

Single Axis Robot

KC Series



NEW

A lighter total solution for you

The HIWIN KC industrial robot integrates a ballscrew and guideway into a single modularized unit. With a ballscrew driven block traveling on a light weight optimized U-rail, this device offers high accuracy and efficiency, compact size, and fast installation.

Features

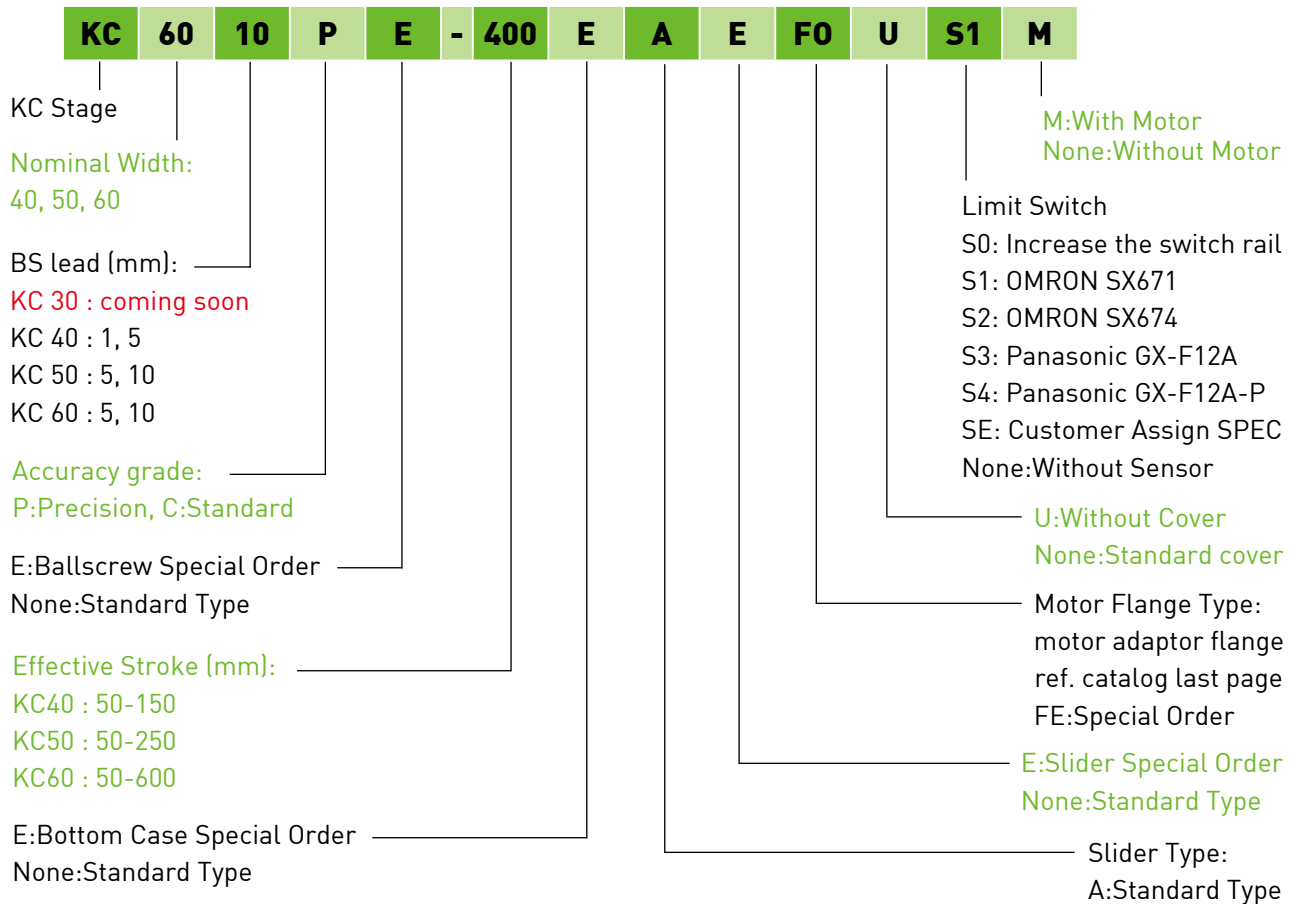
- Light Weight
- Easy Installation
- High Repeatability

