

Single-Axis Robot

4. KC Series

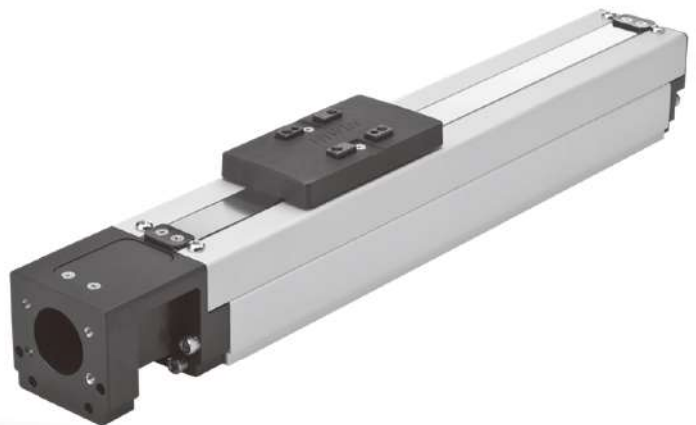
The HIWIN KC industrial robot integrates a ballscrew and guideway into a single modularized unit. With a ballscrew driven block traveling on a light weight optimized U-rail, this device offers high accuracy and efficiency, compact size, and fast installation.

4.1 Features

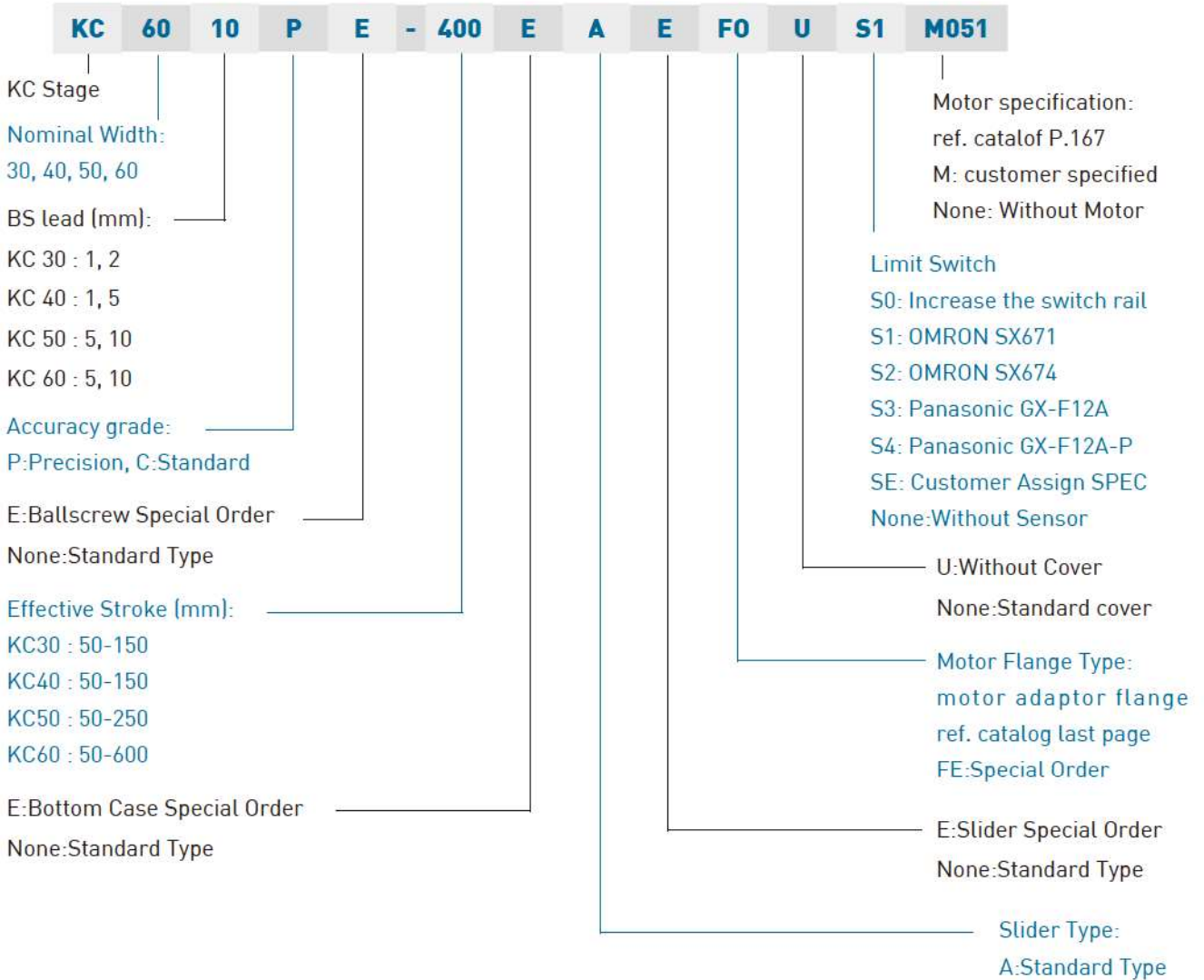
- ⊙ Light Weight
- ⊙ Easy Installation
- ⊙ High Repeatability

4.2 Applications

- ⊙ Pick and Place
- ⊙ Automatic Inspection
- ⊙ Assembly Machine



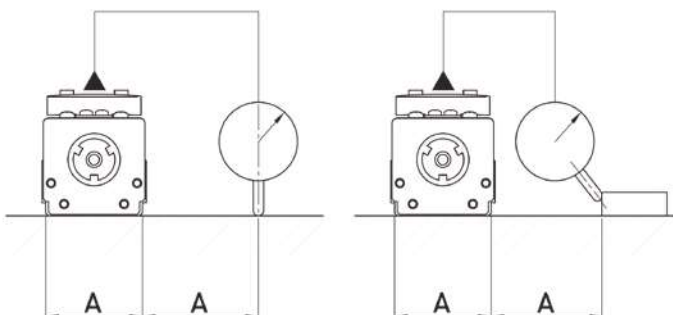
4.3 Model Number of KC Series



4.4 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:



