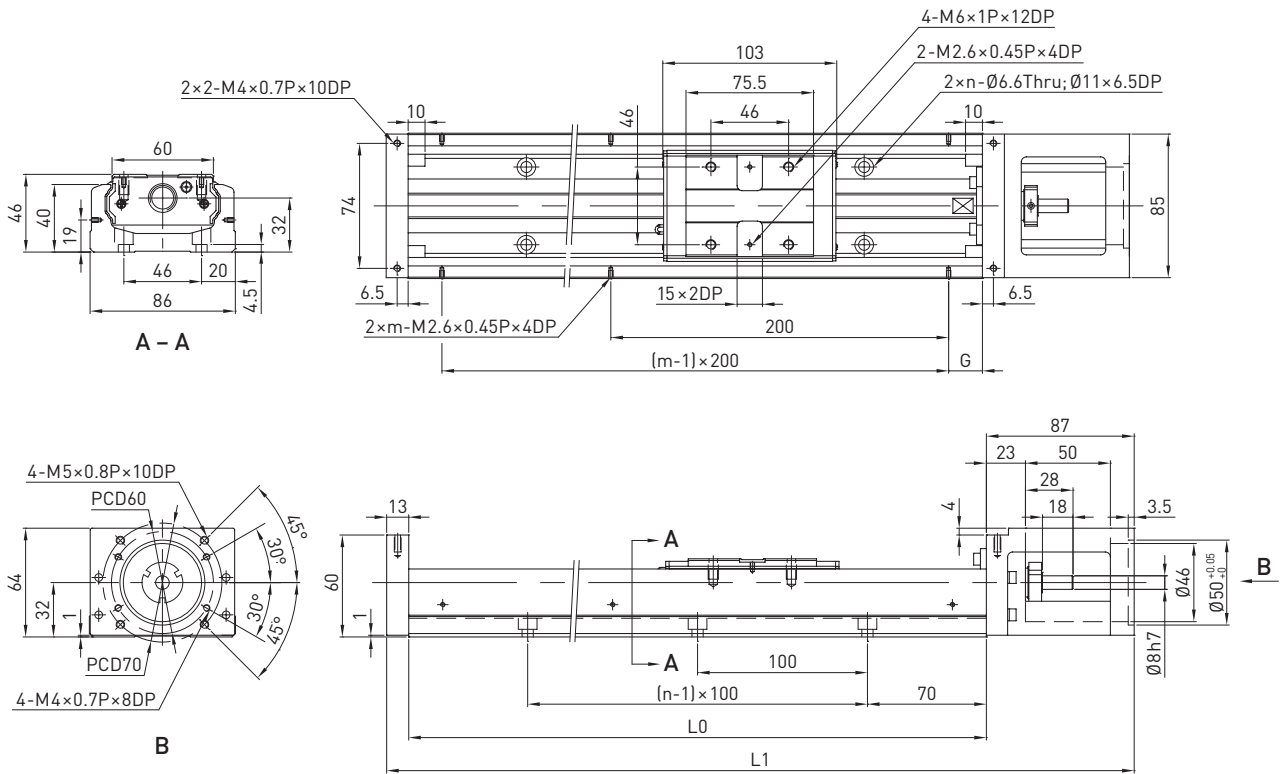


Table 9.1 Dimensions and weights of KF86 linear axes without cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KF8610P0340	10	340	440	201	98	8	70	3	2	6.2	7.0
KF8610P0440	10	440	540	301	198	8	20	4	3	7.5	8.3
KF8610P0540	10	540	640	401	298	8	70	5	3	8.8	9.6
KF8610P0640	10	640	740	501	398	8	20	6	4	10.1	10.9
KF8610P0740	10	740	840	601	498	8	70	7	4	11.4	12.2
KF8610P0940	10	940	1,040	801	698	8	70	9	5	14.0	14.8
KF8620P0340	20	340	440	201	98	8	70	3	2	6.2	7.0
KF8620P0440	20	440	540	301	198	8	20	4	3	7.5	8.3
KF8620P0540	20	540	640	401	298	8	70	5	3	8.8	9.6
KF8620P0640	20	640	740	501	398	8	20	6	4	10.1	10.9
KF8620P0740	20	740	840	601	498	8	70	7	4	11.4	12.2
KF8620P0940	20	940	1,040	801	698	8	70	9	5	14.0	14.8