Applications

- Pick and Place
- Automatic Inspection
- Assembly Machine



Model Number



Precision

● **Repeatability:**

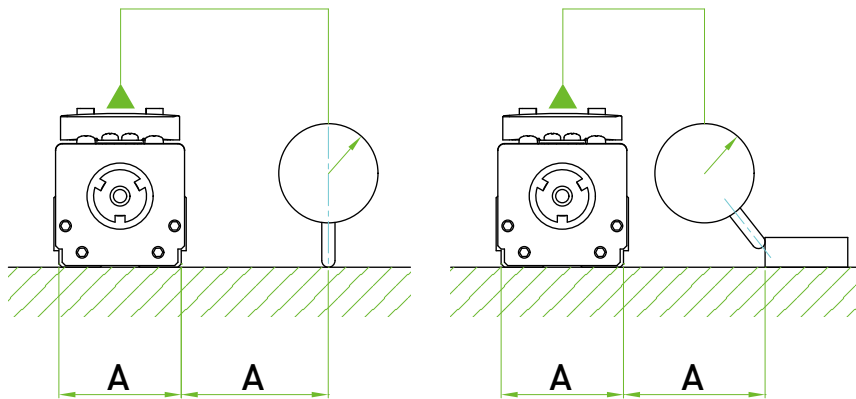
C : Standard Grade = ±0.02mm

P : Precision Grade = ±0.01mm

※Attention: The KC series does not indicate absolute positional accuracy.

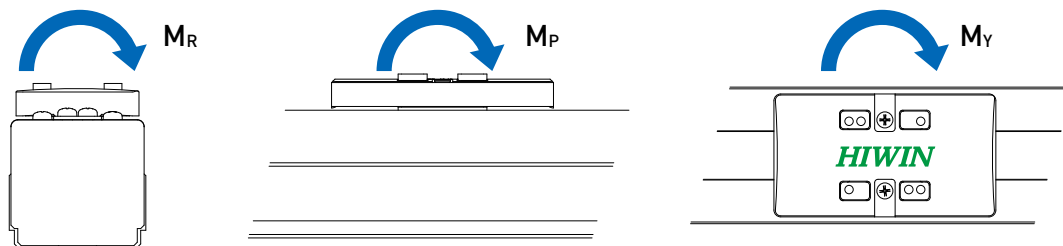
● **Running Parallelism:**

The Parallelism between module platform surface and module mounting surface is < 0.1 mm/m. Inspection distance is twice the width of the aluminum base, method as follows:



※Attention : Recommended flatness of installation plane is ≤ 0.05mm.

Loading SPEC



Model NO.	Ballscrew		Guideway			
	Lead (mm)	Basic Dynamic Load Rating (N)	Basic Static Load Rating (N)	Static Rated Moment		
				Allowable Static Moment M_p (N-m) (pitching)	Allowable Static Moment M_y (N-m) (yawing)	Allowable Static Moment M_R (N-m) (rolling)
KC40	1	666	1000	9.8	9.8	18
	5	1844				
KC50	5	2256	1451	17	17	36
	10	1940				
KC60	5	3377	3122	40	40	90
	10	2107				

※Attention: While operating with low speed, moderate frequency, or shock/vibration impact, HIWIN recommends the static safety coefficient be considered.

$$f_{sm} = \frac{M_0}{M}$$

f_{sm} : Static safety coefficient for moment

M_0 : Allowable static moment (N-m)

M : Calculated applying moment (N-m)