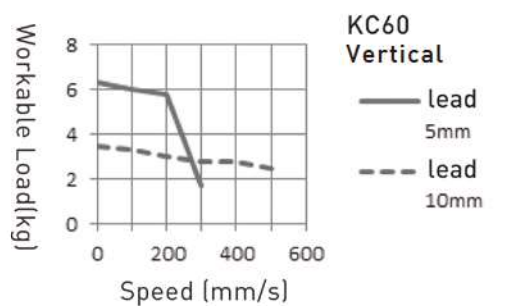
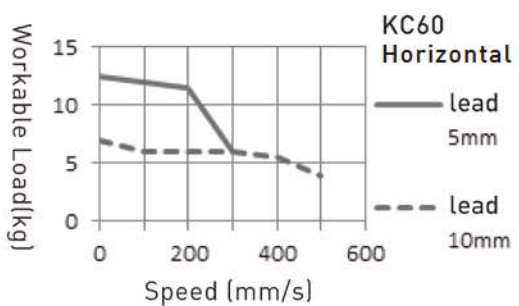
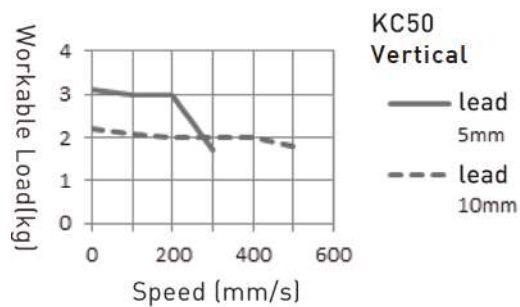
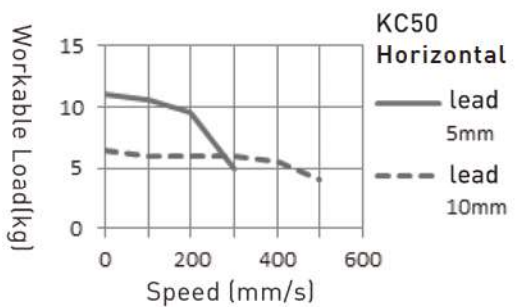
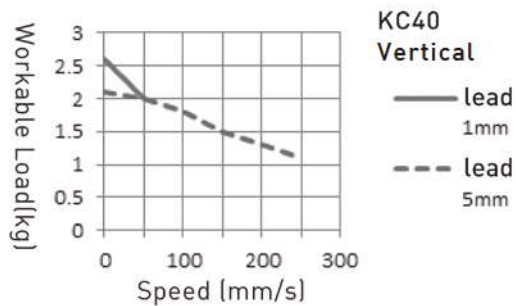
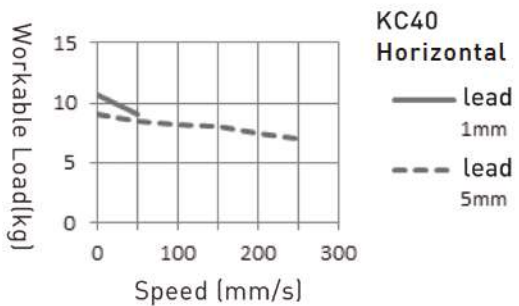
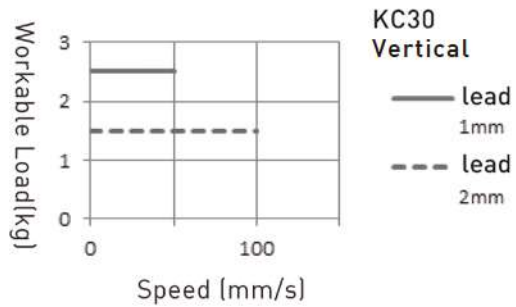
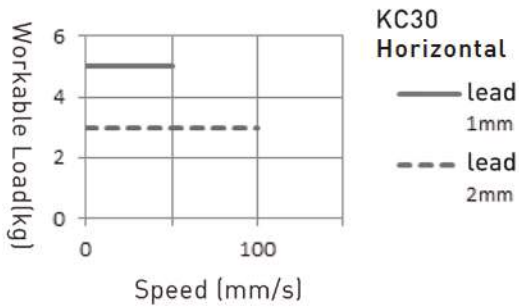
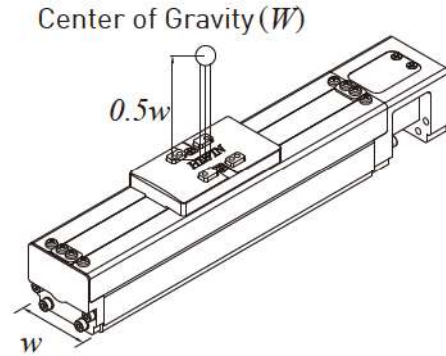
※Attention : Recommended flatness of installation plane is ≤ 0.05mm.

4.5 Reference

Speed & load relation diagrams:

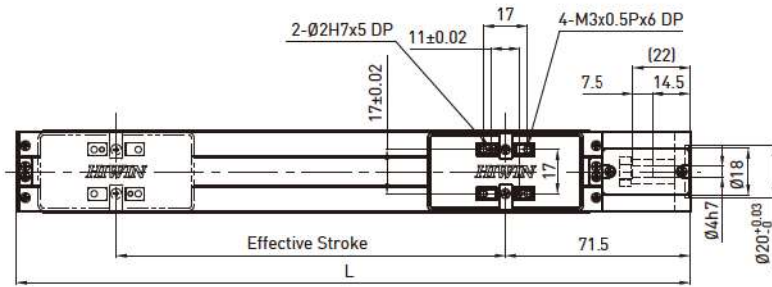
Diagrams are actual test results based on the following assumptions. If used under different conditions, please contact HIWIN.

- ⊙ 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.

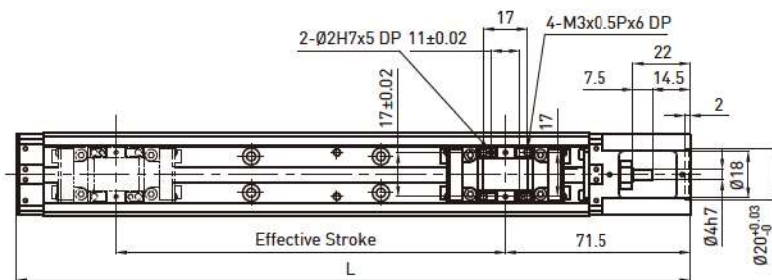


4.6 KC Series

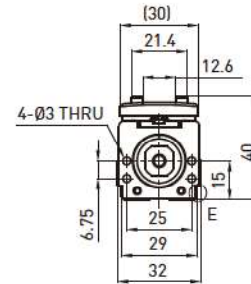
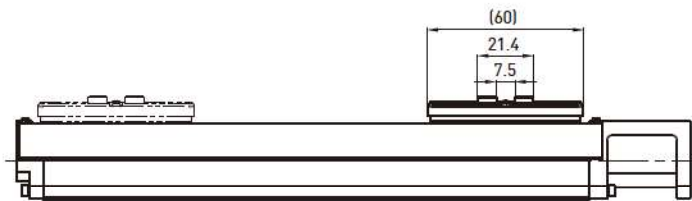
KC30



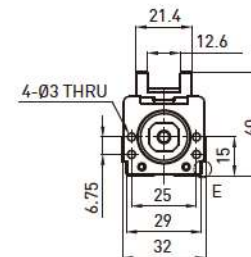
Standard Type



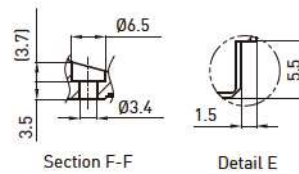
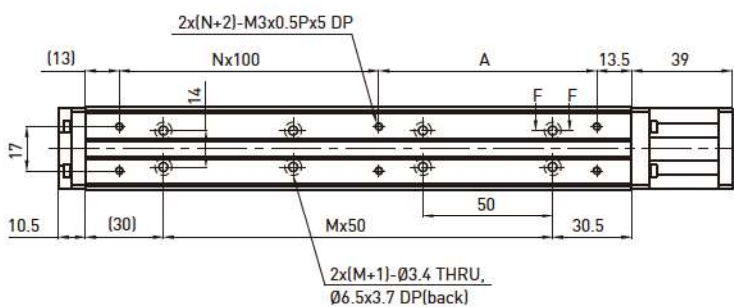
Without Cover