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

9.2 KF86 linear axes with aluminium cover, standard block

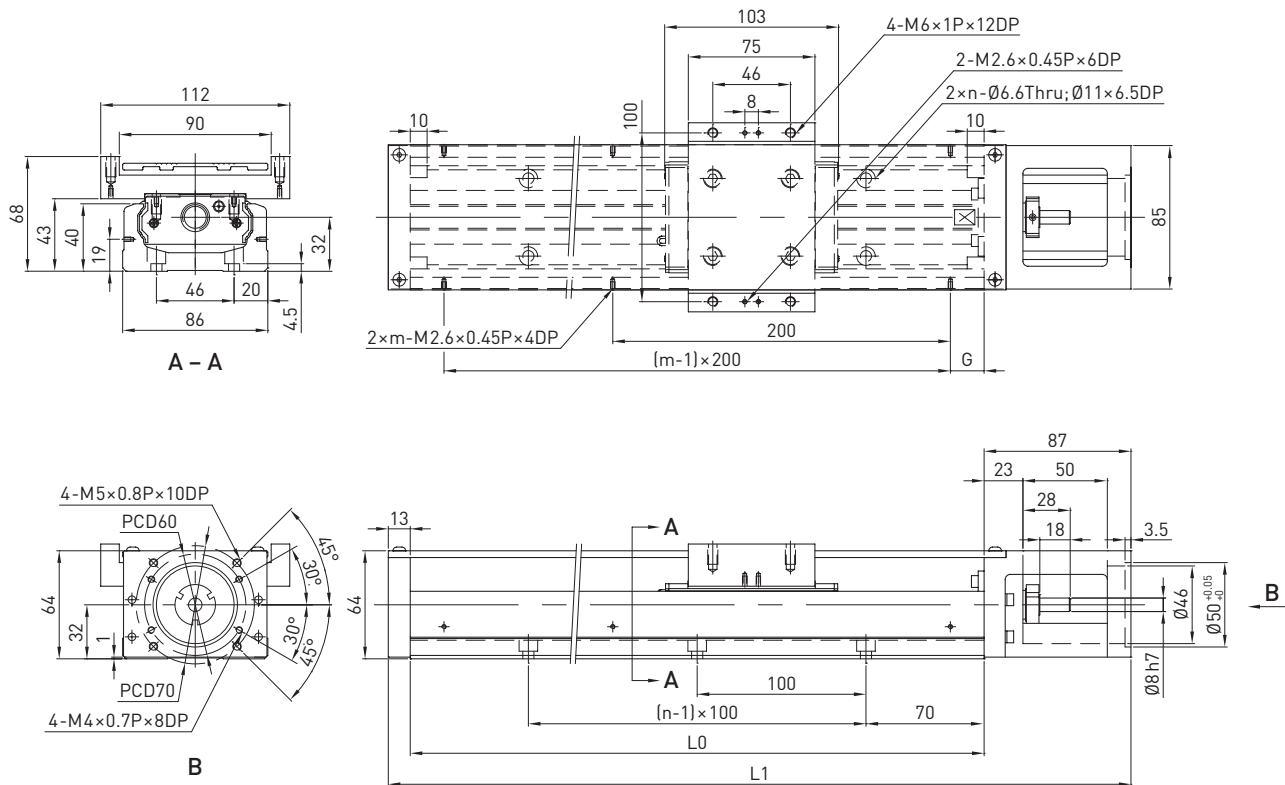


Table 9.2 Dimensions and weights of KF86 linear axes with aluminium cover, standard block

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	n	m	Weight [kg]	
				Block A1	Block A2					Block A1	Block A2
KF8610P0340	10	340	440	201	98	8	70	3	2	7.0	7.8
KF8610P0440	10	440	540	301	198	8	20	4	3	8.4	9.2
KF8610P0540	10	540	640	401	298	8	70	5	3	9.8	10.6
KF8610P0640	10	640	740	501	398	8	20	6	4	11.2	12.0
KF8610P0740	10	740	840	601	498	8	70	7	4	12.6	13.4
KF8610P0940	10	940	1,040	801	698	8	70	9	5	15.4	16.2
KF8620P0340	20	340	440	201	98	8	70	3	2	7.0	7.8
KF8620P0440	20	440	540	301	198	8	20	4	3	8.4	9.2
KF8620P0540	20	540	640	401	298	8	70	5	3	9.8	10.6
KF8620P0640	20	640	740	501	398	8	20	6	4	11.2	12.0
KF8620P0740	20	740	840	601	498	8	70	7	4	12.6	13.4
KF8620P0940	20	940	1,040	801	698	8	70	9	5	15.4	16.2