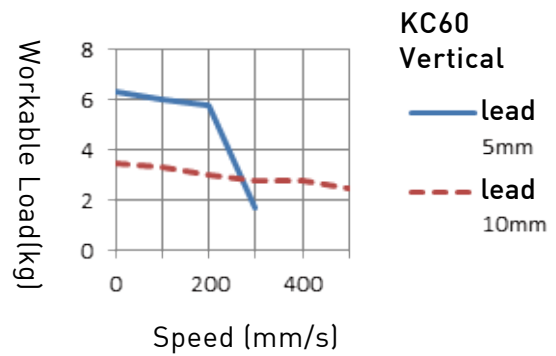
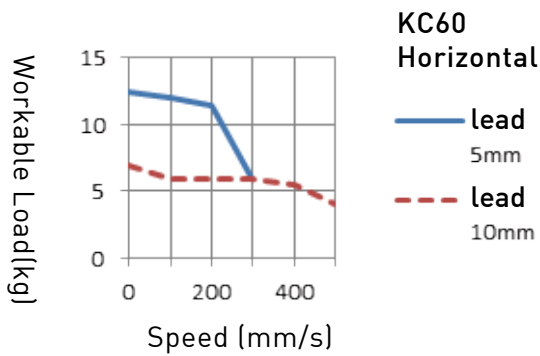
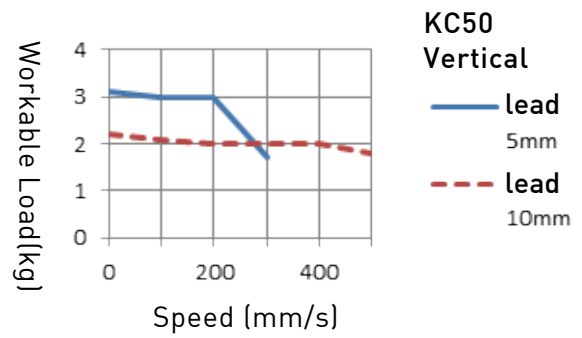
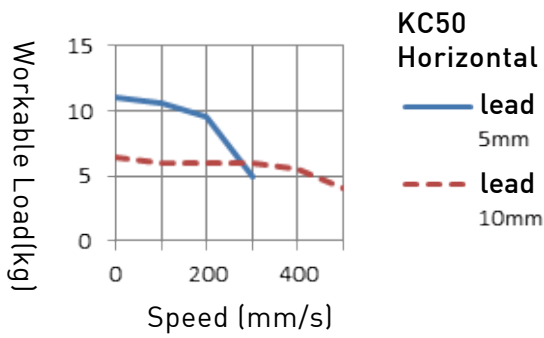
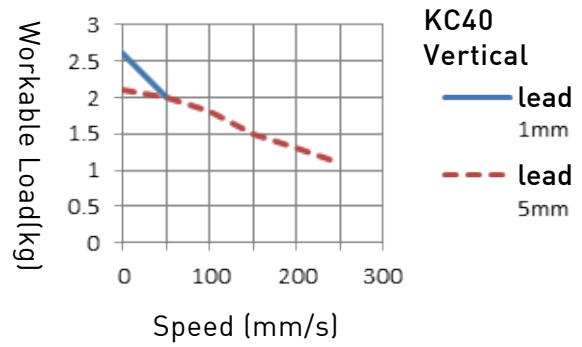
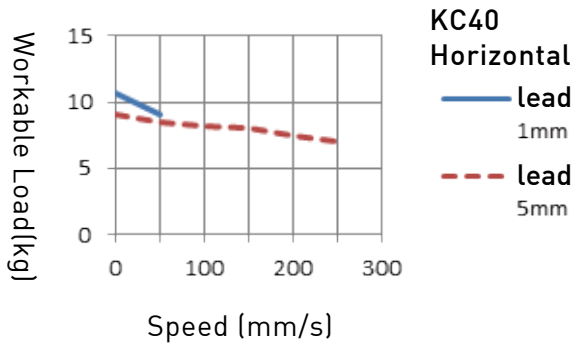
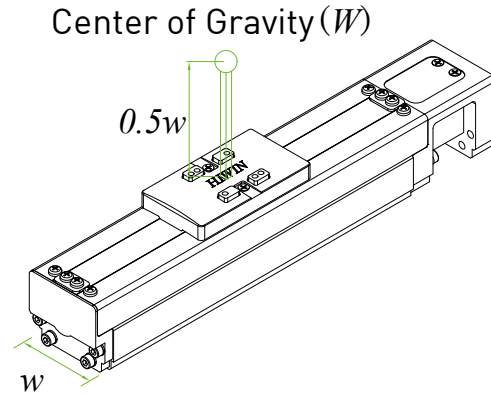
Load Requirements	f_{sm}
Normal load or low speed operation	3~5
With impacts/vibrations	5~8

Reference

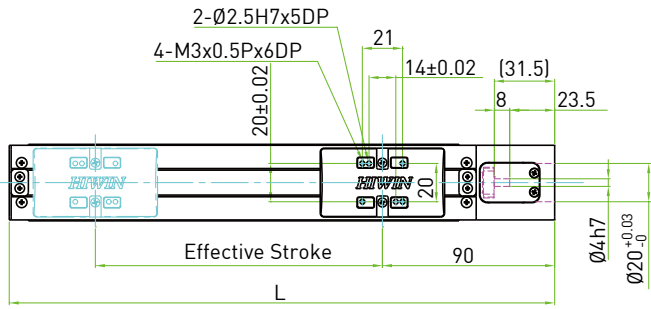
Speed & load relation diagrams:

Diagrams are actual test results based on the following assumptions. If used under different conditions, please contact HIWIN.