Standard Type



Without Cover



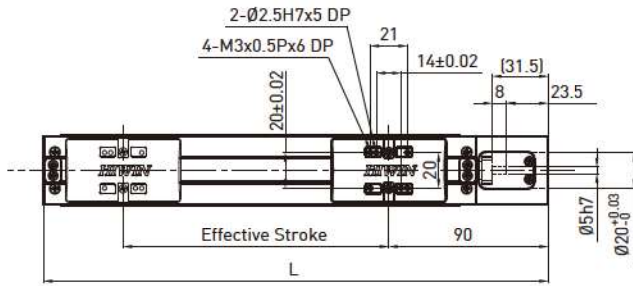
Section F-F

Detail E

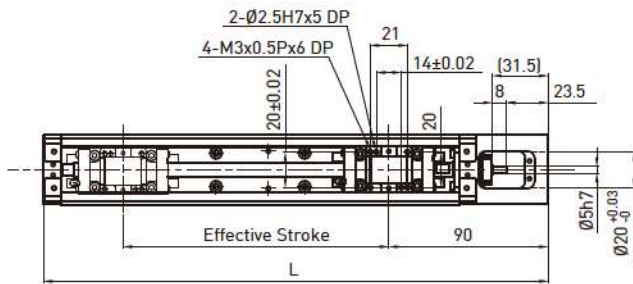
| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-----|----|---|---|-------------|--------------------|
| 50 | 160 | 84 | 1 | 0 | 0.28 | 0.24 |
| 100 | 210 | 34 | 2 | 1 | 0.34 | 0.3 |
| 150 | 260 | 84 | 3 | 1 | 0.4 | 0.36 |

Note: Special ballscrew spindle end of 3 mm diameter is available, please contact hiwin if necessary.

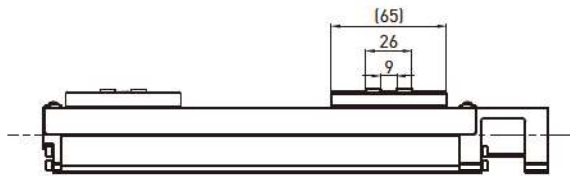
KC40



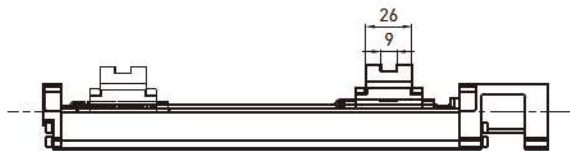
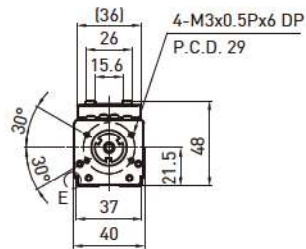
Standard Type



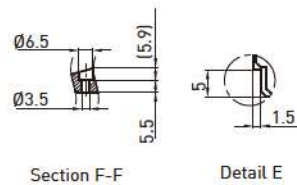
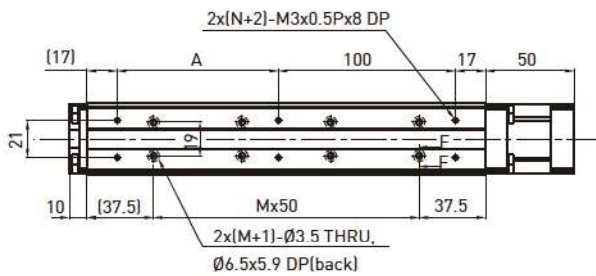
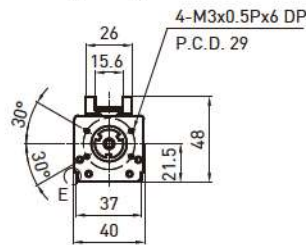
Without Cover



Standard Type



Without Cover



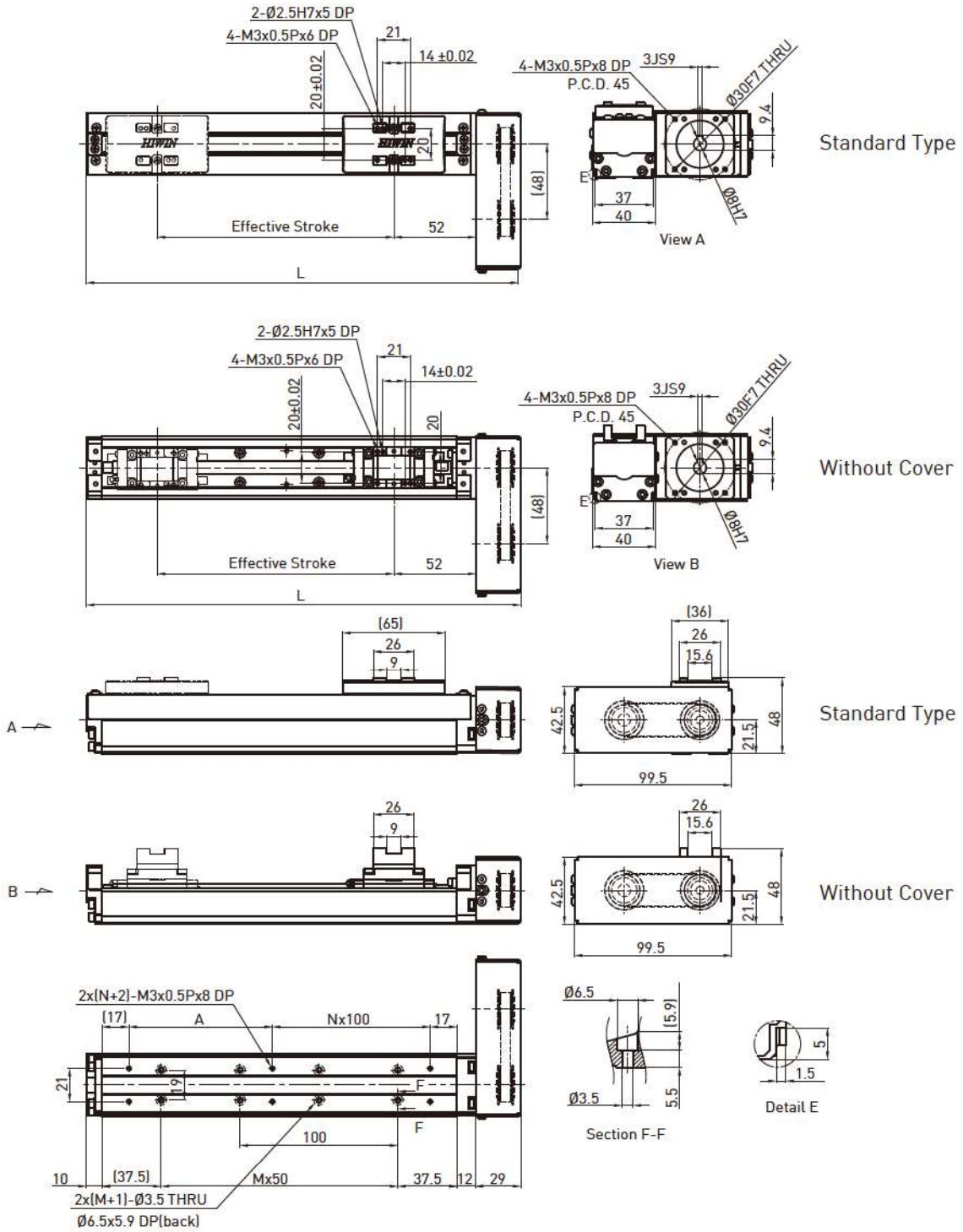
Section F-F

Detail E

| 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 |
| 200 | 335 | 41 | 4 | 2 | 0.9 | 0.8 |