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

10. KK100 linear axes

10.1 KK100 linear axes without cover

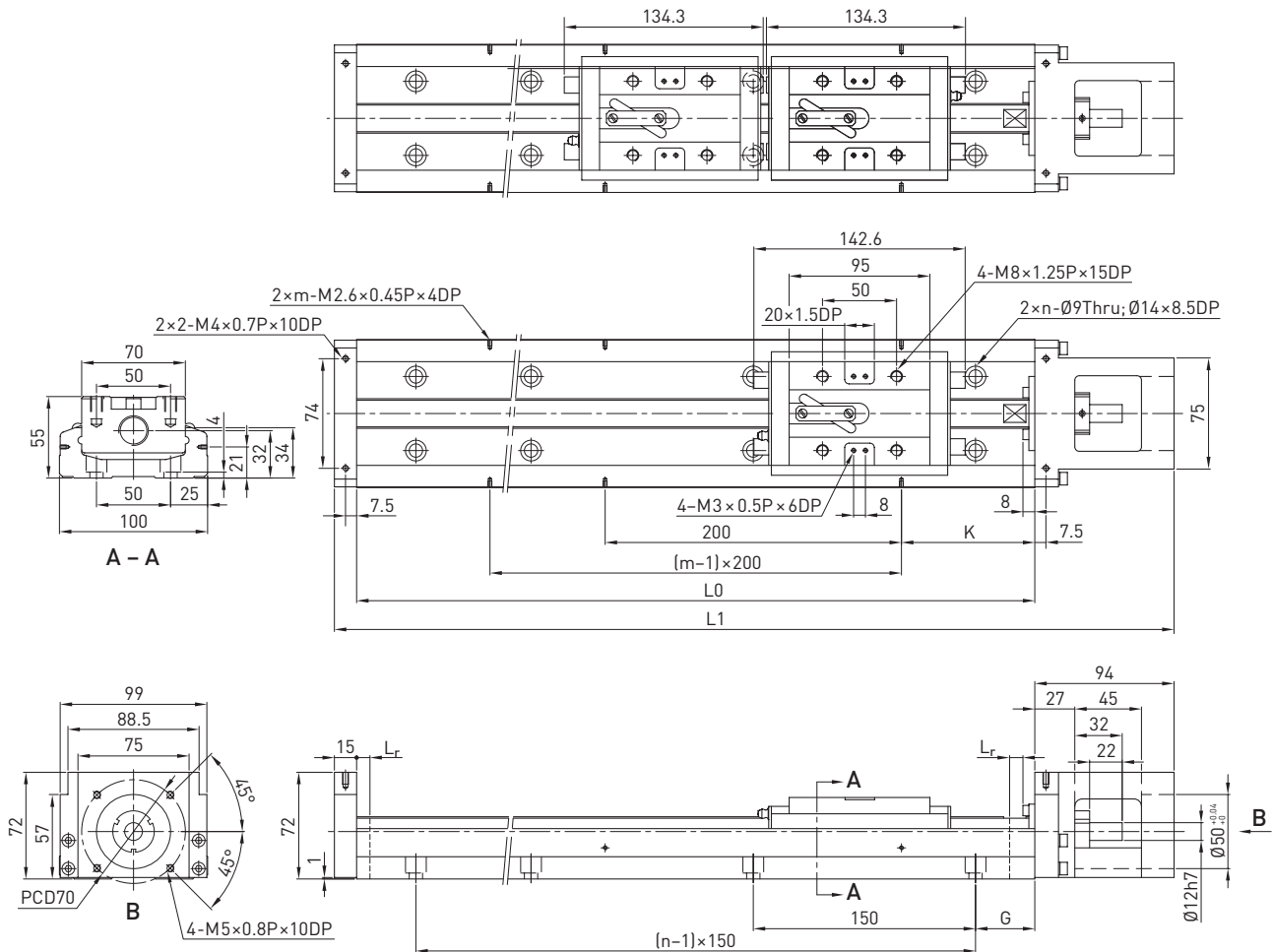


Table 10.1 Dimensions and weights of KK100 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK10020P0980	20	980	1,089	810	682	9	40	90	7	5	18.6	20.3
KK10020P1080	20	1,080	1,189	910	782	9	15	40	8	6	20.3	22.0
KK10020P1180	20	1,180	1,289	1,010	882	9	65	90	8	6	22.0	23.7
KK10020P1280	20	1,280	1,389	1,110	982	9	40	40	9	7	23.6	25.3
KK10020P1380	20	1,380	1,489	1,210	1,082	9	15	90	10	7	25.3	27.0

