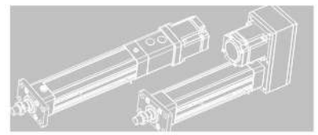
KDG Series

Standard / Ball Screw



CONTENTS

Basic Introduction of Servo Electric Cylinder

Principle of electric cylinder:

The electric cylinder converts the rotary motion of motor into the linear motion of push rod through the mechanical motion of the screw and lead screw pair. Using the closed-loop control characteristics of servo motor, it is easy to realize precise control of thrust, speed and position; applying the modern motion control technology, numerical control technology and bus (network) technology, the program-based, bus (network) control is realized. Due to the convenience of its control and use, it will realize the precise motion control that cannot be realized by cylinder and hydraulic cylinder transmission.

Features of electric cylinder:

KDG series electric cylinders adopt the advanced modular design methods and have the following significant features:

1. Compact structure, small outline size, convenient installation and use, simple maintenance, low noise, long life, and multiple safety protection measures.
2. Precise position control: the repeat positioning accuracy can reach ±0.01 mm, and even ±0.005 mm after adding an external displacement sensor.
3. Precise speed control: any speed waveform can be set to achieve high-speed, smooth and shock-free operation, and the control accuracy can reach 0.05%.
4. Precise thrust control: the control accuracy can reach 0.5% after adding an external push-pull force sensor.
5. The trapezoidal screw, ball screw and planetary needle roller screw transmission methods can be used.
6. The servo motor, stepping motor, DC motor and AC motor can be used to drive, servo and variable frequency control.

The relationship between motor output torque and electric cylinder output force:

$$F=T \times \eta \times 2\pi \times R / L$$

F: electric cylinder output force, unit: kN
T: motor output torque, unit: Nm
R: reduction ratio
L: screw lead, unit: mm
π: ratio of circumference to diameter
η: efficiency (generally choose the total efficiency of electric cylinder as 85%, but please note that the efficiency changes as the actual working conditions)

Life calculation of electric cylinder:

The service life of an electric cylinder generally refers to the life of screw inside the electric cylinder.
The life of electric cylinder can be divided into two parts:
The first is the theoretical fatigue life of electric cylinder, which can be calculated;
The second is the service life of electric cylinder, which is affected by the operating conditions (such as temperature, dust, type of lubricant used and frequency of regular refilling, etc.). The service life can often be calculated through experience. The following is the calculation method of fatigue life of electric cylinder:

$$L_{10} = (Ca / Fm)^3 \times L$$

L_{10} : electric cylinder life, unit: km

F_m : Average load borne by the electric cylinder, unit: kN

C_a : basic dynamic rated load of screw nut, unit: kN (it can be found from screw sample)

L: Screw lead, unit: mm

Definition of electric cylinder product model

KDG 5340 - L 05 - 100 - BC 01 - T40 R30 JS1 - BA - T3 - D123

Appearance series

Width	Cylinder diameter
40	27
44	32
53	40
63	50
74	63
95	80
110	100

Accuracy

L	Standard accuracy
P	Precision-level

Lead

KDG4027	2.5
KDG4432	5/10
KDG5340	5/10
KDG6350	5/10/20
KDG7463	5/10/20/25
KDG9580	5/10
KDG110100	5/10

Motor orientation

BC	Motor direct connection
BL	Motor bending

Stroke

KDG4027	50~250
KDG4432	50~300
KDG5340	50~350
KDG6350	50~500
KDG7463	50~1000
KDG9580	50~1200
KDG110100	50~1500

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor rated speed

R10	1000rpm
R15	1500rpm
R20	2000rpm
R30	3000rpm

Reduction Ratio

1	1: 1
3	3: 1
5	5:1
	...

Motor Code

T		40	
P	Panasonic servo	10 20 40 ...	100W 200W 400W ...
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

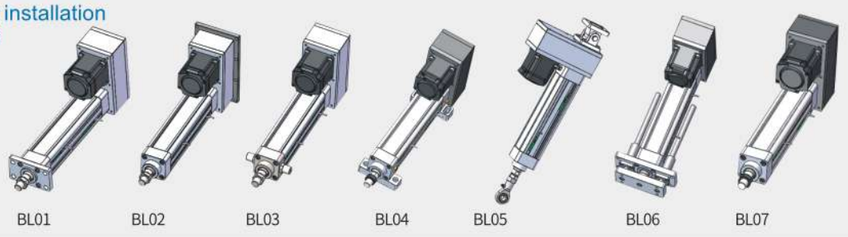
Special Order No.

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

Direct connecting installation method

Folding installation method



Shaft end load connecting method

Maximum Stroke 250mm | Maximum thrust 0.4kN(40kgf) | Maximum Speed 125mm/s | Motor Output 100W

Ordering Method

KDG 4027 - L 2.5 - 100 - BC 01 - T10 R30 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R30	3000rpm

Reduction Ratio

1	1:1

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Appearance series

Width	Cylinder diameter
40	27

Lead

2.5mm

Stroke

50~250mm

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

T		10	
P	Panasonic servo	10	100W
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

AKD

KDG4027 Servo Electric Cylinder

KDG4027 Series Standard Configuration Parameters

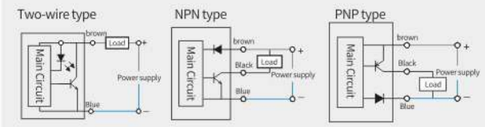
Foundation Information

Cylinder OD	40*40mm
Cylinder ID	27mm
Screw typp	Ball screw Φ8
Stroke range	⩽250 mm
Allowable maximum speed	⩽125 mm/s
Allowable maximum thrust	⩽0.4 kN

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	3.3	
	Static load rating Cor(kN)	1.4	
Screw rod	Dynamic load rating Ca(kN)	1.8	
	Static load rating Coa(kN)	3.7	
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway
Φ5	Φ8-L22	SFR20*35-5-8K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

KDG4027 Force and speed

Motor power		50W servo (40 frame)		100W servo (40 frame)		42 Stepping	
Rated speed		3000rpm		3000rpm		/	
Rated torque		0.16N.m		0.32N.m		/	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	2.5	0.2	125	0.4	125	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L}*\mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

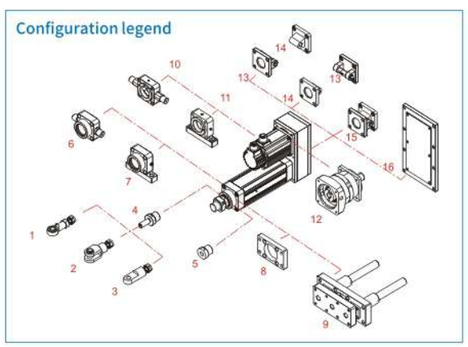
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN);
F_m: average load borne by electric cylinder (kN); L: screw lead (mm)

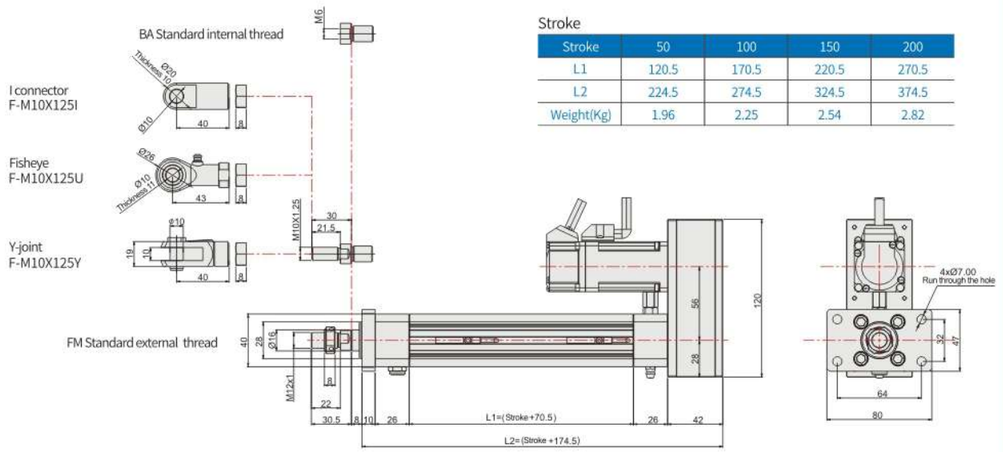
Configuration legend



KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG4027-Folding - front flange
KDG4027-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

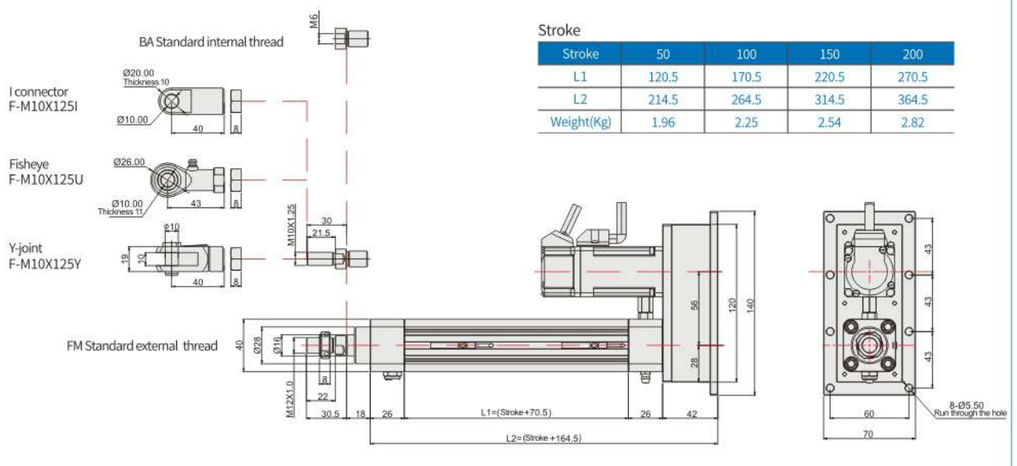


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	224.5	274.5	324.5	374.5
Weight(Kg)	1.96	2.25	2.54	2.82

KDG4027-Folding - rear flange
KDG4027-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

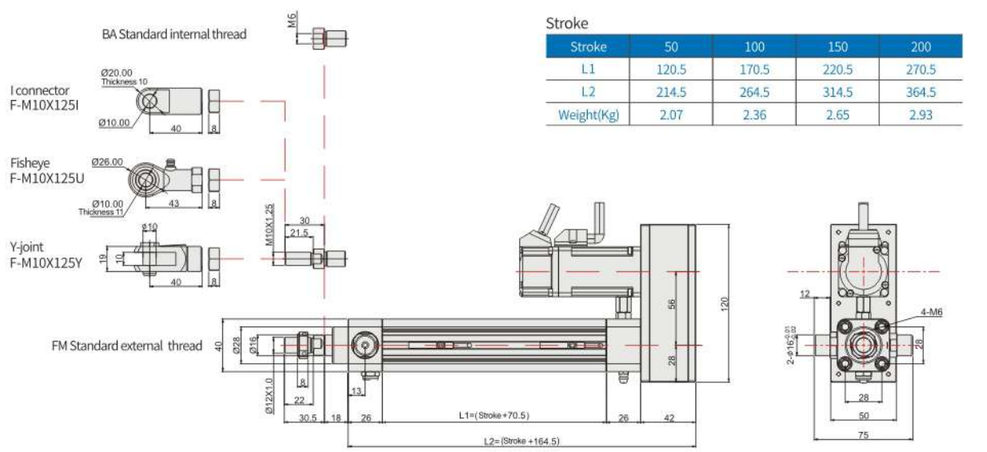


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	214.5	264.5	314.5	364.5
Weight(Kg)	1.96	2.25	2.54	2.82

KDG4027-Folding - trunnion
KDG4027-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

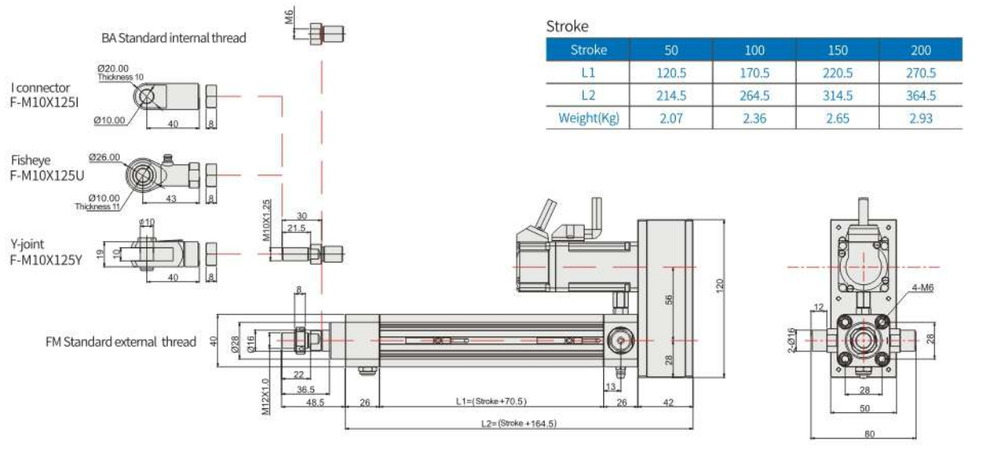


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	214.5	264.5	314.5	364.5
Weight(Kg)	2.07	2.36	2.65	2.93

KDG4027-Folding - return rear trunnion
KDG4027-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