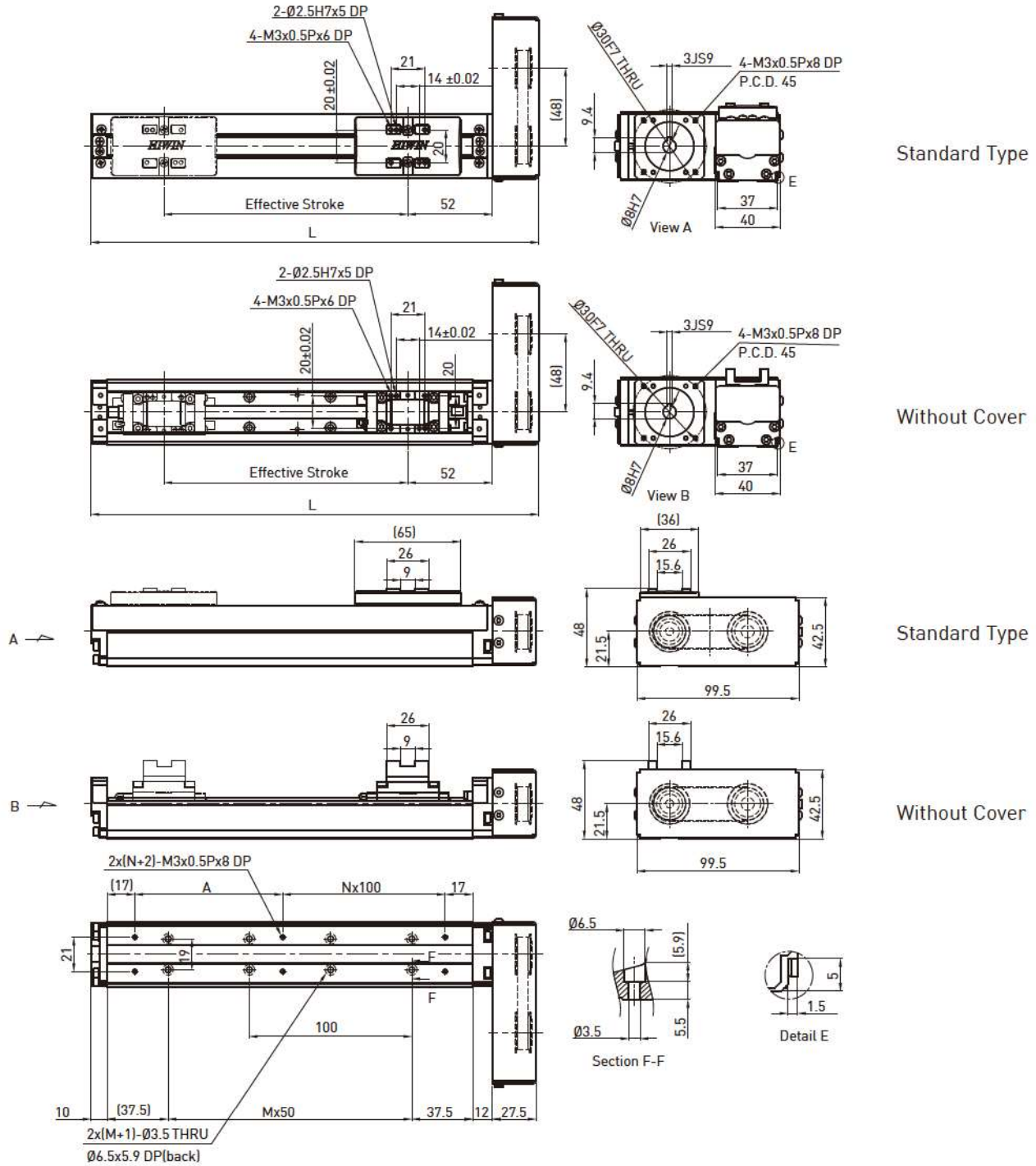
Note: Special ballscrew spindle end of 4 mm diameter is available, please contact hiwin if necessary.

KC40 Motor side mount (Left)



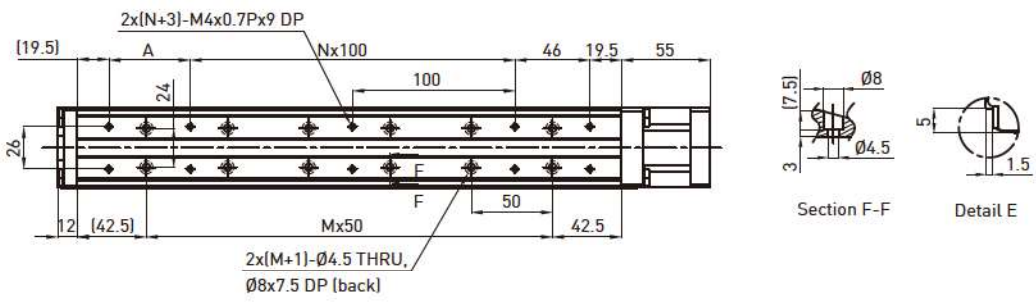
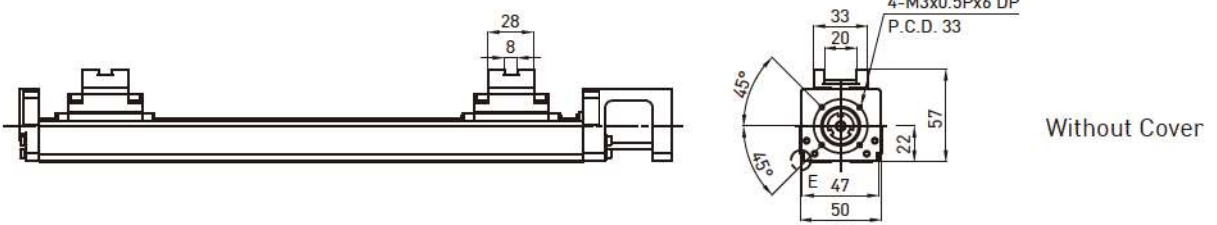
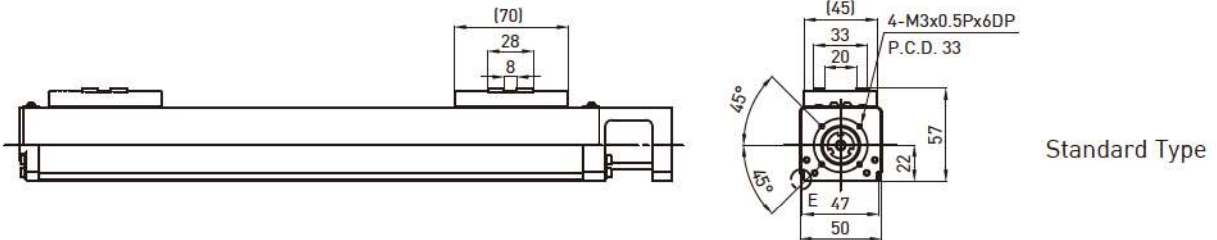
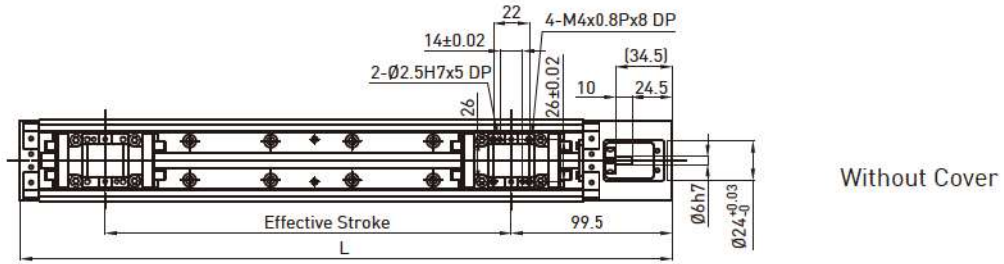
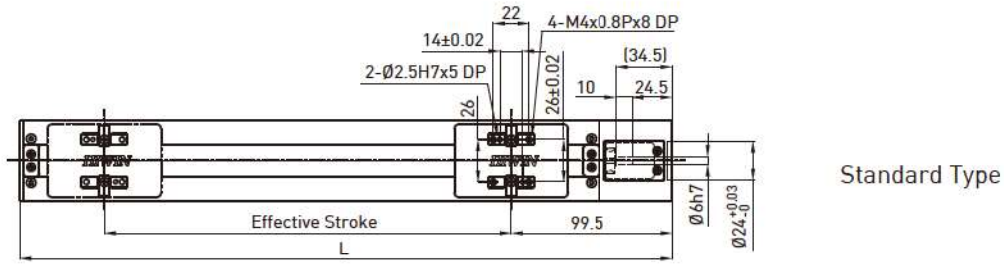
| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|----|---|---|-------------|--------------------|
| 50 | 174.5 | 91 | 1 | 0 | 0.7 | 0.6 |
| 100 | 224.5 | 41 | 2 | 1 | 0.8 | 0.7 |
| 150 | 274.5 | 91 | 3 | 1 | 0.9 | 0.8 |
| 200 | 324.5 | 41 | 4 | 2 | 1 | 0.9 |