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

KK100 linear axes

10.2 KK100 linear axes with aluminium cover

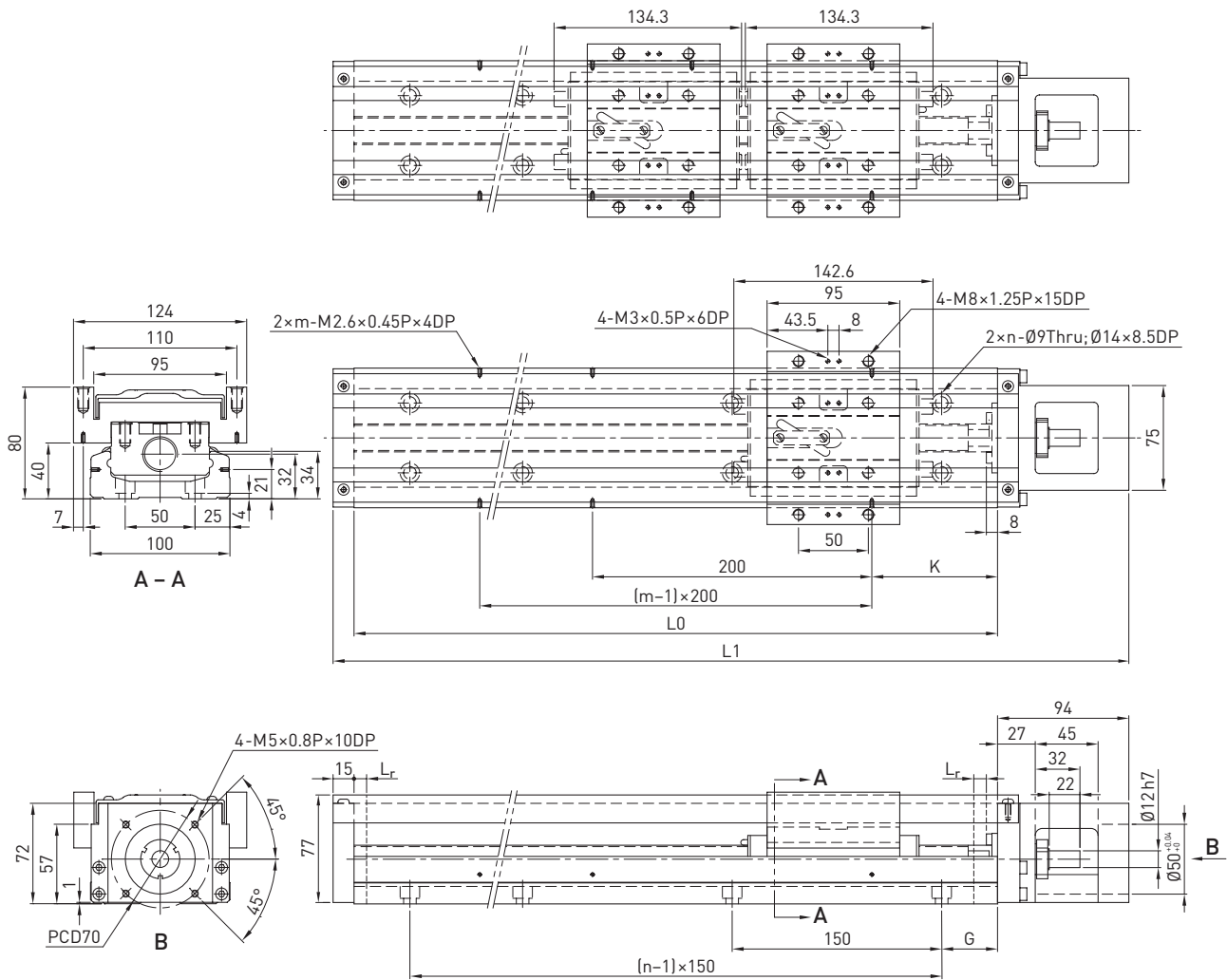


Table 10.2 Dimensions and weights of KK100 linear axes with aluminium cover

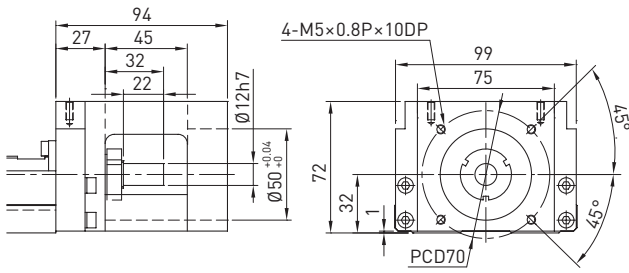
Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK10020P0980	20	980	1,089	810	682	9	40	90	7	5	20.4	22.1
KK10020P1080	20	1,080	1,189	910	782	9	15	40	8	6	22.2	23.9
KK10020P1180	20	1,180	1,289	1,010	882	9	65	90	8	6	24.0	25.7
KK10020P1280	20	1,280	1,389	1,110	982	9	40	40	9	7	25.7	27.4
KK10020P1380	20	1,380	1,489	1,210	1,082	9	15	90	10	7	27.5	29.2

Reference edge

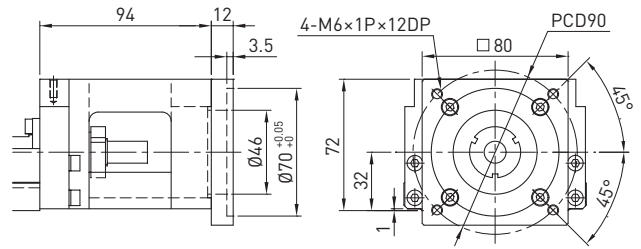
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