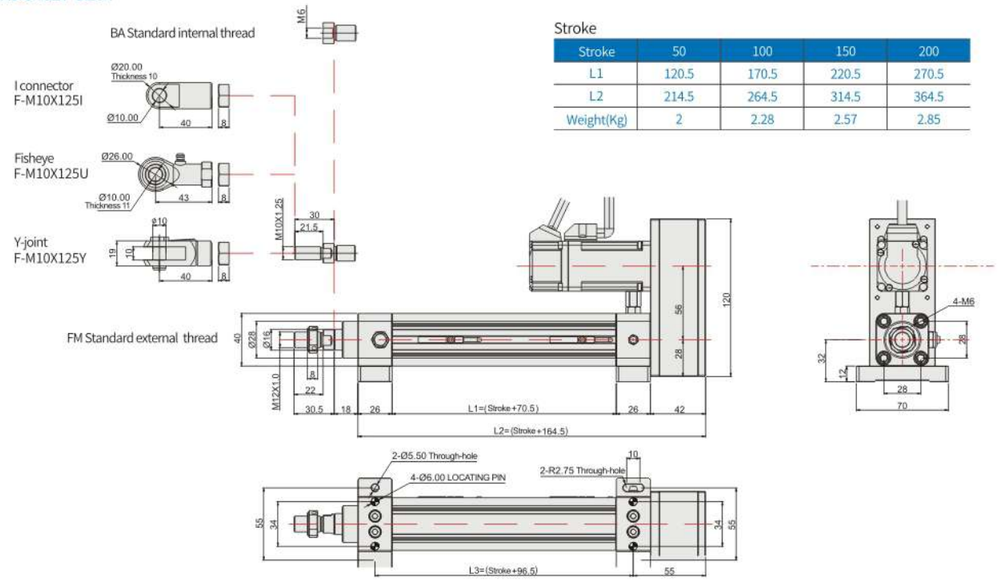
Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	214.5	264.5	314.5	364.5
Weight(Kg)	2.07	2.36	2.65	2.93

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG4027-Folding - side flange
KDG4027-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

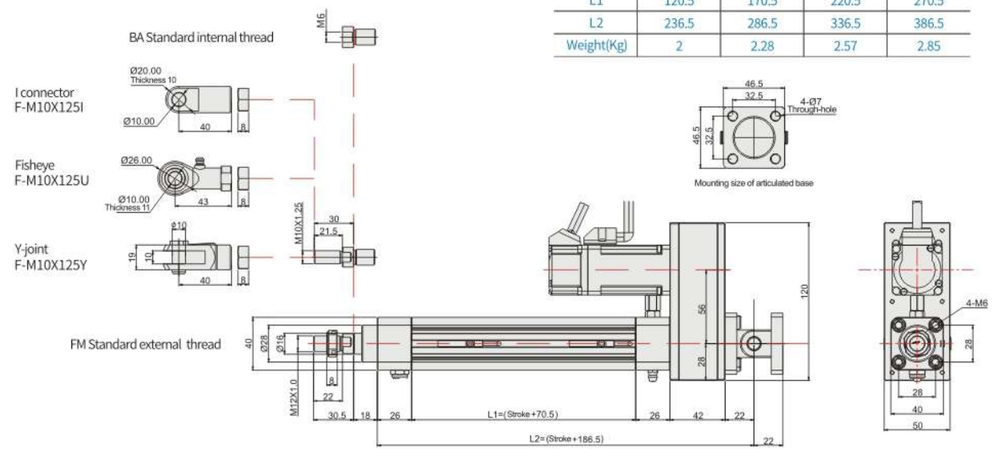


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	214.5	264.5	314.5	364.5
Weight(Kg)	2	2.28	2.57	2.85

KDG4027-Folding - rear hinge
KDG4027-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

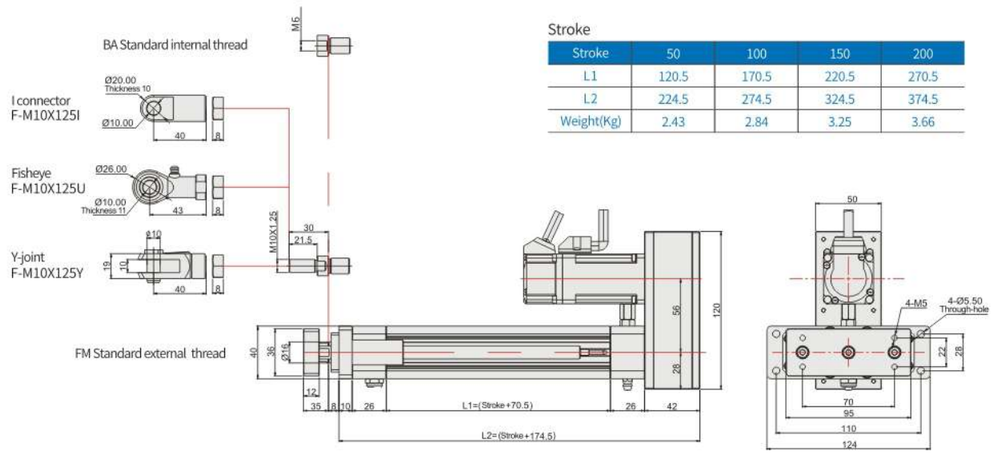


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	236.5	286.5	336.5	386.5
Weight(Kg)	2	2.28	2.57	2.85

KDG4027-Folding - guide pillar type
KDG4027-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

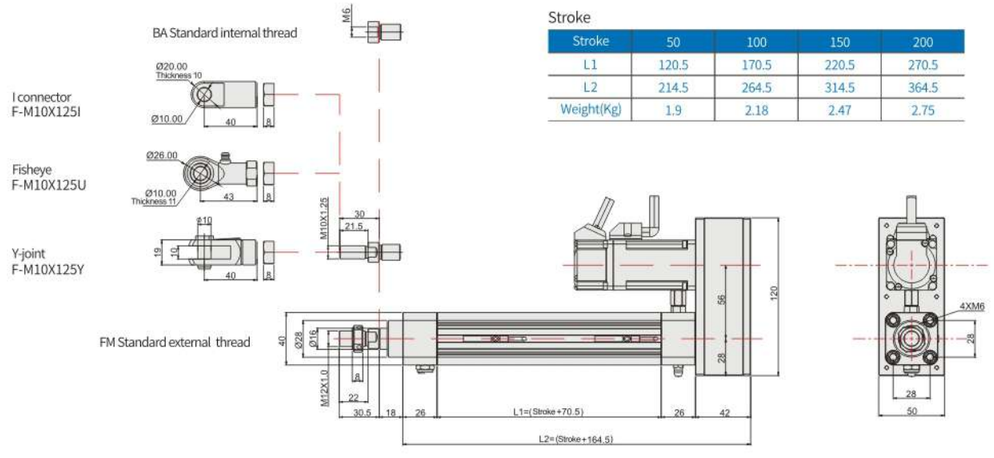


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	224.5	274.5	324.5	374.5
Weight(Kg)	2.43	2.84	3.25	3.66

KDG4027-Folding - front lock type
KDG4027-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

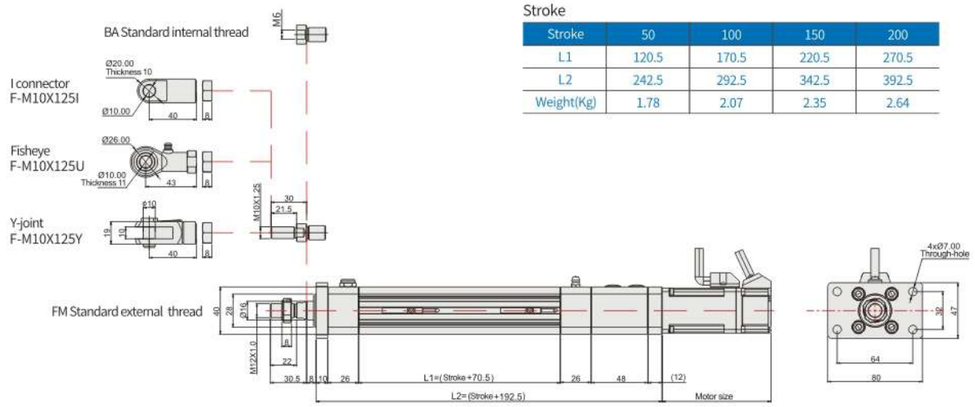


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	214.5	264.5	314.5	364.5
Weight(Kg)	1.9	2.18	2.47	2.75

KDG4027-Direct connection - front flange
KDG4027-BC01

Note: when the motor mounting plate matches different motors, the size may change

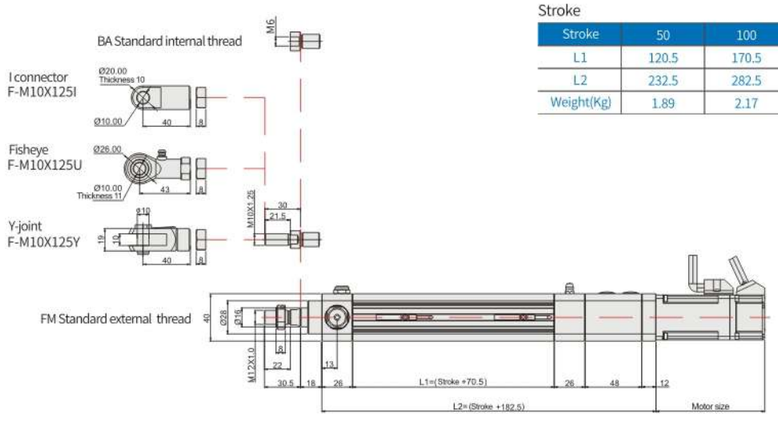


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	242.5	292.5	342.5	392.5
Weight(Kg)	1.78	2.07	2.35	2.64

KDG4027-Direct connection - trunnion
KDG4027-BC03

Note: when the motor mounting plate matches different motors, the size may change

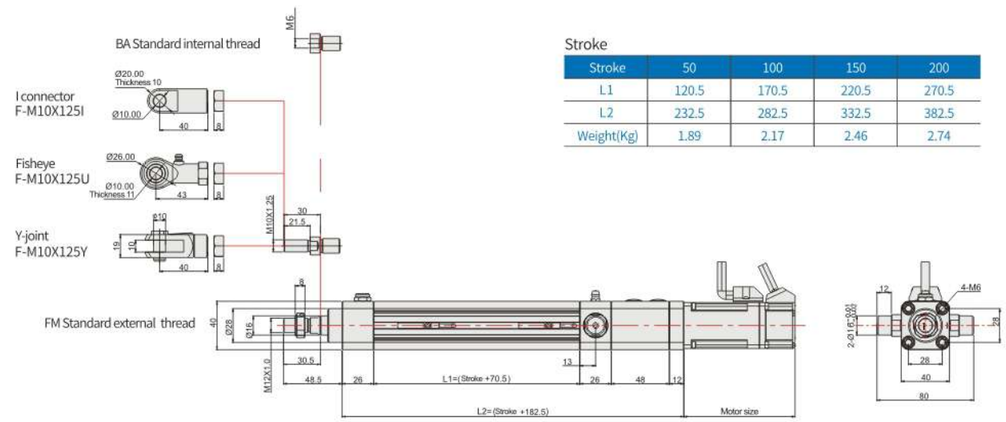


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	232.5	282.5	332.5	382.5
Weight(Kg)	1.89	2.17	2.46	2.74

KDG4027-Direct connection - rear trunnion
KDG4027-BC03H

Note: when the motor mounting plate matches different motors, the size may change

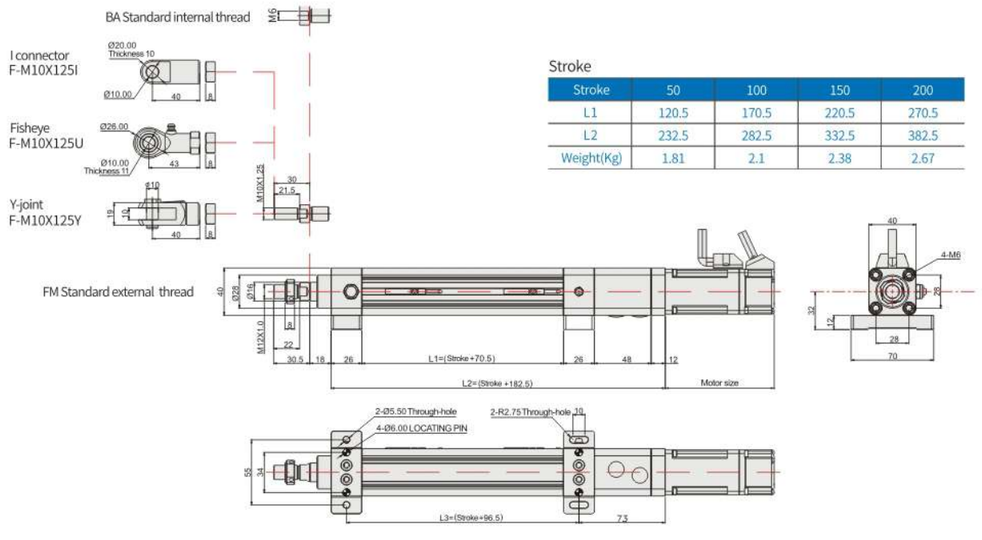


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	232.5	282.5	332.5	382.5
Weight(Kg)	1.89	2.17	2.46	2.74