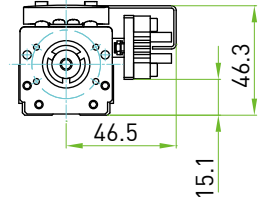
- Assumed travel life: 5,000Km °
- Acceleration: 0.3G (0.2G calculated for lead=1mm).
- Stroke: 100mm °
- Center of Gravity is located in the nominal direction on 0.5x width (w) of bottom case.



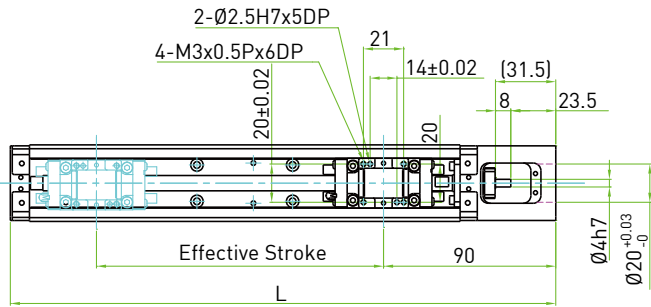
KC Series | **KC40**



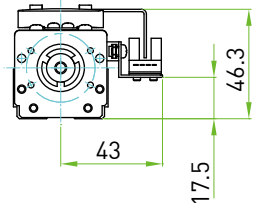
Standard Type



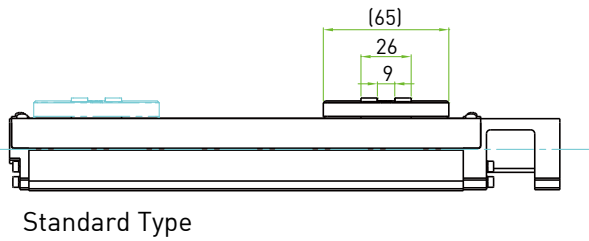
S1



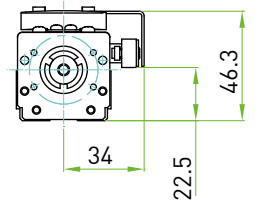
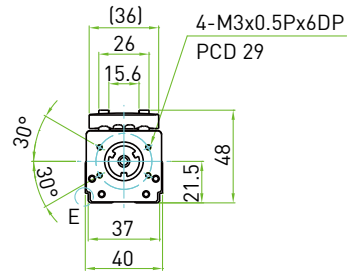
Without Cover



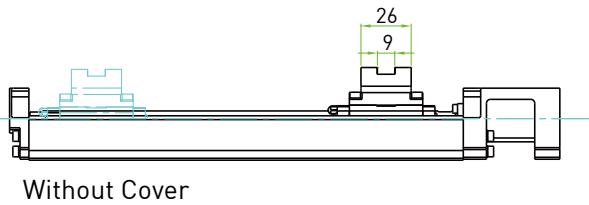
S2



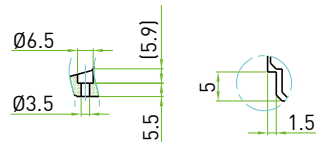
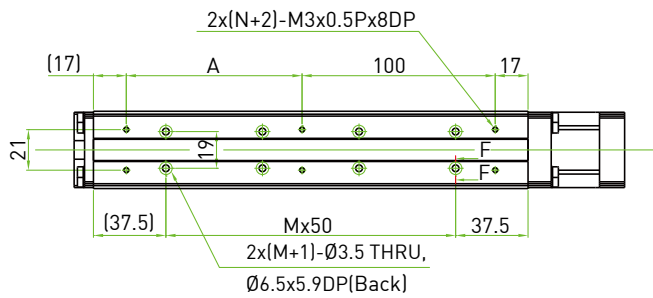
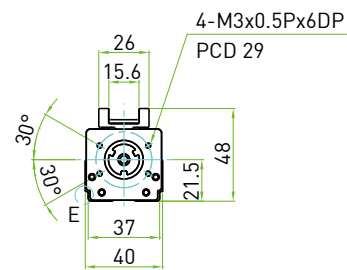
Standard Type