10.3 KK100 adapter flanges

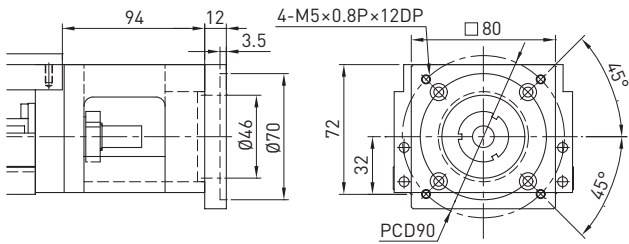
Motor adapter flange F0



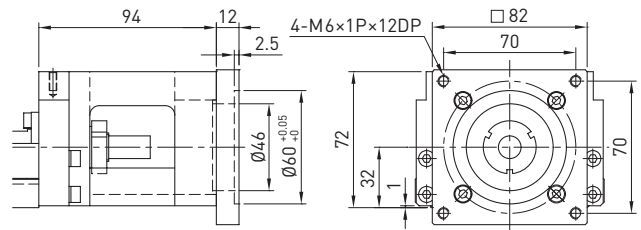
Motor adapter flange F1



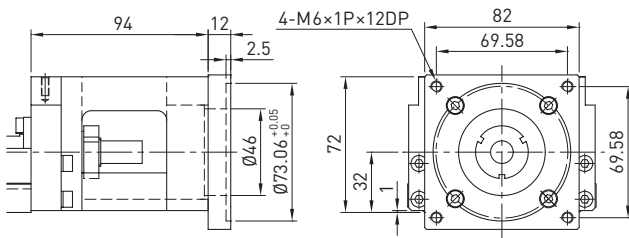
Motor adapter flange F2



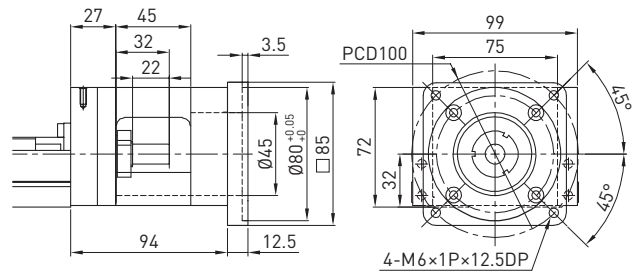
Motor adapter flange F3



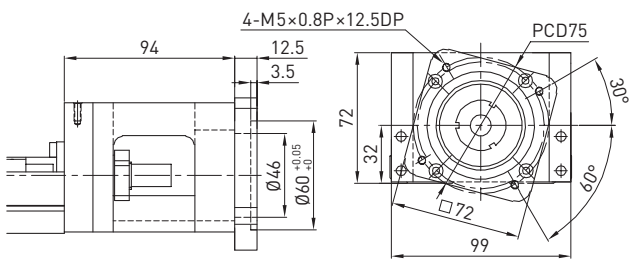
Motor adapter flange F4



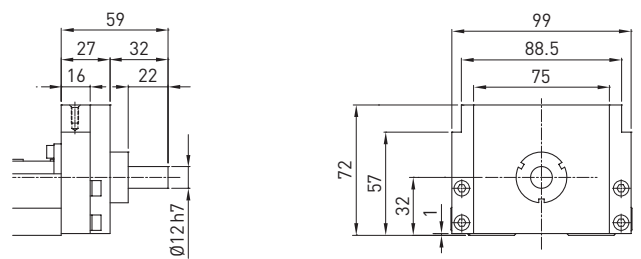
Motor adapter flange F5



Motor adapter flange F7



Motor adapter flange H0



KK/KF Linear Axes

KK130 linear axes

11. KK130 linear axes

11.1 KK130 linear axes without cover

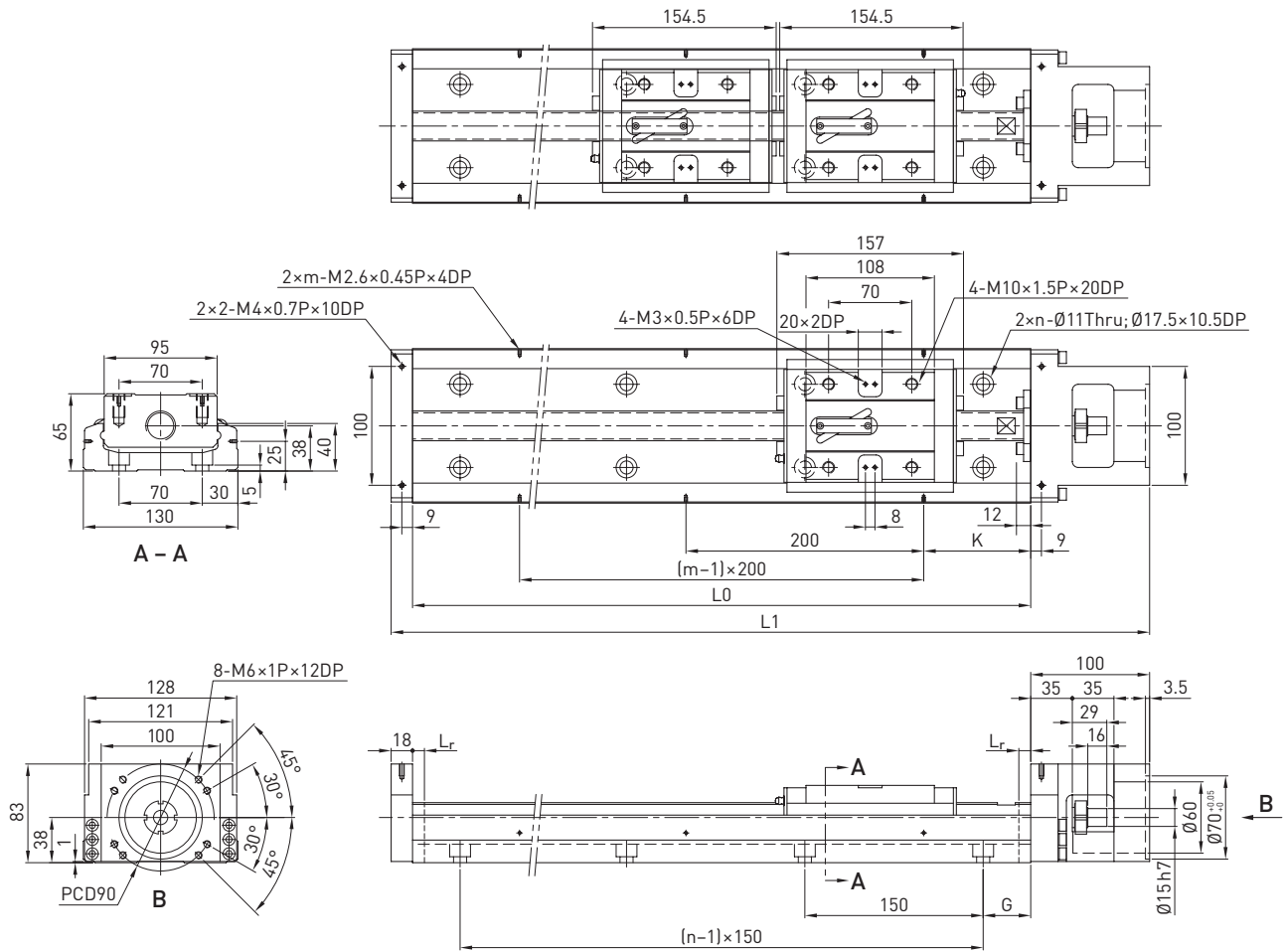


Table 11.1 Dimensions and weights of KK130 linear axes without cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK13025P0980	25	980	1,098	791	639	10	40	90	7	5	29.4	32.3
KK13025P1180	25	1,180	1,298	991	839	10	65	90	8	6	34.3	37.2
KK13025P1380	25	1,380	1,498	1,191	1,039	10	90	90	9	7	39.2	42.1
KK13025P1680	25	1,680	1,798	1,491	1,339	10	90	40	11	9	46.5	49.4