KDG4027-Direct connection - side flange
KDG4027-BC04

Note: when the motor mounting plate matches different motors, the size may change



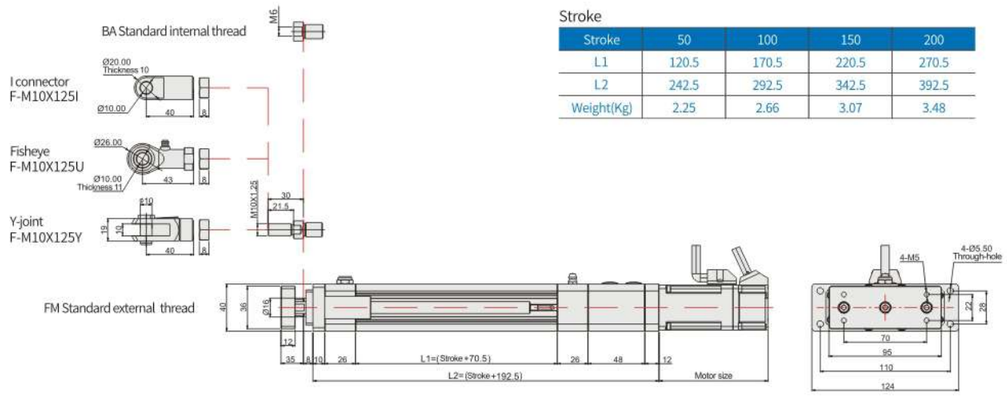
Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	232.5	282.5	332.5	382.5
Weight(Kg)	1.81	2.1	2.38	2.67

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG4027- Direct connection - guide pillar type
KDG4027-BC06

Note: when the motor mounting plate matches different motors, the size may change

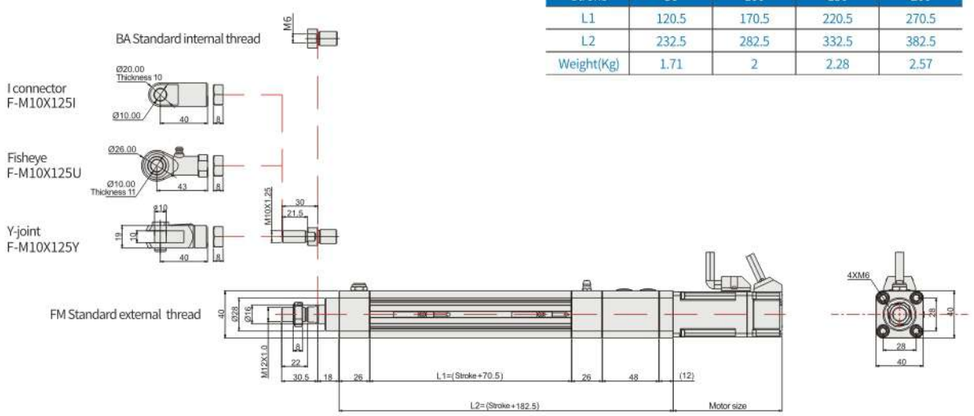


Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	242.5	292.5	342.5	392.5
Weight(Kg)	2.25	2.66	3.07	3.48

KDG4027- Direct connection - front lock type
KDG4027-BC07

Note: when the motor mounting plate matches different motors, the size may change



Stroke

Stroke	50	100	150	200
L1	120.5	170.5	220.5	270.5
L2	232.5	282.5	332.5	382.5
Weight(Kg)	1.71	2	2.28	2.57

MEMO

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

Maximum Stroke 300mm | Maximum thrust 0.34kN(34kgf) | Maximum Speed 500mm/s | Motor Output 100W

Ordering Method

KDG 4432 - L 05 - 100 - BC 01 - T10 R30 JS1 - BA - T3 - D123

Appearance series

Width	Cylinder diameter
44	32

Lead

5mm
10mm

Stroke

50~300mm

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor rated speed

R30	3000rpm

Motor Code

T		10	
P	Panasonic servo	10	100W
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Reduction Ratio

1	1: 1

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

Special Order No.

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG4432 Series Standard Configuration Parameters

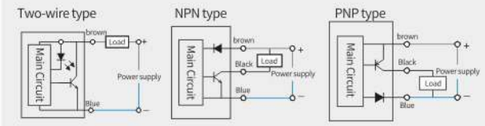
Foundation Information

Cylinder OD	44*44mm
Cylinder ID	32mm
Screw typp	Ball screw Φ12
Stroke range	⩽300 mm
Allowable maximum speed	⩽500 mm/s
Allowable maximum thrust	⩽0.34 kN

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	4.55	
	Static load rating Cor(kN)	1.97	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	6.4
		Lead : 10	6.2
	Static load rating Coa(kN)	Lead : 05	12.8
		Lead : 10	12.6
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway
Φ8	Φ8-L22	SFR25*30-8K-8K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

KDG4432 Force and speed

Motor power		50W servo (40 frame)		100W servo (40 frame)		42 Stepping	
Rated speed		/		3000rpm		/	
Rated torque		/		0.32N.m		/	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	/	/	0.34	250	/	/
	10	/	/	0.17	500	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L}*\mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

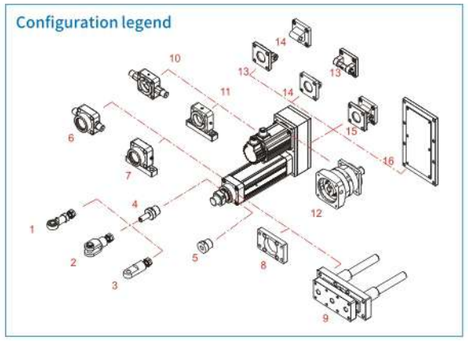
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN); F_M: average load borne by electric cylinder (kN); L: screw lead (mm)

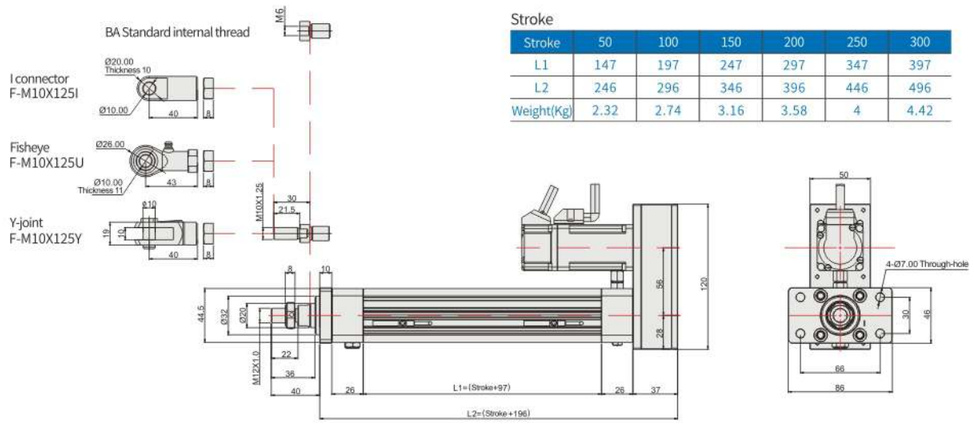
Configuration legend



KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG4432-Folding - front flange
KDG4432-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

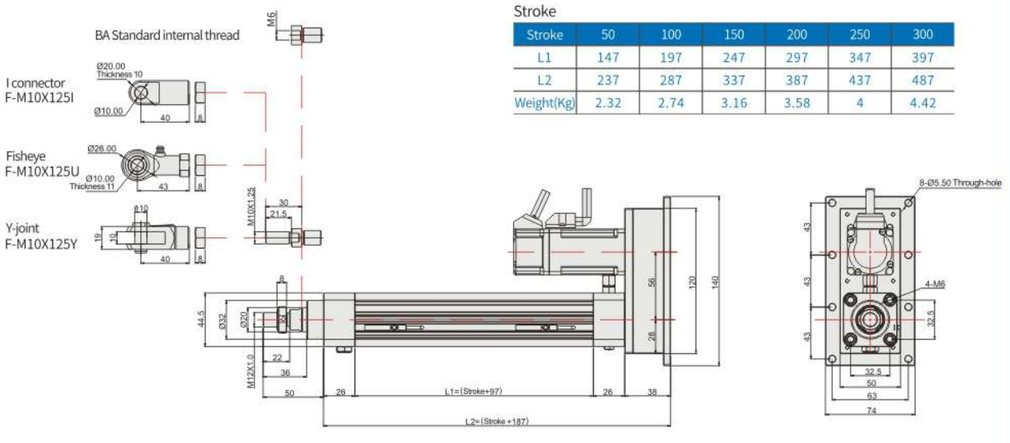


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	246	296	346	396	446	496
Weight(Kg)	2.32	2.74	3.16	3.58	4	4.42

KDG4432-Folding - rear flange
KDG4432-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

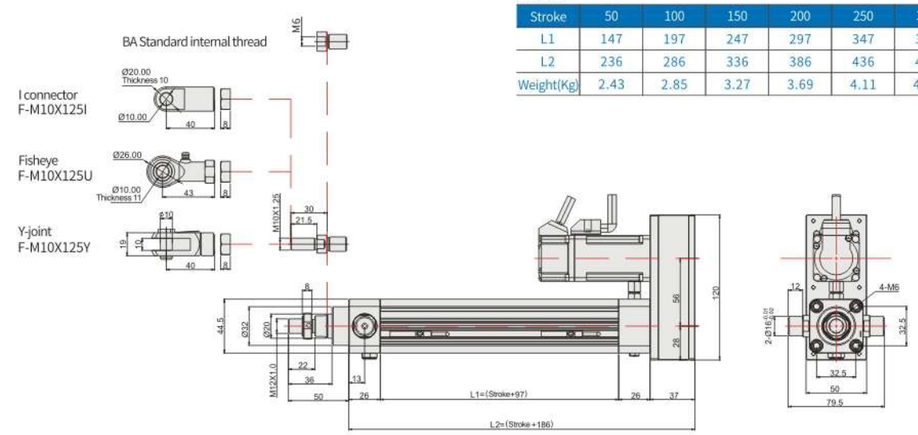


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	237	287	337	387	437	487
Weight(Kg)	2.32	2.74	3.16	3.58	4	4.42

KDG4432-Folding - trunnion
KDG4432-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

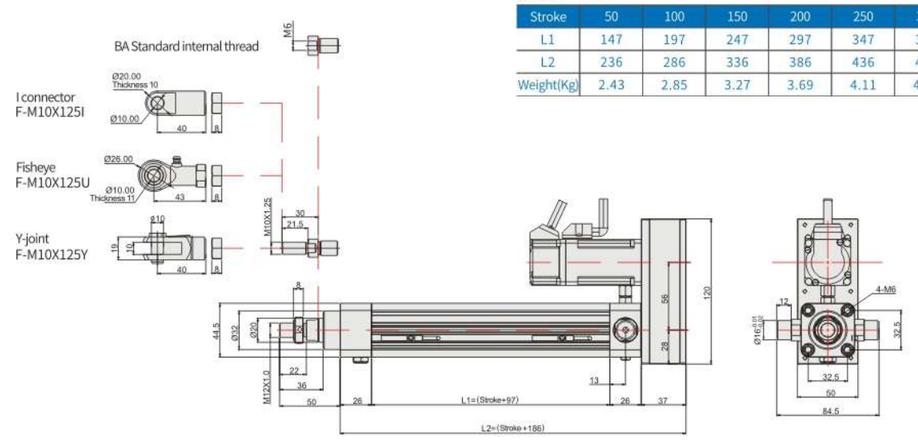


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	236	286	336	386	436	486
Weight(Kg)	2.43	2.85	3.27	3.69	4.11	4.53

KDG4432-Folding - return rear trunnion
KDG4432-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

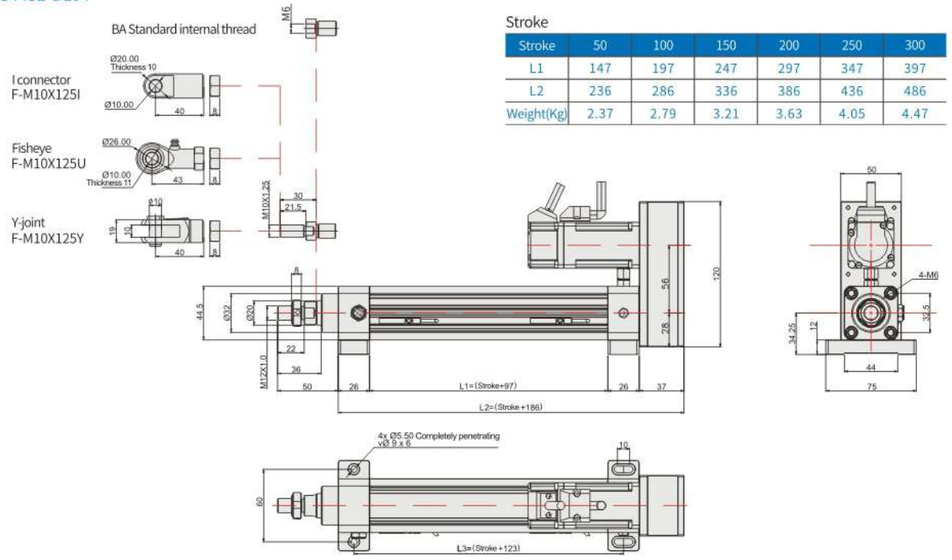


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	236	286	336	386	436	486
Weight(Kg)	2.43	2.85	3.27	3.69	4.11	4.53