KC40 Motor side mount (right)



| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|----|---|---|-------------|--------------------|
| 50 | 174.5 | 91 | 1 | 0 | 0.7 | 0.6 |
| 100 | 224.5 | 41 | 2 | 1 | 0.8 | 0.7 |
| 150 | 274.5 | 91 | 3 | 1 | 0.9 | 0.8 |
| 200 | 324.5 | 41 | 4 | 2 | 1 | 0.9 |

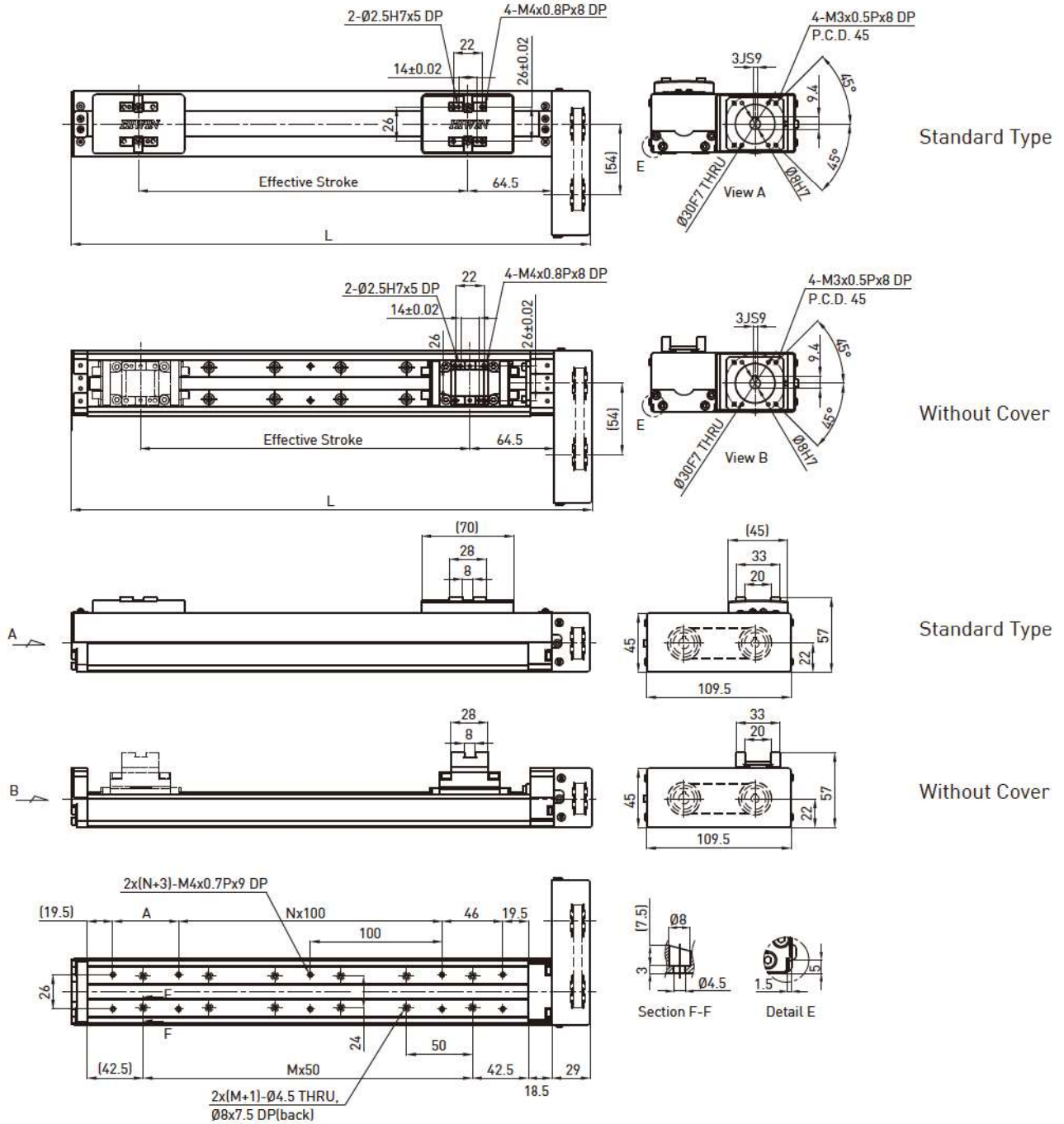
KC50



| 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 |
| 300 | 452 | 100 | 6 | 2 | 1.8 | 1.6 |