Reference edge

Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

11.2 KK130 linear axes with aluminium cover

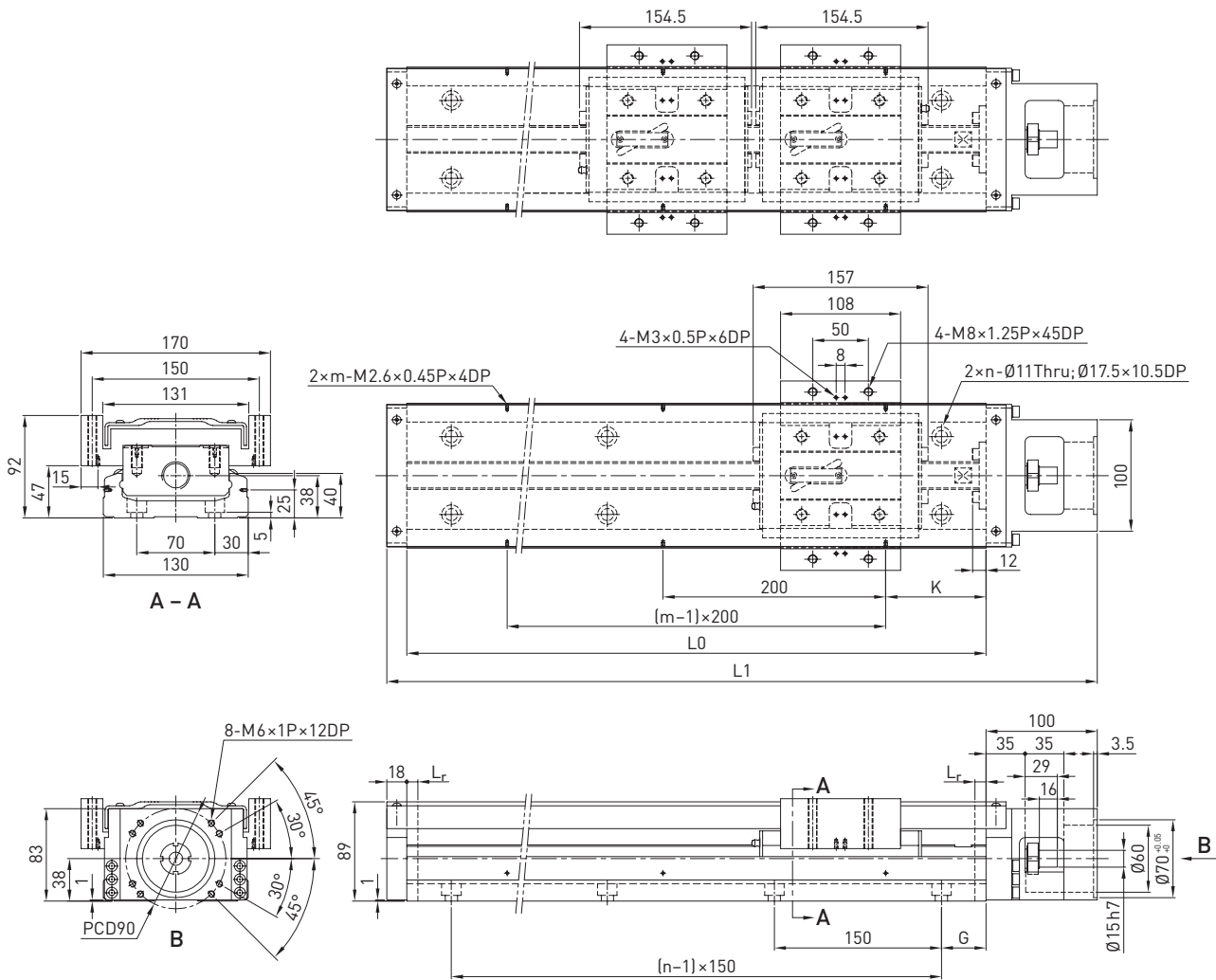


Table 11.2 Dimensions and weights of KK130 linear axes with aluminium cover

Model	Lead [mm]	L0 [mm]	L1 [mm]	Maximum stroke [mm]		Reserve stroke L _r [mm]	G [mm]	K [mm]	n	m	Weight [kg]	
				Block A1	Block A2						Block A1	Block A2
KK13025P0980	25	980	1,098	791	639	10	40	90	7	5	31.9	35.9
KK13025P1180	25	1,180	1,298	991	839	10	65	90	8	6	37.1	41.1
KK13025P1380	25	1,380	1,498	1,191	1,039	10	90	90	9	7	42.2	46.2
KK13025P1680	25	1,680	1,798	1,491	1,339	10	90	40	11	9	49.9	53.9

Reference edge

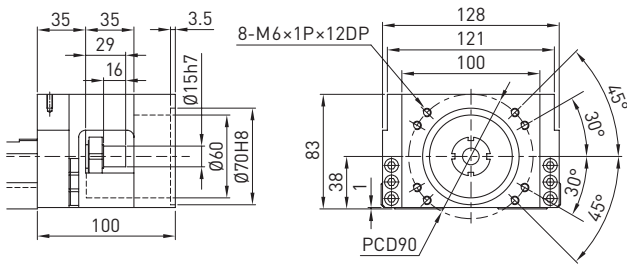
Viewed from the motor flange, the reference edge is located on the left side of the linear axis.