KDG4432-Folding - side flange
KDG4432-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

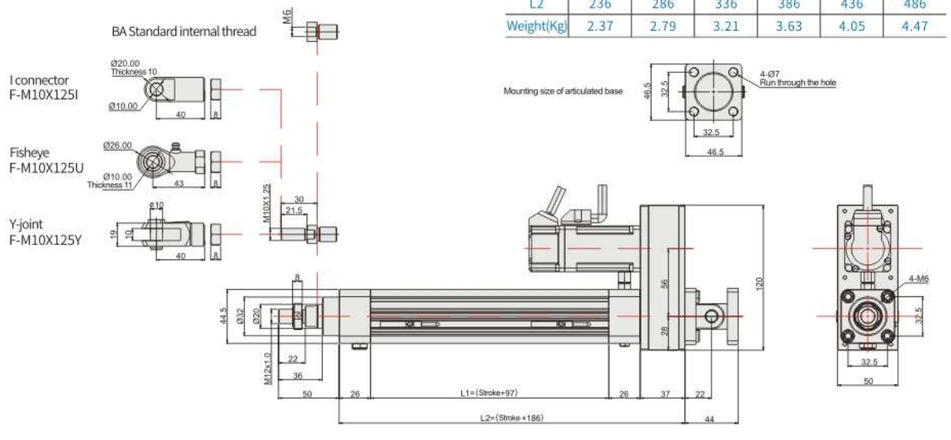


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	236	286	336	386	436	486
Weight(Kg)	2.37	2.79	3.21	3.63	4.05	4.47

KDG4432-Folding - rear hinge
KDG4432-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



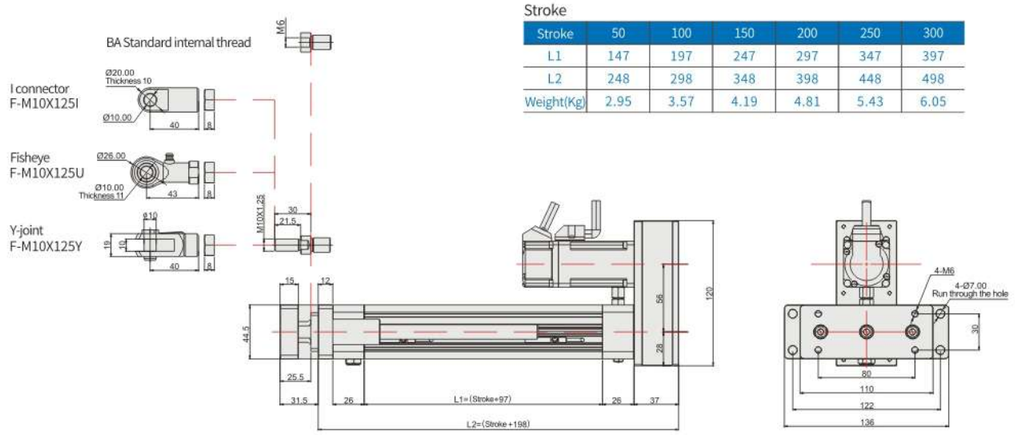
Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	236	286	336	386	436	486
Weight(Kg)	2.37	2.79	3.21	3.63	4.05	4.47

Mounting size of articulated base

KDG4432-Folding - trunnion
KDG4432-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

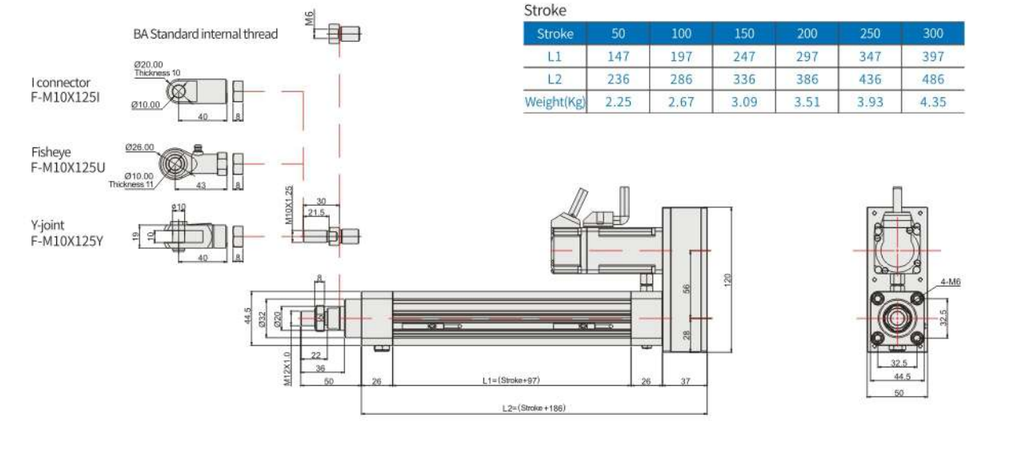


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	248	298	348	398	448	498
Weight(Kg)	2.95	3.57	4.19	4.81	5.43	6.05

KDG4432-Folding - return rear trunnion
KDG4432-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

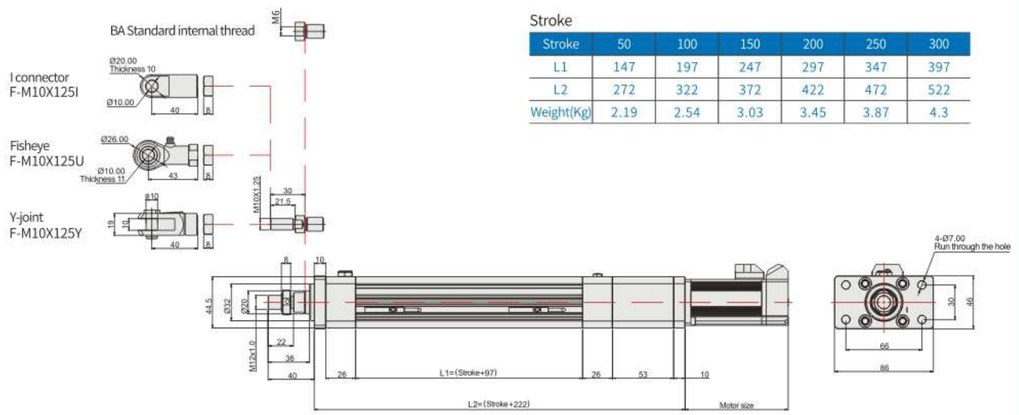


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	236	286	336	386	436	486
Weight(Kg)	2.25	2.67	3.09	3.51	3.93	4.35

KDG4432-Direct connection - front flange
KDG4432-BC01

Note: when the motor mounting plate matches different motors, the size may change

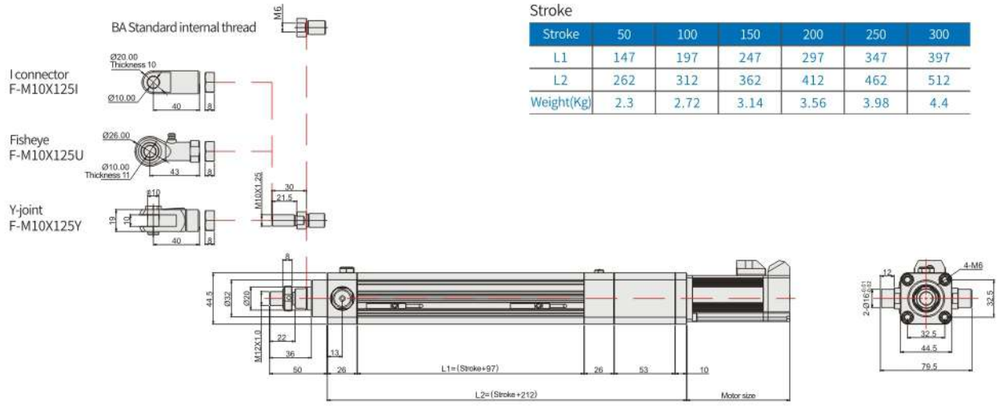


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	272	322	372	422	472	522
Weight(Kg)	2.19	2.54	3.03	3.45	3.87	4.3

KDG4432-Direct connection - trunnion
KDG4432-BC03

Note: when the motor mounting plate matches different motors, the size may change

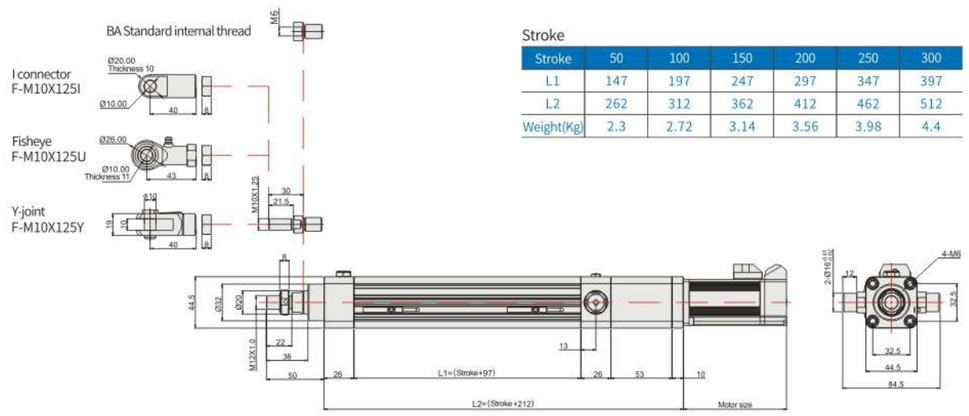


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	262	312	362	412	462	512
Weight(Kg)	2.3	2.72	3.14	3.56	3.98	4.4

KDG4432-Direct connection - rear trunnion
KDG4432-BC03H

Note: when the motor mounting plate matches different motors, the size may change

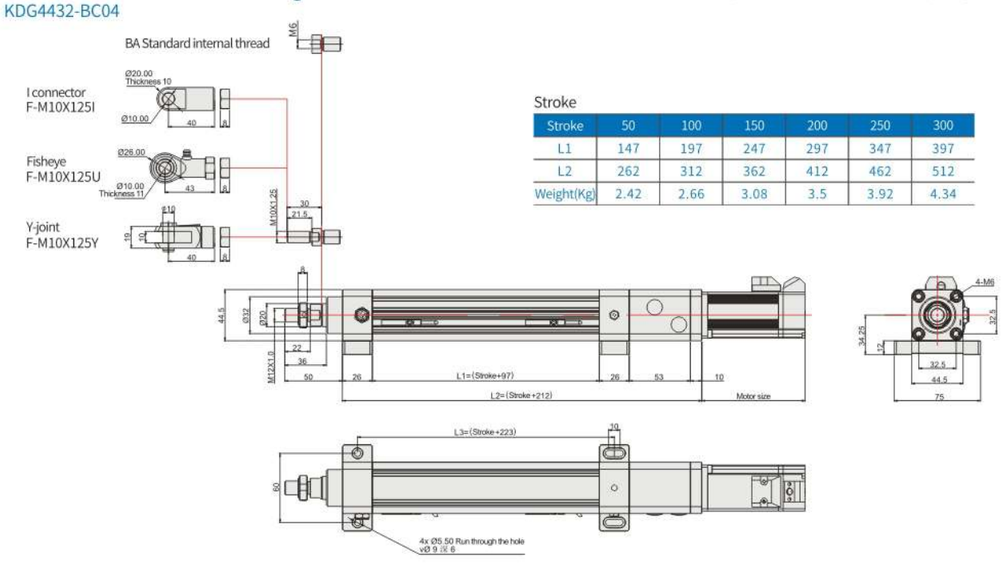


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	262	312	362	412	462	512
Weight(Kg)	2.3	2.72	3.14	3.56	3.98	4.4

KDG4432-Direct connection - side flange
KDG4432-BC04

Note: when the motor mounting plate matches different motors, the size may change

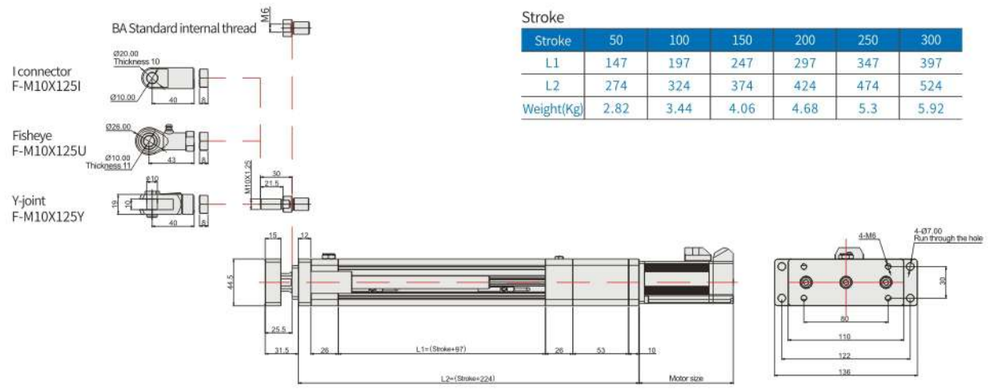


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	262	312	362	412	462	512
Weight(Kg)	2.42	2.66	3.08	3.5	3.92	4.34