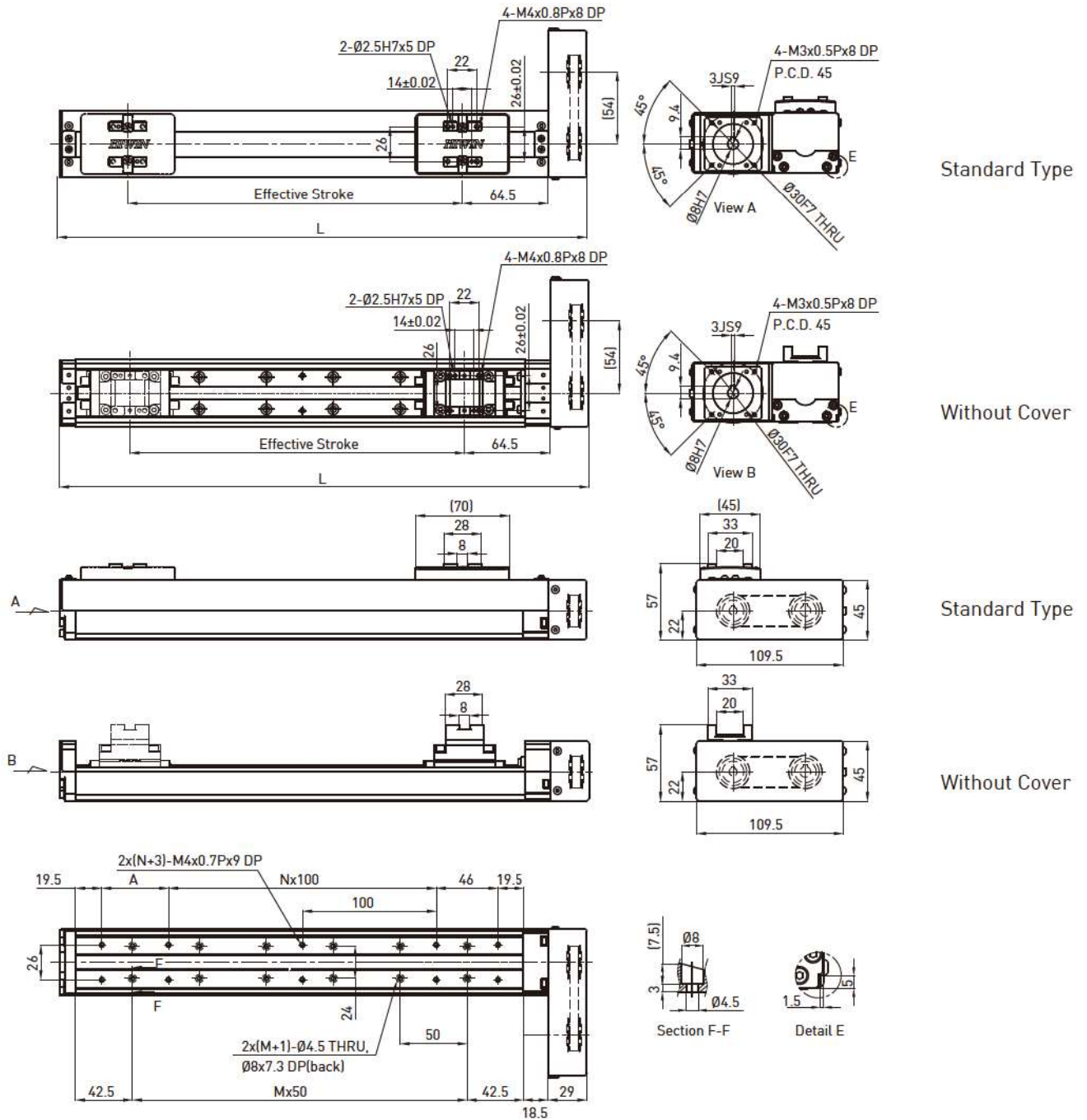
Note: Special ballscrew spindle end of 5 mm diameter is available, please contact hiwin if necessary.

KC50 Motor side mount (Left)



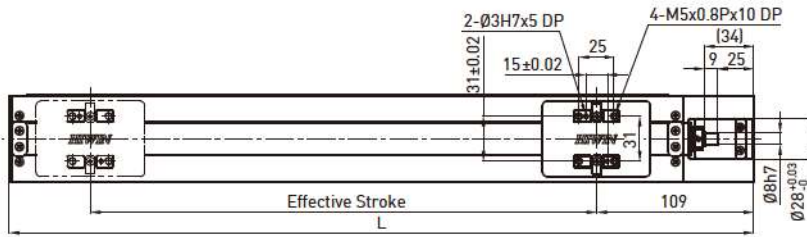
| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|-----|---|---|-------------|--------------------|
| 50 | 194.5 | 50 | 1 | 0 | 1.2 | 1.1 |
| 100 | 244.5 | 100 | 2 | 0 | 1.3 | 1.2 |
| 150 | 294.5 | 50 | 3 | 1 | 1.4 | 1.4 |
| 200 | 344.5 | 100 | 4 | 1 | 1.6 | 1.5 |
| 250 | 349.5 | 50 | 5 | 2 | 1.7 | 1.6 |
| 300 | 444.5 | 100 | 6 | 2 | 1.9 | 1.7 |

KC50 Motor side mount (Right)

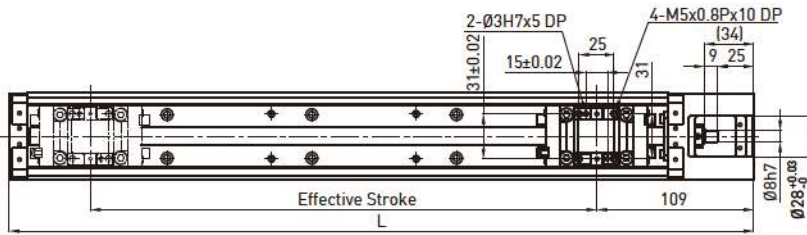


| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|-----|---|---|-------------|--------------------|
| 50 | 194.5 | 50 | 1 | 0 | 1.1 | 1 |
| 100 | 244.5 | 100 | 2 | 0 | 1.2 | 1.1 |
| 150 | 294.5 | 50 | 3 | 1 | 1.4 | 1.2 |
| 200 | 344.5 | 100 | 4 | 1 | 1.5 | 1.4 |
| 250 | 349.5 | 50 | 5 | 2 | 1.6 | 1.5 |
| 300 | 444.5 | 100 | 6 | 2 | 1.7 | 1.6 |

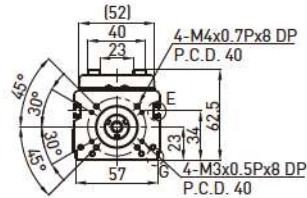
KC60



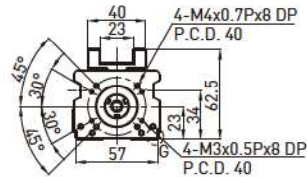
Standard Type



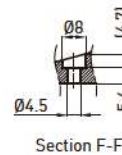
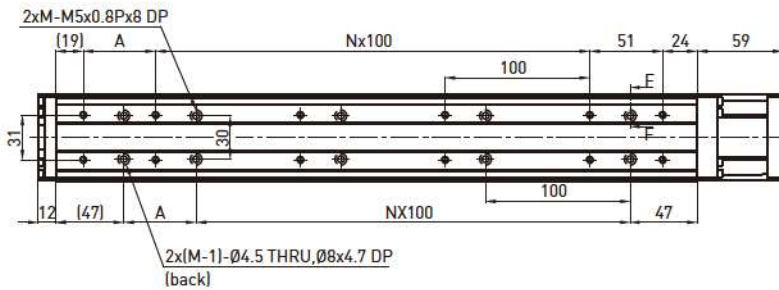
Without Cover