S3

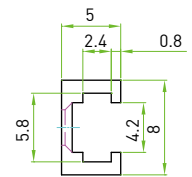


Without Cover



Section F-F

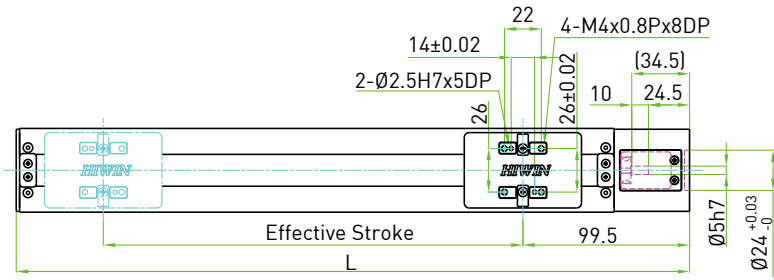
Detail E



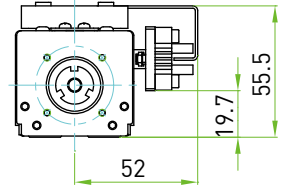
Switch Rail

Effective Stroke (mm)	L	A	M	N	Weight (kg)	W/O Cover WT. (kg)
50	185	91	1	0	0.6	0.5
100	235	41	2	1	0.7	0.6
150	285	91	3	1	0.8	0.7

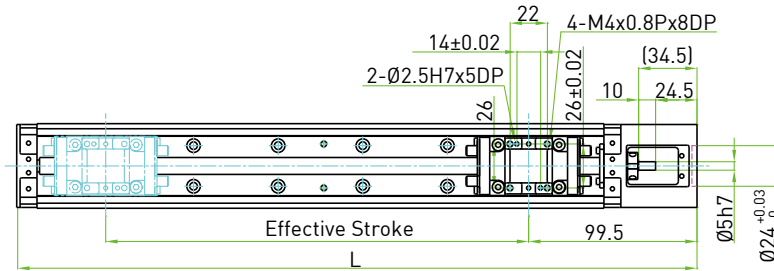
KC Series | **KC50**



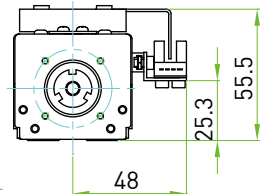
Standard Type



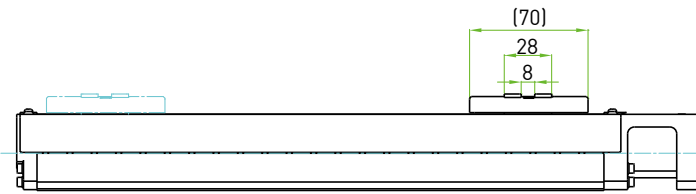
S1



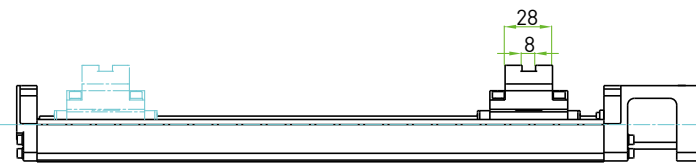
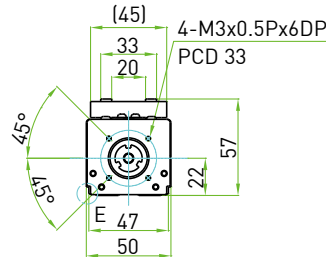
Without Cover



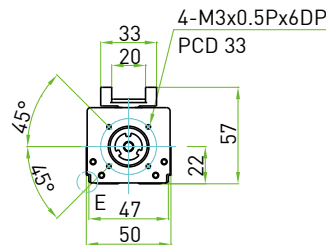
S2



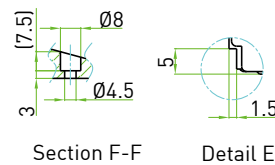
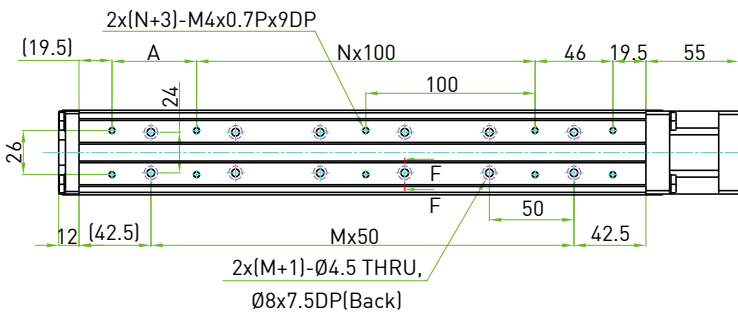
Standard Type