KDG4432- Direct connection - guide pillar type
KDG4432-BC06

Note: when the motor mounting plate matches different motors, the size may change

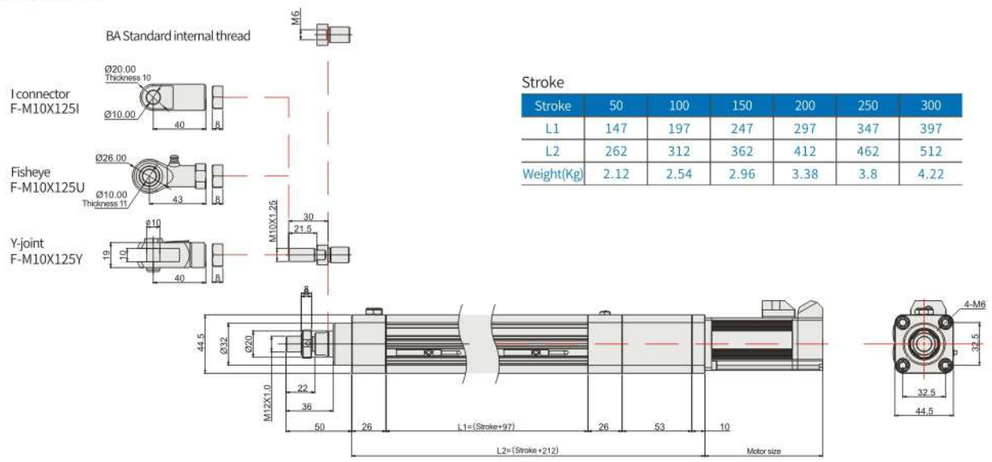


Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	274	324	374	424	474	524
Weight(Kg)	2.82	3.44	4.06	4.68	5.3	5.92

KDG4432- Direct connection - front lock type
KDG4432-BC07

Note: when the motor mounting plate matches different motors, the size may change



Stroke

Stroke	50	100	150	200	250	300
L1	147	197	247	297	347	397
L2	262	312	362	412	462	512
Weight(Kg)	2.12	2.54	2.96	3.38	3.8	4.22

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

Maximum Stroke 350mm | Maximum thrust 1.5kN(150kgf) | Maximum Speed 500mm/s | Motor Output 400W

Ordering Method

KDG 5340 - L 05 - 100 - BC 01 - T20 R30 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R30	3000rpm

Reduction Ratio

1	1: 1

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Appearance series

Width	Cylinder diameter
53	40

Lead

5mm
10mm

Stroke

50~350mm

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

	T	20/40	
P	Panasonic servo	20 40	200W 400W
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

AKD

KDG5340 Servo Electric Cylinder

KDG5340 Series Standard Configuration Parameters

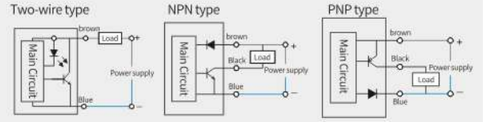
Foundation Information

Cylinder OD	53*53mm
Cylinder ID	40mm
Screw typp	Ball screw Φ12
Stroke range	⩽350 mm
Allowable maximum speed	⩽500 mm/s
Allowable maximum thrust	⩽1.5 kN

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	4.6	
	Static load rating Cor(kN)	2.5	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	6.4
		Lead : 10	6.2
	Static load rating Coa(kN)	Lead : 05	12.8
		Lead : 10	12.6
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway
Φ14	Φ14-L27	SFR30*35-14K-14K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

KDG5340 Force and speed

Motor power		200W servo (60 frame)		400W servo (60 frame)		57 Stepping	
Rated speed		3000rpm		3000rpm		/	
Rated torque		0.63N.m		1.27N.m		/	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	0.68	250	1.36	250	/	/
	10	0.34	500	0.68	500	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L}*\mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

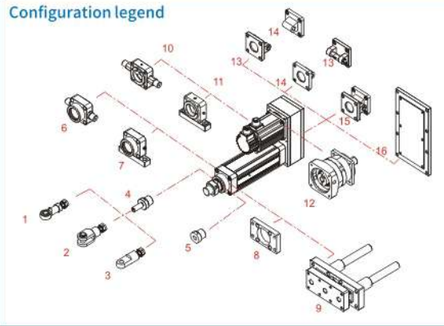
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN); F_M: average load borne by electric cylinder (kN); L: screw lead (mm)

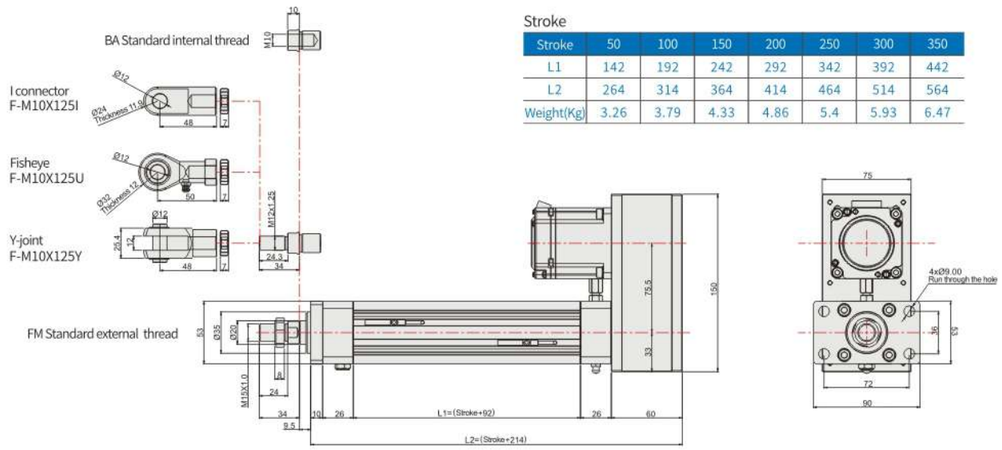
Configuration legend



KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG5340-Folding - front flange
KDG5340-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

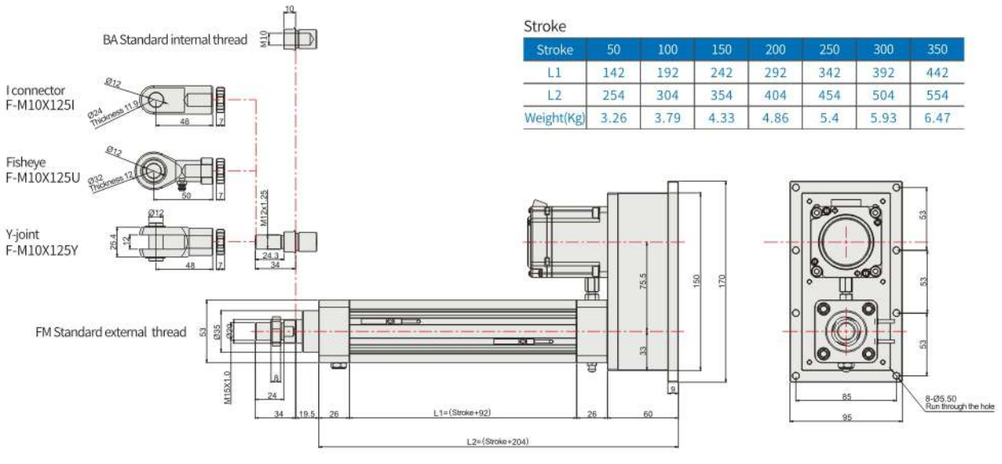


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	264	314	364	414	464	514	564
Weight(Kg)	3.26	3.79	4.33	4.86	5.4	5.93	6.47

KDG5340-Folding - rear flange
KDG5340-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

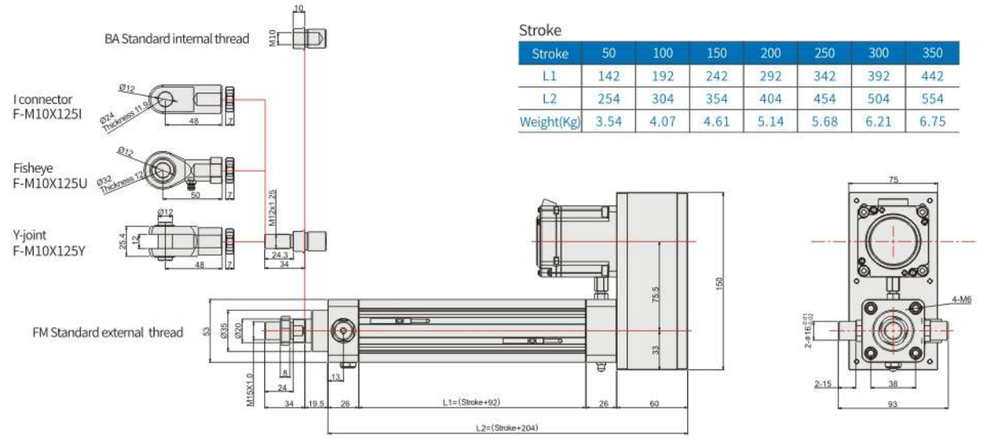


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	254	304	354	404	454	504	554
Weight(Kg)	3.26	3.79	4.33	4.86	5.4	5.93	6.47

KDG5340-Folding - trunnion
KDG5340-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

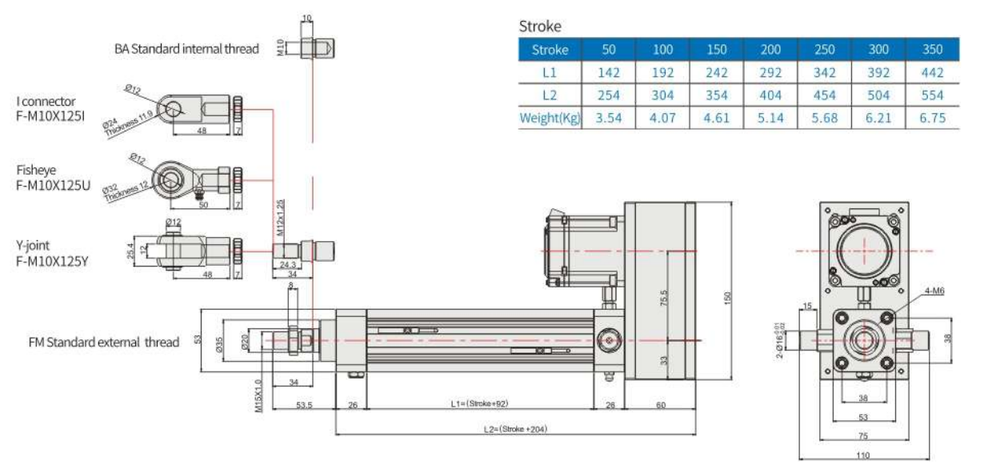


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	254	304	354	404	454	504	554
Weight(Kg)	3.54	4.07	4.61	5.14	5.68	6.21	6.75

KDG5340-Folding - return rear trunnion
KDG5340-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	254	304	354	404	454	504	554
Weight(Kg)	3.54	4.07	4.61	5.14	5.68	6.21	6.75

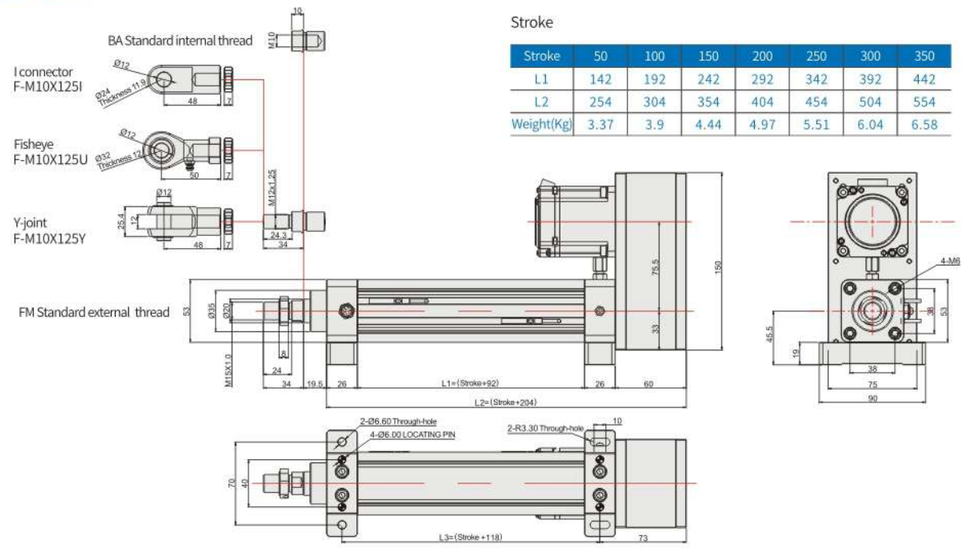
KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG5340-Folding - side flange
KDG5340-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	254	304	354	404	454	504	554
Weight(Kg)	3.37	3.9	4.44	4.97	5.51	6.04	6.58