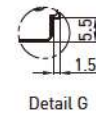
Standard Type



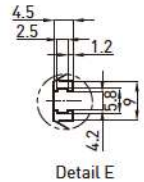
Without Cover



Section F-F



Detail G

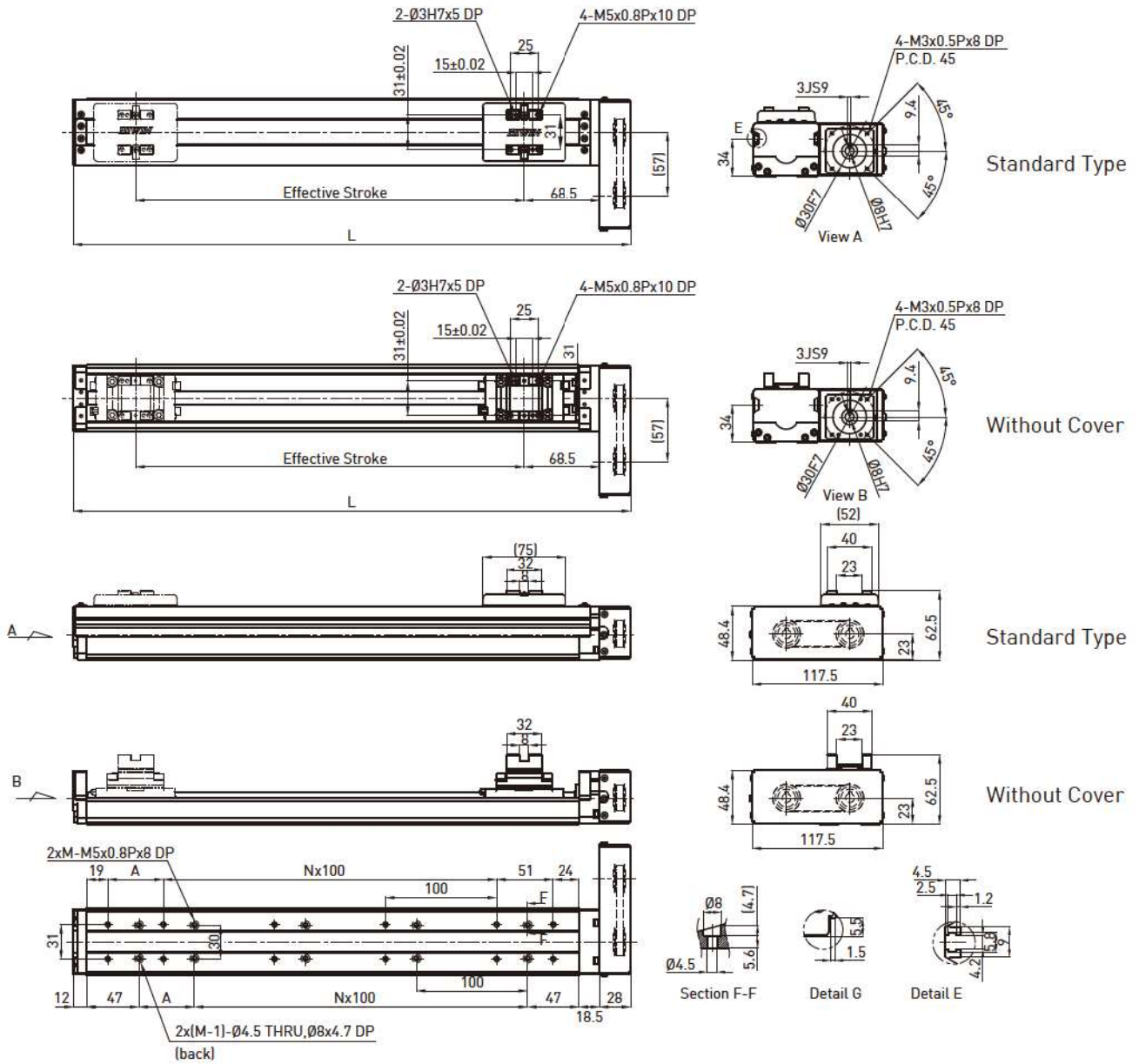


Detail E

| 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 |

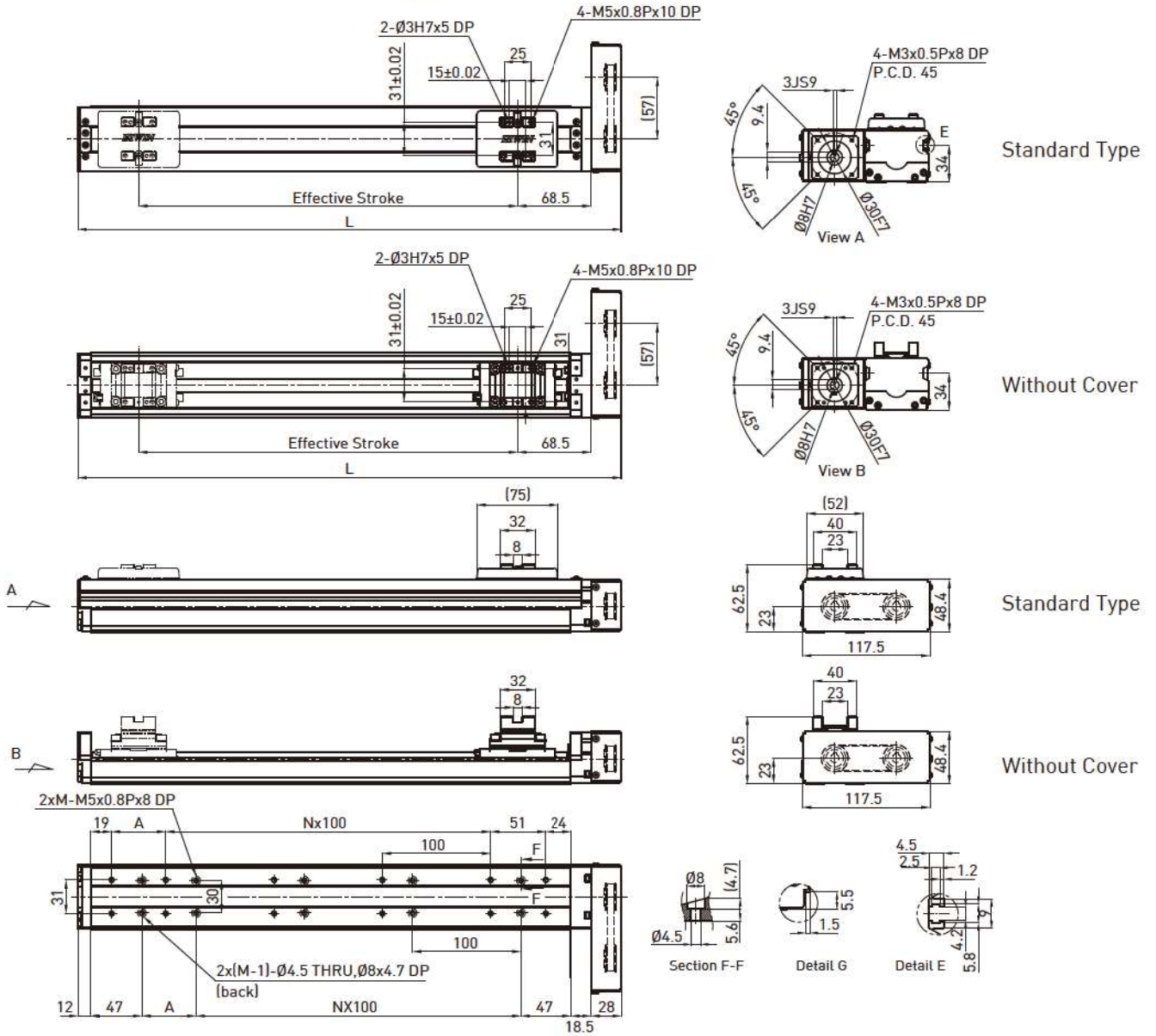
Note: Special ballscrew spindle end of 6 mm diameter is available, please contact hiwin if necessary.