KK/KF Linear Axes

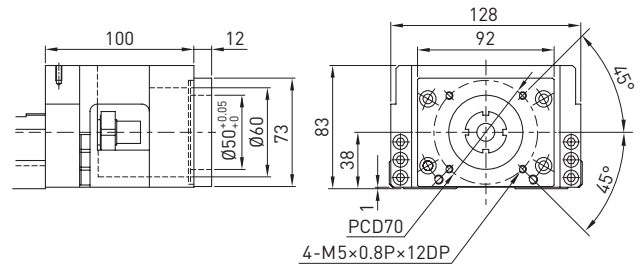
KK130 linear axes

11.3 KK130 adapter flanges

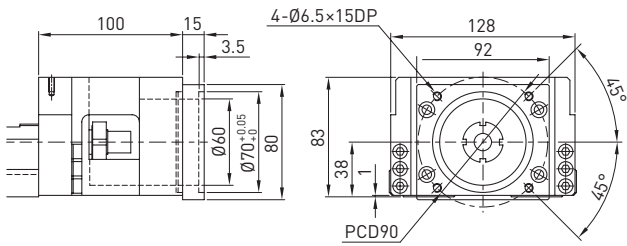
Motor adapter flange F0



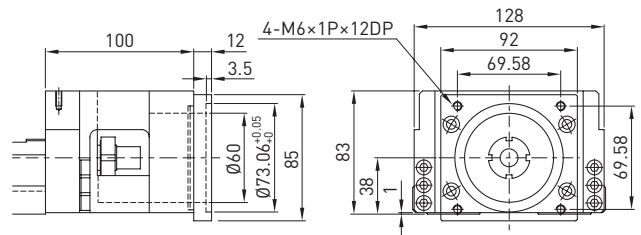
Motor adapter flange F1



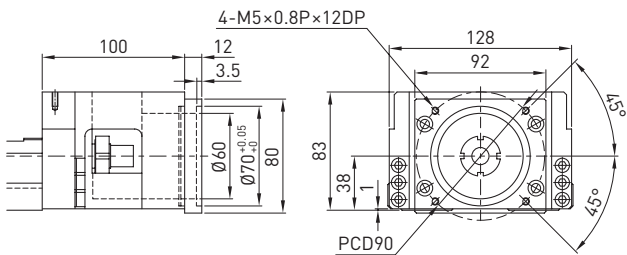
Motor adapter flange F2



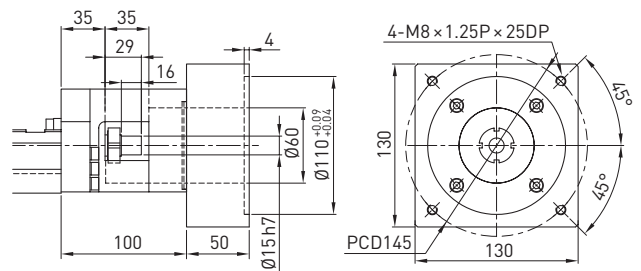
Motor adapter flange F3



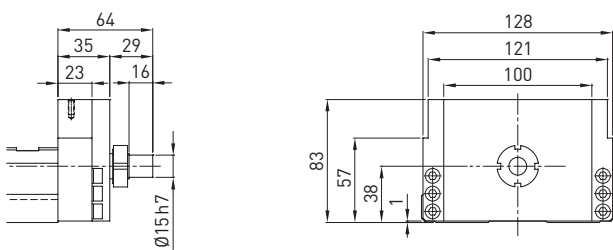
Motor adapter flange F4



Motor adapter flange F5



Motor adapter flange H0



12. Accessories

12.1 Sensor rail with limit switch

The KK/KF linear axis can be ordered with up to three limit switches (inductive PNP proximity switches). The limit switches are mounted on the sensor rail, where they can be placed in any position. The limit switches are supplied with open cable ends and

mounted on the sensor rail which is attached to the linear axis. More details of the limit switches can be found in the "KK/KF linear axes assembly instructions" available at www.hiwin.de.

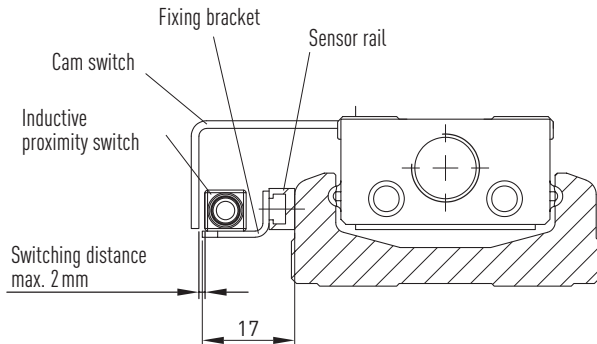


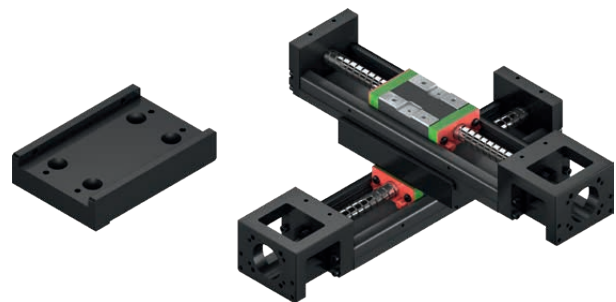
Table 12.1 Available limit switches

Article number	Function	Cable length
8-14-0040 ¹⁾	Normally closed contact	4 m
8-14-0010	Normally open contact	2 m

¹⁾ Standard version

12.2 Cross table adapter

- Adapter for connecting two or more KK/KF axes crosswise into one X-Y system
- Adapter for KK/KF axes available with and without aluminium cover
- Cam switch for limit switch can be adapted
- Black anodised surface
- Delivered in a set including mounting material



12.2.1 Cross table adapter for KK/KF linear axes without aluminium cover

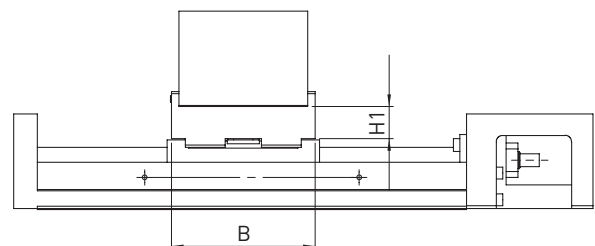
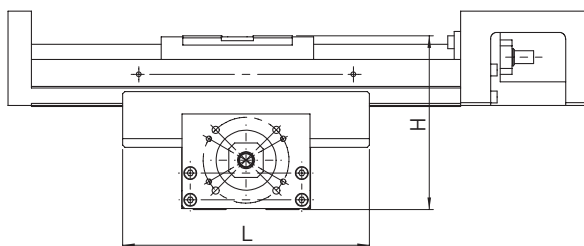