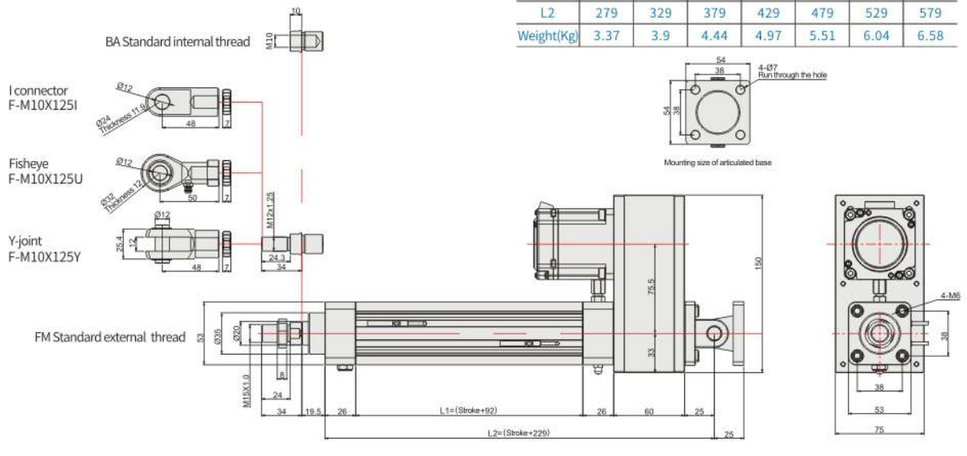


KDG5340-Folding - rear hinge
KDG5340-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	279	329	379	429	479	529	579
Weight(Kg)	3.37	3.9	4.44	4.97	5.51	6.04	6.58

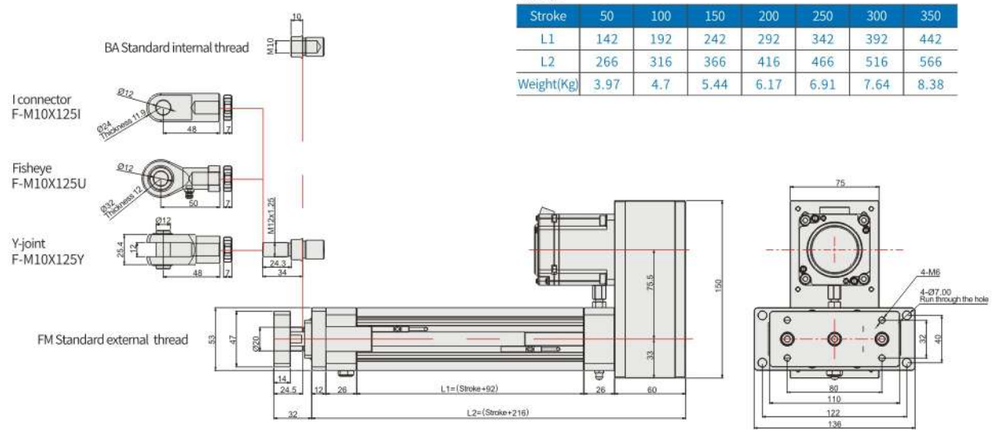


KDG5340-Folding - guide pillar type
KDG5340-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	266	316	366	416	466	516	566
Weight(Kg)	3.97	4.7	5.44	6.17	6.91	7.64	8.38

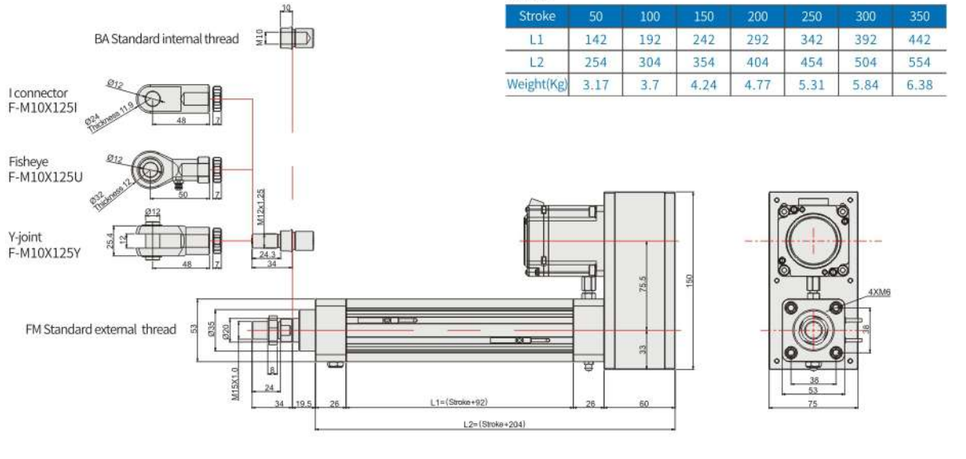


KDG5340-Folding - front lock type
KDG5340-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

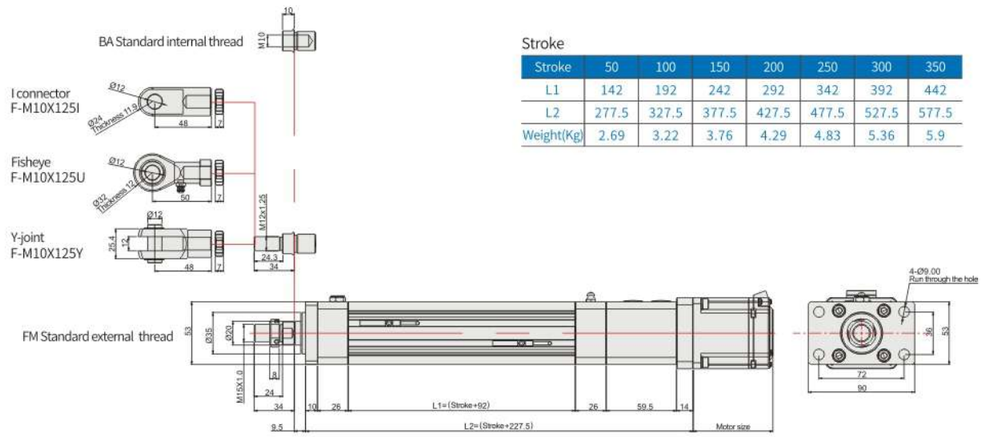
Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	254	304	354	404	454	504	554
Weight(Kg)	3.17	3.7	4.24	4.77	5.31	5.84	6.38



KDG5340- Direct connection - front flange
KDG5340-BC01

Note: when the motor mounting plate matches different motors, the size may change

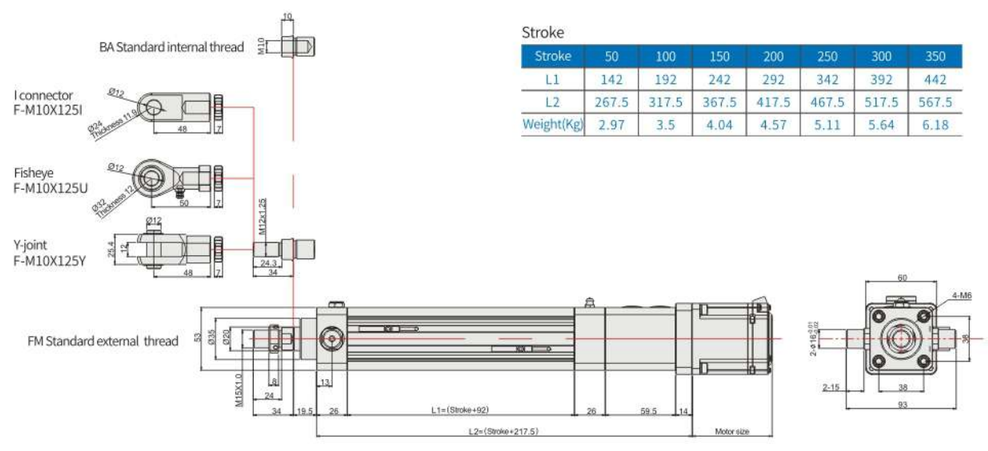


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	277.5	327.5	377.5	427.5	477.5	527.5	577.5
Weight(Kg)	2.69	3.22	3.76	4.29	4.83	5.36	5.9

KDG5340- Direct connection - trunnion
KDG5340-BC03

Note: when the motor mounting plate matches different motors, the size may change

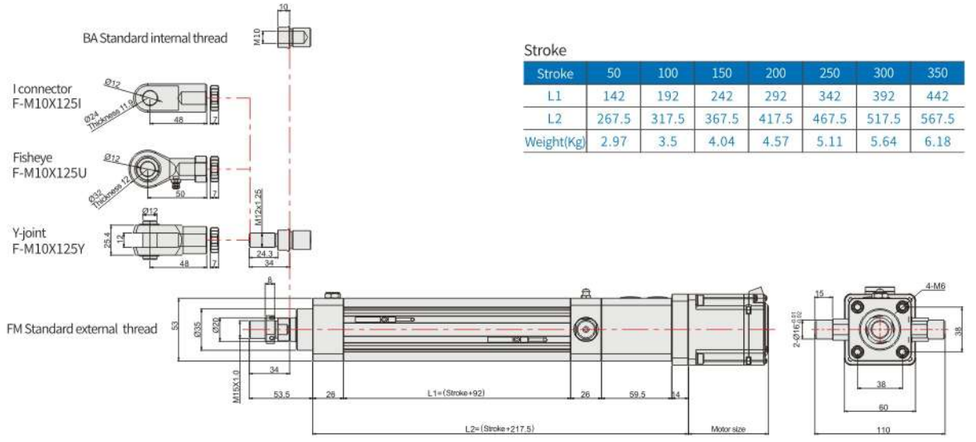


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	267.5	317.5	367.5	417.5	467.5	517.5	567.5
Weight(Kg)	2.97	3.5	4.04	4.57	5.11	5.64	6.18

KDG5340- Direct connection - rear trunnion
KDG5340-BC03H

Note: when the motor mounting plate matches different motors, the size may change

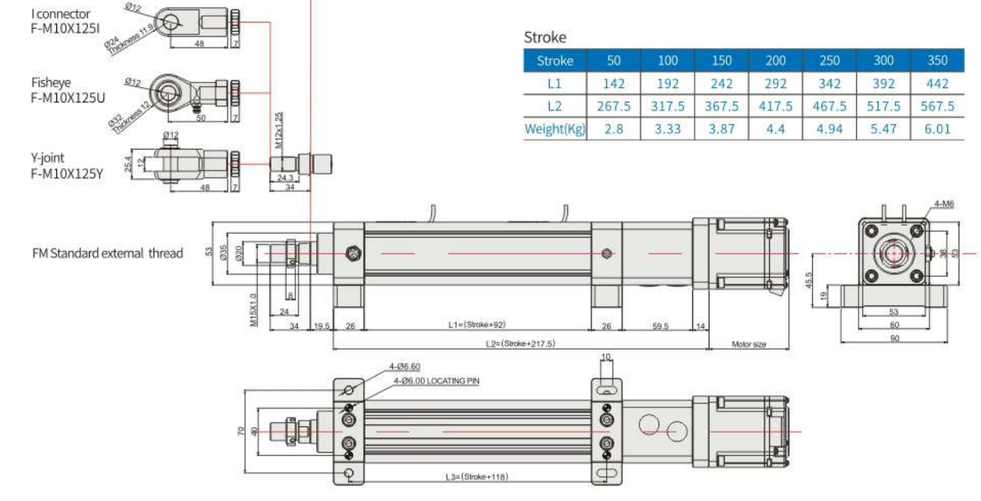


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	267.5	317.5	367.5	417.5	467.5	517.5	567.5
Weight(Kg)	2.97	3.5	4.04	4.57	5.11	5.64	6.18

KDG5340- Direct connection - side flange
KDG5340-BC04

Note: when the motor mounting plate matches different motors, the size may change

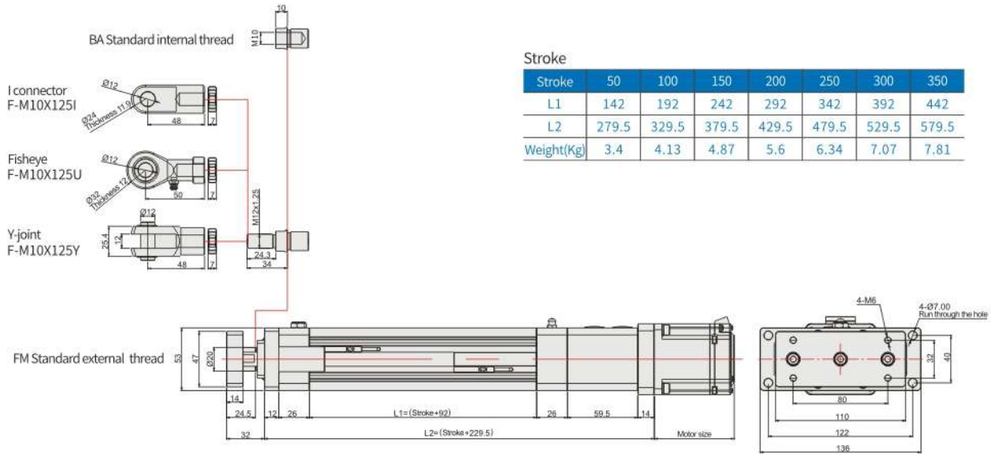


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	267.5	317.5	367.5	417.5	467.5	517.5	567.5
Weight(Kg)	2.8	3.33	3.87	4.4	4.94	5.47	6.01

KDG5340- Direct connection - guide pillar type
KDG5340-BC06

Note: when the motor mounting plate matches different motors, the size may change