Without Cover

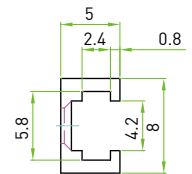


S3



Section F-F

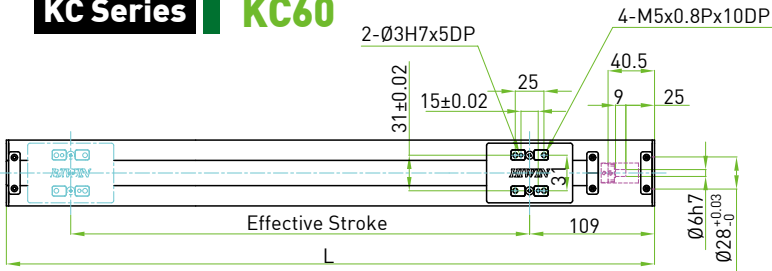
Detail E



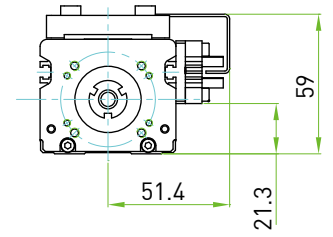
Switch Rail

Effective Stroke (mm)	L	A	M	N	Weight (kg)	W/O Cover WT. (kg)
50	202	50	1	0	1.1	1
100	252	100	2	0	1.2	1.1
150	302	50	3	1	1.4	1.2
200	352	100	4	1	1.5	1.4
250	402	50	5	2	1.6	1.5

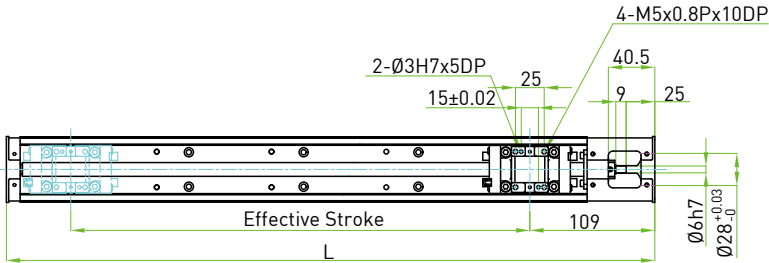
KC Series | **KC60**



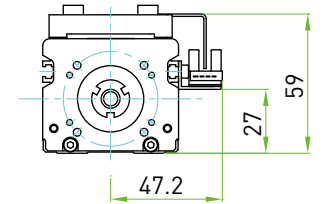
Standard Type



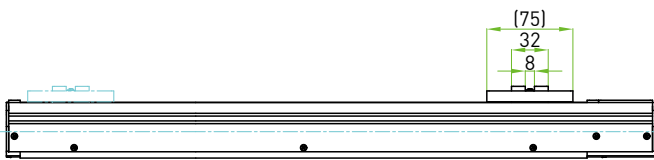
S1



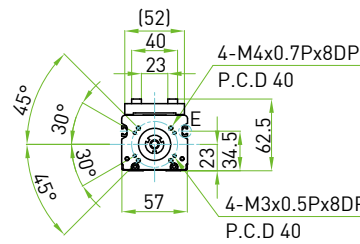
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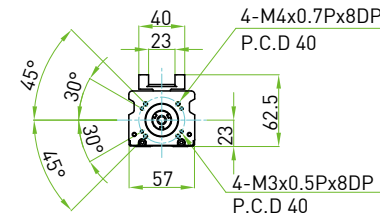
S2