Table 12.2 Dimensions of cross table adapter for linear axes without cover

Article number	Lower axis	Upper axis	H	H1	L	B
10-000604	KK40	KK40	47	7	70	47
10-000606	KK50	KK40	56	10	70	47
10-000608	KK50	KK50	62	10	90	57
10-000610	KK/KF60	KK50	74	15	90	57
10-000612	KK/KF60	KK/KF60	81	15	115	67
10-000614	KK/KF86	KK/KF60	95	16	110	67
10-000616	KK/KF86	KK/KF86	108	16	120	97

Unit: mm

KK/KF Linear Axes

Accessories

12.2.2 Cross table adapter for KK/KF linear axes with aluminium cover

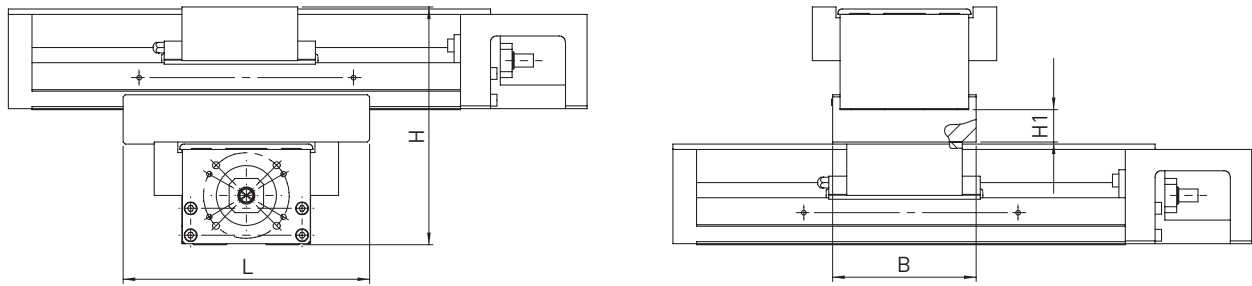


Table 12.3 Dimensions of cross table adapter for linear axes with cover

Article number	Lower axis	Upper axis	H	H1	L	B
10-000605	KK40	KK40	74	10	70	47
10-000607	KK50	KK40	82	10	70	47
10-000609	KK50	KK50	90	10	90	57
10-000611	KK/KF60	KK50	103	15	57	57
10-000613	KK/KF60	KK/KF60	111	15	115	67
10-000615	KK/KF86	KK/KF60	132	16	144	67
10-000617	KK/KF86	KK/KF86	152	16	144	97

Unit: mm

12.3 Covers

To protect the linear axes, they can be fitted with aluminium or bellows covers. You will find the dimensions of the KK linear axes with covers in the chapters for the relevant sizes.

Table 12.4 Availability of covers

Model	Aluminium cover	Bellow cover
KK30	●	—
KK40	●	—
KK50	●	—
KK60	●	●
KF60	●	—
KK86	●	●
KF86	●	—
KK100	●	—
KK130	●	—

12.4 Grease nipples

Table 12.5 Nipples for grease lubrication

		
Art. No.: 20-000275 – M3 × 0.5 P KK40	Art. No.: 20-000272 – M4 × 0.7 P KK50, KK/KF60, KK/KF86	Art. No.: 20-000273 – M6 × 0.75 P KK100, KK130

12.5 HIWIN servo motor

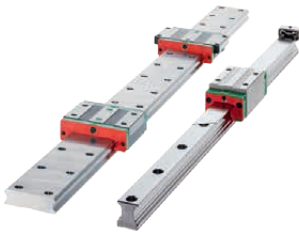
HIWIN synchronous AC servo motors are available with power ratings of 50 W, 100 W, 200 W, 400 W, 750 W and 1000 W. The motors are equipped with a 23-bit encoder and are available with or without a motor brake.



Table 12.6 Motor type to KK linear axis assignment

Motor type	Motor output [W]	Motor torque [Nm]		KK linear axis assignment						
		Nominal torque	Peak torque	KK30	KK40	KK50	KK60/KF60	KK86/KF86	KK100	KK130
EM1-C-M-05	50	0,16	0,59	—	F1	F1	F1	—	—	—
EM1-C-M-10	100	0,32	1,18	—	F1	F1	F1	—	—	—
EM1-C-M-20	200	0,64	2,24	—	—	—	—	F0	F0	F1
EM1-C-M-40	400	1,27	4,44	—	—	—	—	F0	F0	F1
EM1-C-M-75	750	2,39	8,36	—	—	—	—	—	F1	F2
EM1-C-M-1K	1,000	4,77	14,30	—	—	—	—	—	—	F5

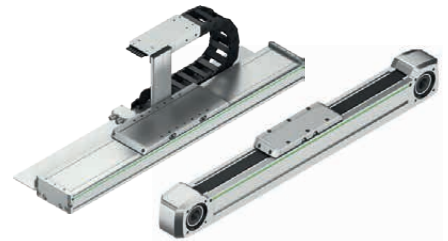
We live motion.



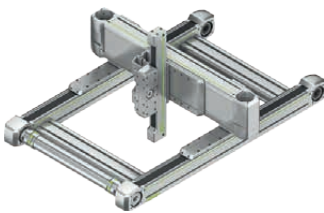
Linear Guideways



Ballscrews



Linear Axes



Linear Axis Systems



Torque Motors



Robots



Linear Motors



Rotary Tables



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