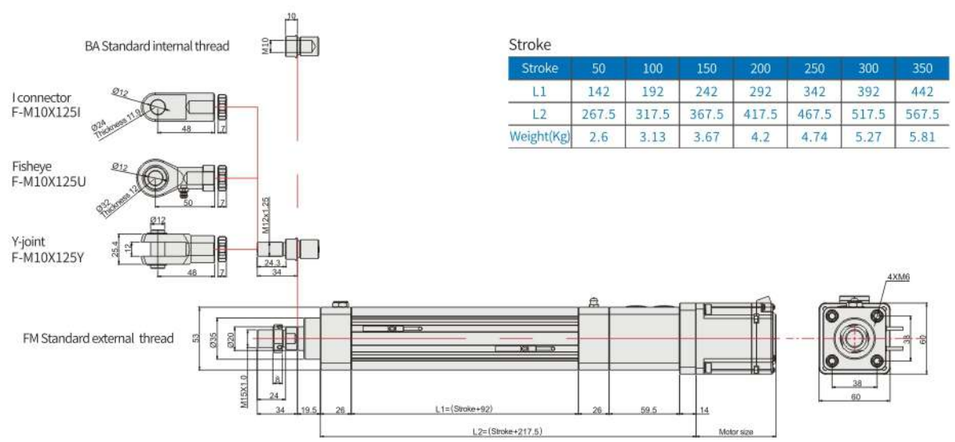


Stroke

Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	279.5	329.5	379.5	429.5	479.5	529.5	579.5
Weight(Kg)	3.4	4.13	4.87	5.6	6.34	7.07	7.81

KDG5340- Direct connection - front lock type
KDG5340-BC07

Note: when the motor mounting plate matches different motors, the size may change



Stroke	50	100	150	200	250	300	350
L1	142	192	242	292	342	392	442
L2	267.5	317.5	367.5	417.5	467.5	517.5	567.5
Weight(Kg)	2.6	3.13	3.67	4.2	4.74	5.27	5.81

MEMO

Maximum Stroke 500mm | Maximum thrust 5kN(500kgf) | Maximum Speed 500mm/s | Motor Output 400W

Ordering Method

KDG 6350 - L 05 - 100 - BC 01 - T40 R30 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R10	1000rpm
R15	1500rpm
R20	2000rpm
R30	3000rpm

Reduction Ratio

1	1: 1
3	3: 1
5	5:1
	...

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

Motor Code

T		40/75	
P	Panasonic servo	40 75	400W 750W
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Lead

5mm
10mm
20mm

Stroke

50~500mm

Appearance series

Width	Cylinder diameter
63	50

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

AKD

KDG6350 Servo Electric Cylinder

KDG6350 Series Standard Configuration Parameters

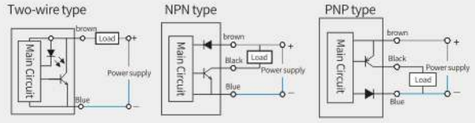
Foundation Information

Cylinder OD	63*63mm
Cylinder ID	50mm
Screw typp	Ball screw Φ16
Stroke range	⩽500 mm
Allowable maximum speed	⩽500 mm/s
Allowable maximum thrust	⩽3.5 kN
	⩽5 kN(U)

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	23.6	
	Static load rating Cor(kN)	21.1	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	10.9
		Lead : 10	8.2
		Lead : 20	5.4
	Static load rating Coa(kN)	Lead : 05	24.5
		Lead : 10	17.8
		Lead : 20	11.4
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway
Φ14	Φ14-L27	SFR30*40-14K-14K
	Φ19-L32	SFR40*50-14K-19K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

KDG6350 Force and speed

Motor power		400W servo (60 frame)		750W servo (60 frame)		1000W servo (80 frame)	
Rated speed		3000rpm		3000rpm		3000rpm	
Rated torque		1.27N.m		2.39N.m		3.18N.m	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	1.36	250	2.55	250	3.4	250
	10	0.68	500	1.27	500	1.7	500
2/同步轮减速	5	2.72	125	5.1（U）	125	/	/
4	5	5.44（U）	62.5	/	/	/	/
7	10	4.76（U）	71.4	/	/	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L} * \mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

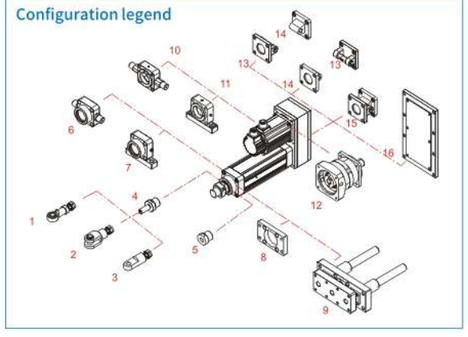
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN);
F_M: average load borne by electric cylinder (kN); L: screw lead (mm)

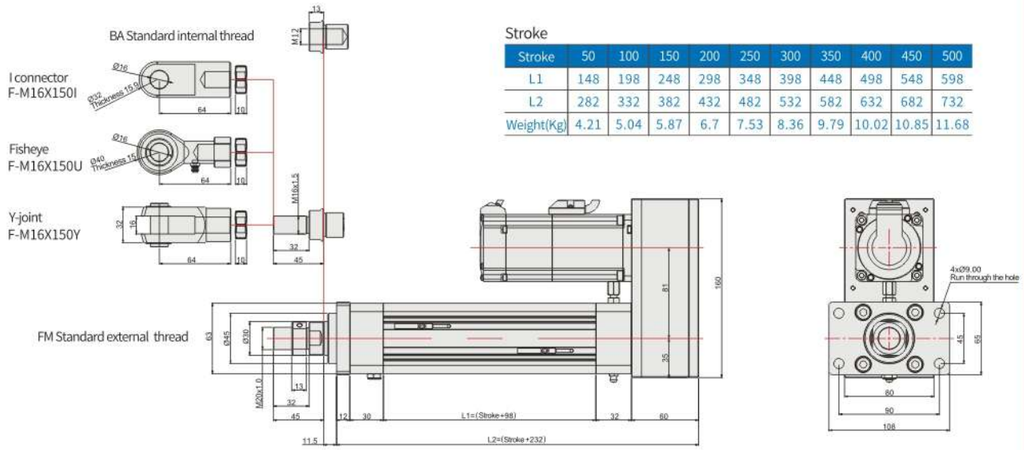
Configuration legend



KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG6350-Folding - front flange
KDG6350-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

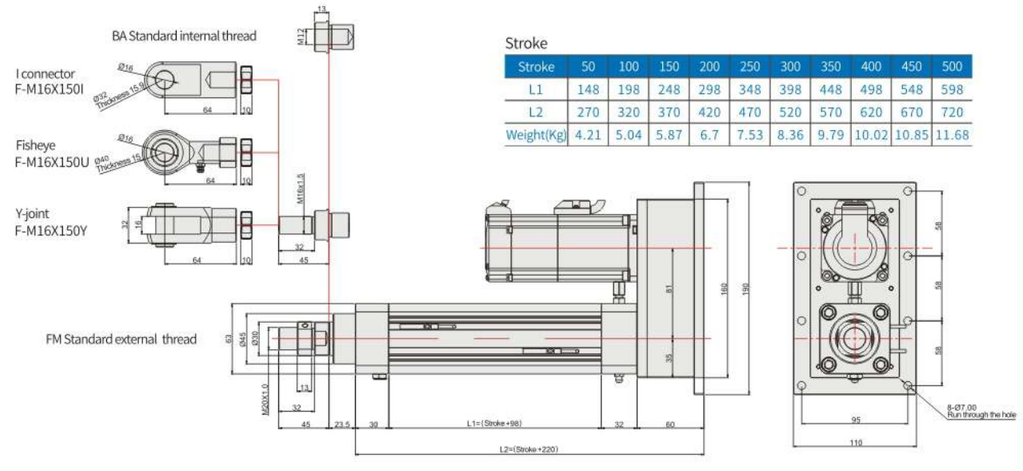


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	282	332	382	432	482	532	582	632	682	732
Weight(Kg)	4.21	5.04	5.87	6.7	7.53	8.36	9.79	10.02	10.85	11.68

KDG6350-Folding - rear flange
KDG6350-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

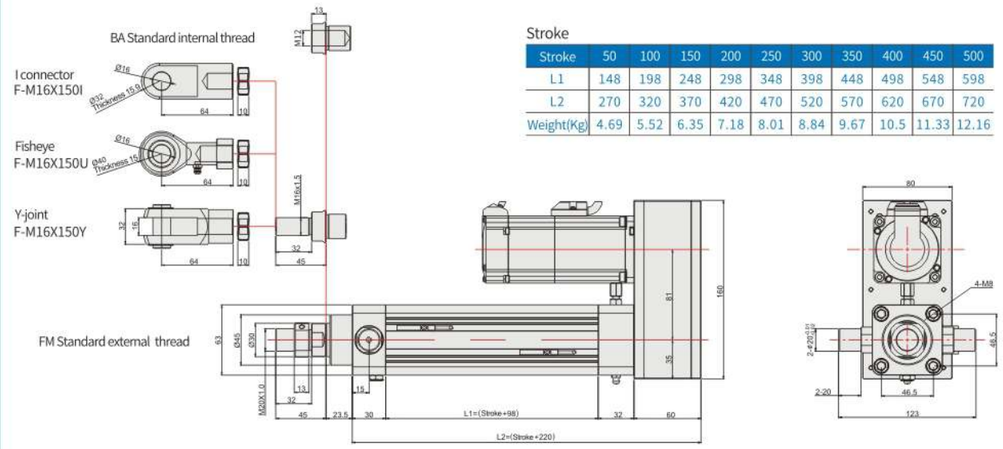


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	270	320	370	420	470	520	570	620	670	720
Weight(Kg)	4.21	5.04	5.87	6.7	7.53	8.36	9.79	10.02	10.85	11.68

KDG6350-Folding - trunnion
KDG6350-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

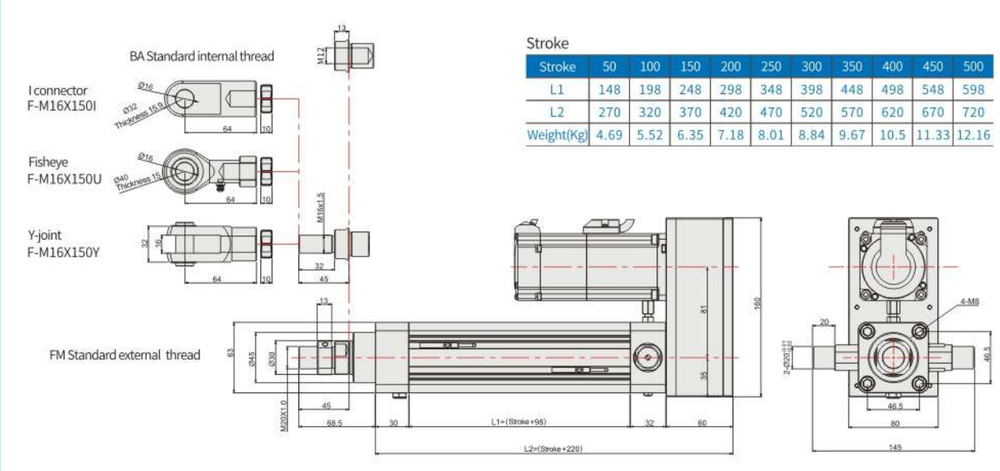


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	270	320	370	420	470	520	570	620	670	720
Weight(Kg)	4.69	5.52	6.35	7.18	8.01	8.84	9.67	10.5	11.33	12.16

KDG6350-Folding - return rear trunnion
KDG6350-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



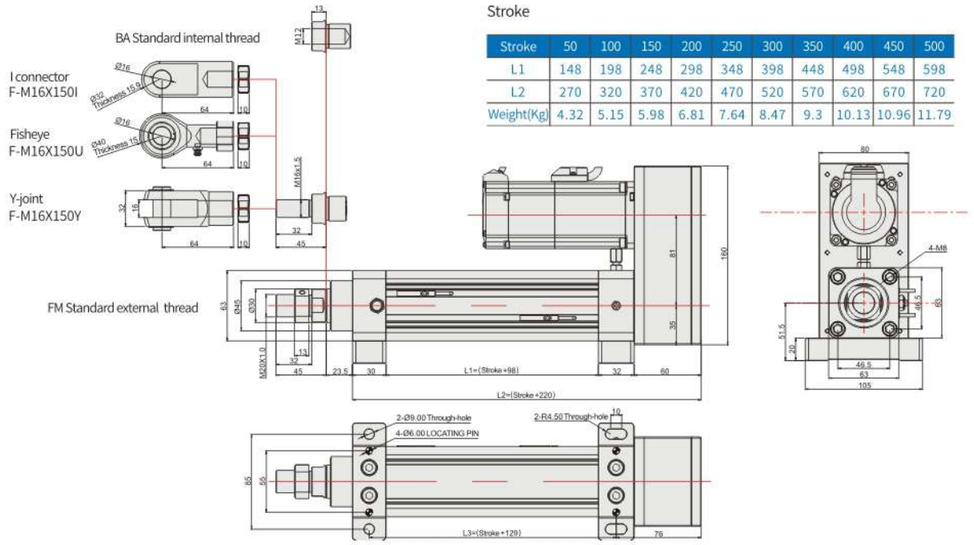
Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	270	320	370	420	470	520	570	620	670	720
Weight(Kg)	4.69	5.52	6.35	7.18	8.01	8.84	9.67	10.5	11.33	12.16

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG6350-Folding - side flange
KDG6350-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