KC60 Motor side mount (Left)



| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|-----|---|---|-------------|--------------------|
| 50 | 202.5 | 50 | 3 | 0 | 1.7 | 1.6 |
| 100 | 252.5 | 100 | 3 | 0 | 1.8 | 1.7 |
| 150 | 302.5 | 50 | 4 | 1 | 2 | 1.8 |
| 200 | 352.5 | 100 | 4 | 1 | 2.2 | 1.9 |
| 250 | 402.5 | 50 | 5 | 2 | 2.5 | 2 |
| 300 | 452.5 | 100 | 5 | 2 | 2.6 | 2.2 |
| 350 | 502.5 | 50 | 6 | 3 | 2.8 | 2.3 |
| 400 | 552.5 | 100 | 6 | 3 | 3 | 2.5 |
| 450 | 602.5 | 50 | 7 | 4 | 3.1 | 2.6 |
| 500 | 652.5 | 100 | 7 | 4 | 3.3 | 2.7 |
| 550 | 702.5 | 50 | 8 | 5 | 3.4 | 2.9 |
| 600 | 752.5 | 100 | 8 | 5 | 3.6 | 3 |

KC60 Motor side mount (Right)



| Effective Stroke (mm) | L | A | M | N | Weight (kg) | W/O Cover WT. (kg) |
|-----------------------|-------|-----|---|---|-------------|--------------------|
| 50 | 202.5 | 50 | 3 | 0 | 1.7 | 1.6 |
| 100 | 252.5 | 100 | 3 | 0 | 1.8 | 1.7 |
| 150 | 302.5 | 50 | 4 | 1 | 2 | 1.8 |
| 200 | 352.5 | 100 | 4 | 1 | 2.2 | 1.9 |
| 250 | 402.5 | 50 | 5 | 2 | 2.5 | 2 |
| 300 | 452.5 | 100 | 5 | 2 | 2.6 | 2.2 |
| 350 | 502.5 | 50 | 6 | 3 | 2.8 | 2.3 |
| 400 | 552.5 | 100 | 6 | 3 | 3 | 2.5 |
| 450 | 602.5 | 50 | 7 | 4 | 3.1 | 2.6 |
| 500 | 652.5 | 100 | 7 | 4 | 3.3 | 2.7 |
| 550 | 702.5 | 50 | 8 | 5 | 3.4 | 2.9 |
| 600 | 752.5 | 100 | 8 | 5 | 3.6 | 3 |

4.7 Motor Selection

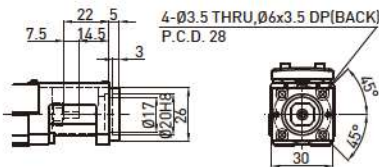
HIWIN Servo Motor

| Model selection | Rated Output | Brakes | Flange Selection | | | |
|-----------------|--------------|---------|------------------|------|------|------|
| | | | KC30 | KC40 | KC50 | KC60 |
| M05□ | 50W | Without | F4 | F2 | F2 | F2 |
| K05□ | | With | | | | |
| M10□ | 100W | Without | | | | |
| K10□ | | With | | | | |

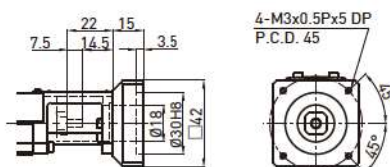
*1. If alternate motor pairing is required, please contact HIWIN.
2. ref. catalog P.167

◎ KC30

Motor Adaptor Flange F2

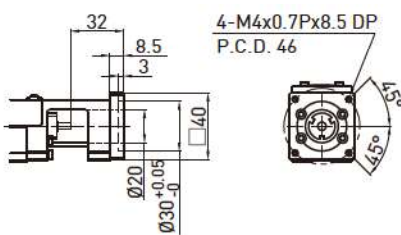


Motor Adaptor Flange F4

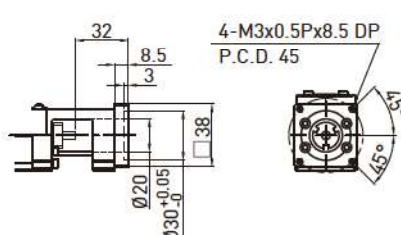


◎ KC40

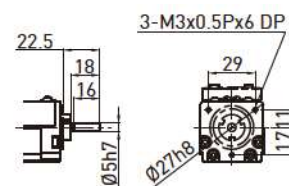
Motor Adaptor Flange F1



Motor Adaptor Flange F2

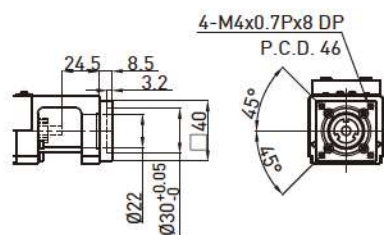


Mount Housing H0

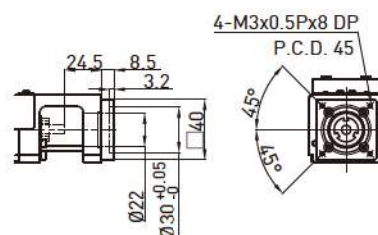


◎ KC50

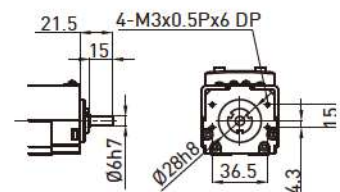
Motor Adaptor Flange F1



Motor Adaptor Flange F2

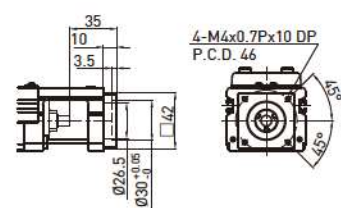


Mount Housing H0

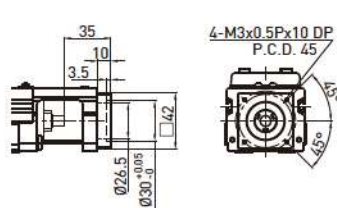


◎ KC60

Motor Adaptor Flange F1



Motor Adaptor Flange F2



Mount Housing H0