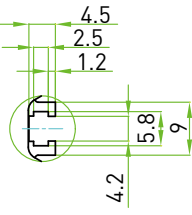
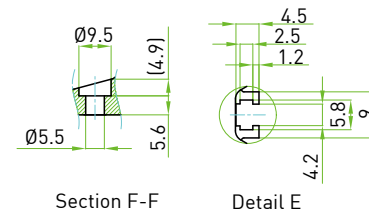
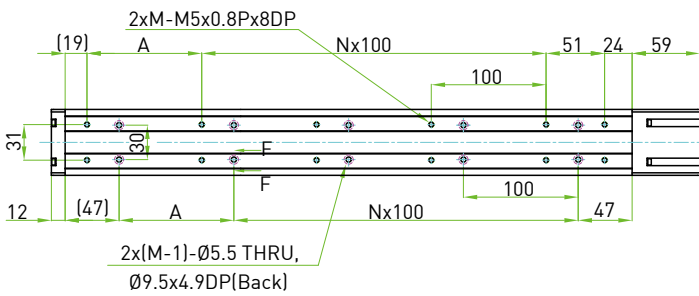
Standard Type



Without Cover



S3



Switch Rail

Effective Stroke (mm)	L	A	M	N	Weight (kg)	W/O Cover WT. (kg)
50	215	50	3	0	1.4	1.1
100	265	100	3	0	1.5	1.2
150	315	50	4	1	1.7	1.4
200	365	100	4	1	1.8	1.5
250	415	50	5	2	2	1.7
300	465	100	5	2	2.1	1.8
350	515	50	6	3	2.3	2
400	565	100	6	3	2.4	2.1
450	615	50	7	4	2.6	2.3
500	665	100	7	4	2.7	2.4
550	715	50	8	5	2.9	2.6
600	765	100	8	5	3	2.7

Motor Selection

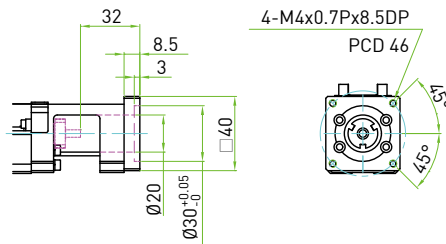
HIWIN Servo Motor

Motor output	Motor	Wt.(kg)	Flange Selection			+Brake Wt. (kg)	Drive	Wt.(kg)	Remark
			KC40	KC50	KC60				
50W	FRLS052□□A4□	0.45	F2	F2	F2	0.58	D2-0123-S-A0	1.25	220V
100W	FRLS102□□A4□	0.6				0.76			

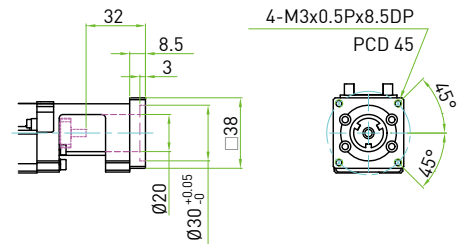
If alternate motor pairing is required, please contact HIWIN.

● KC40

Motor Adaptor Flange F1

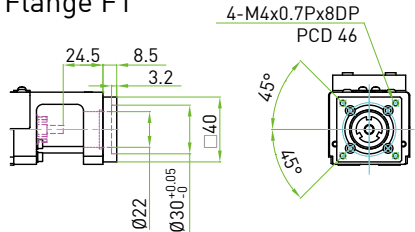


Motor Adaptor Flange F2

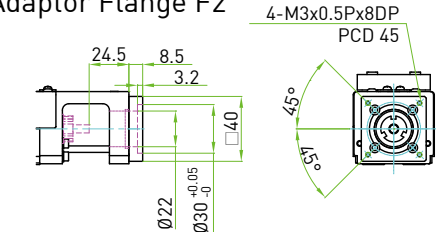


● KC50

Motor Adaptor Flange F1

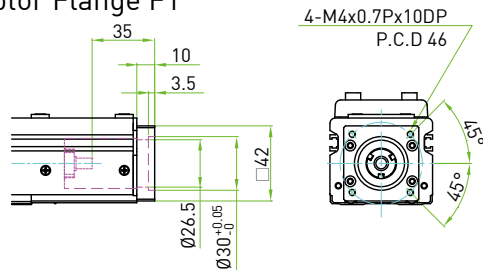


Motor Adaptor Flange F2

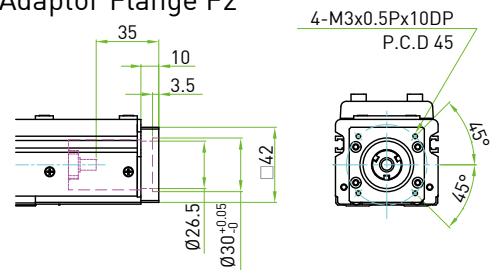


● KC60

Motor Adaptor Flange F1



Motor Adaptor Flange F2



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