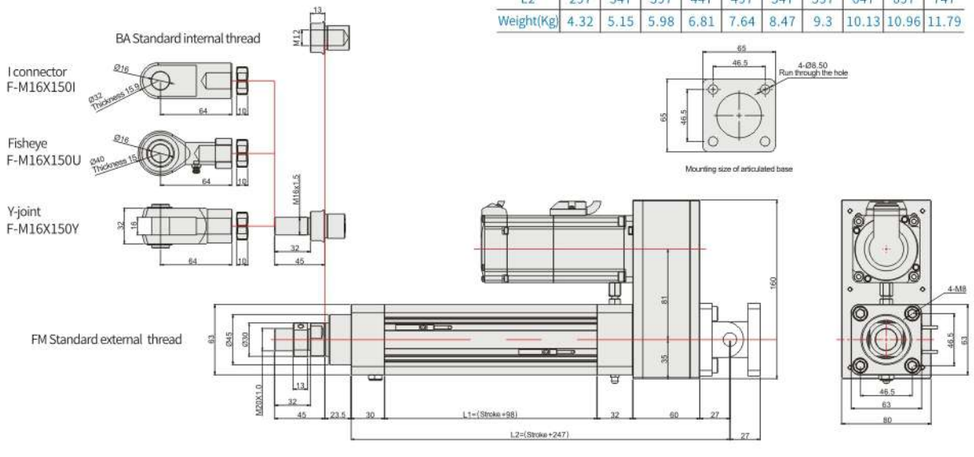


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	270	320	370	420	470	520	570	620	670	720
Weight(Kg)	4.32	5.15	5.98	6.81	7.64	8.47	9.3	10.13	10.96	11.79

KDG6350-Folding - rear hinge
KDG6350-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

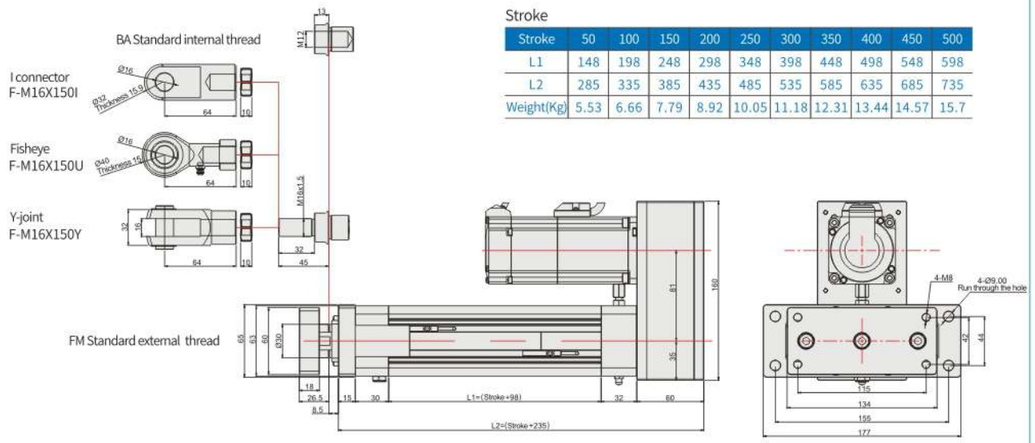


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	297	347	397	447	497	547	597	647	697	747
Weight(Kg)	4.32	5.15	5.98	6.81	7.64	8.47	9.3	10.13	10.96	11.79

KDG6350-Folding - guide pillar type
KDG6350-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

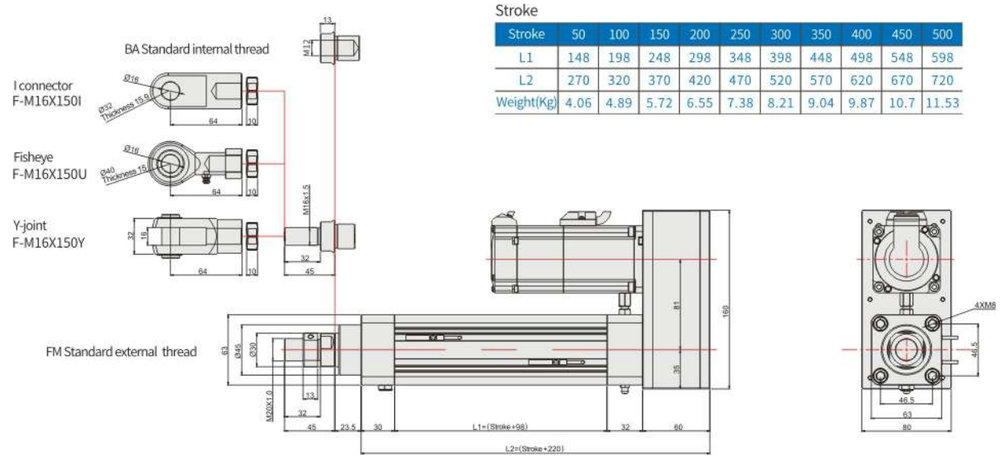


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	285	335	385	435	485	535	585	635	685	735
Weight(Kg)	5.53	6.66	7.79	8.92	10.05	11.18	12.31	13.44	14.57	15.7

KDG6350-Folding - front lock type
KDG6350-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



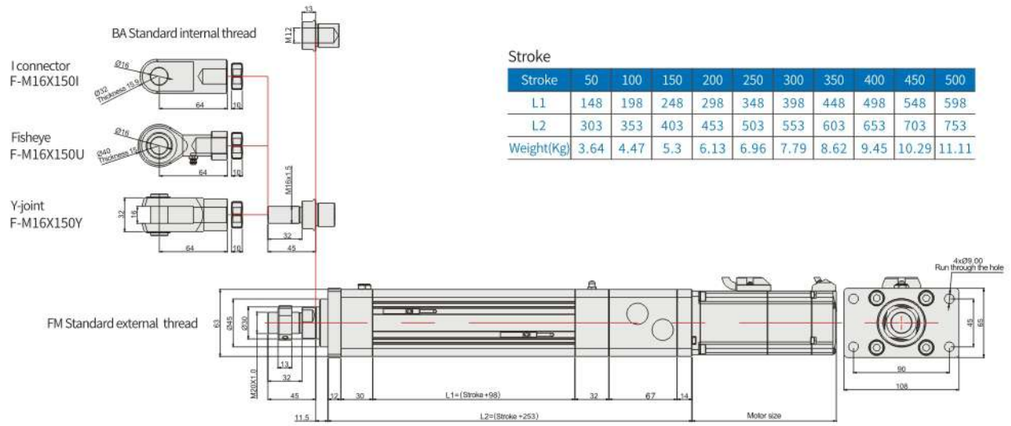
Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	270	320	370	420	470	520	570	620	670	720
Weight(Kg)	4.06	4.89	5.72	6.55	7.38	8.21	9.04	9.87	10.7	11.53

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG6350- Direct connection - front flange
KDG6350-BC01

Note: when the motor mounting plate matches different motors, the size may change

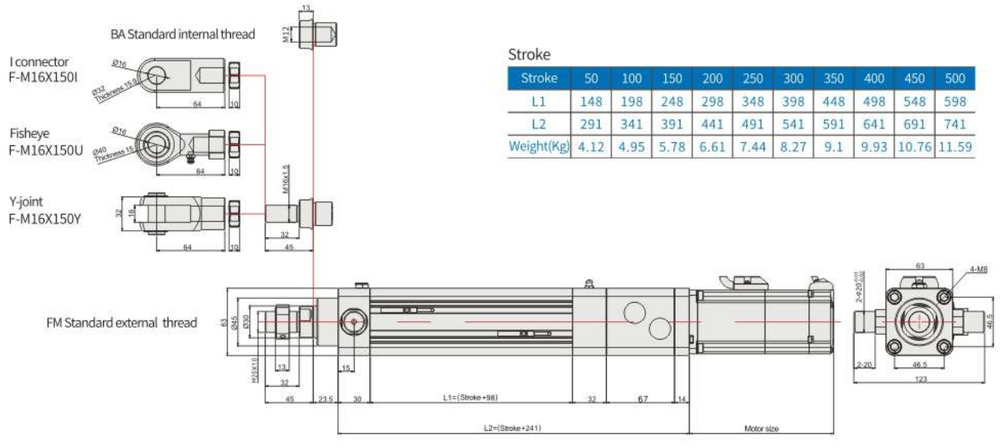


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	303	353	403	453	503	553	603	653	703	753
Weight(Kg)	3.64	4.47	5.3	6.13	6.96	7.79	8.62	9.45	10.29	11.11

KDG6350- Direct connection - trunnion
KDG6350-BC03

Note: when the motor mounting plate matches different motors, the size may change

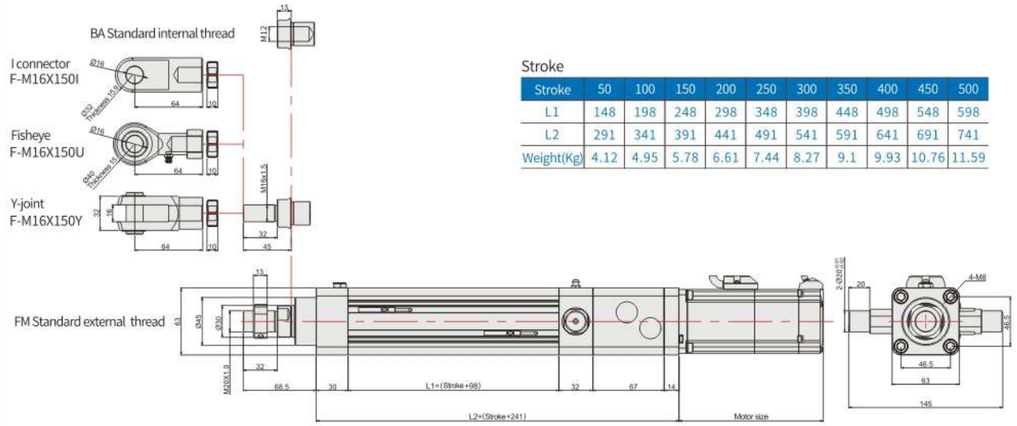


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	291	341	391	441	491	541	591	641	691	741
Weight(Kg)	4.12	4.95	5.78	6.61	7.44	8.27	9.1	9.93	10.76	11.59

KDG6350- Direct connection - rear trunnion
KDG6350-BC03H

Note: when the motor mounting plate matches different motors, the size may change

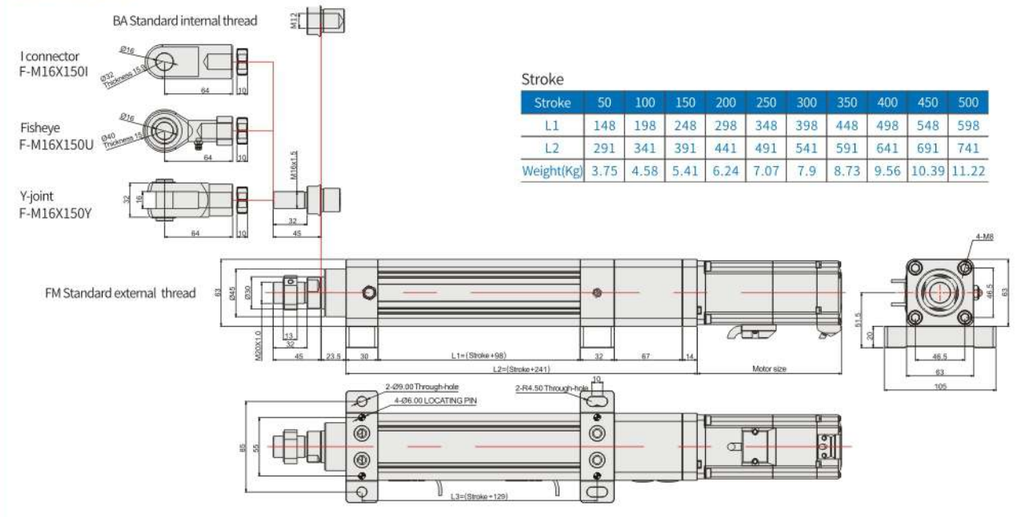


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	291	341	391	441	491	541	591	641	691	741
Weight(Kg)	4.12	4.95	5.78	6.61	7.44	8.27	9.1	9.93	10.76	11.59

KDG6350- Direct connection - side flange
KDG6350-BC04

Note: when the motor mounting plate matches different motors, the size may change



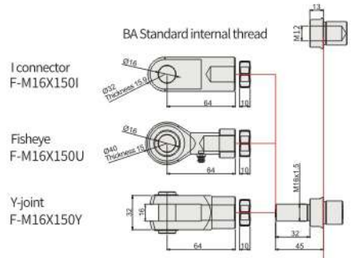
Stroke

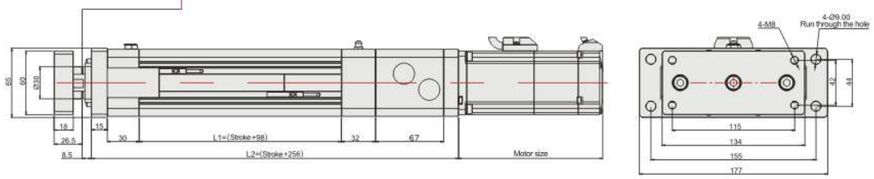
Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	291	341	391	441	491	541	591	641	691	741
Weight(Kg)	3.75	4.58	5.41	6.24	7.07	7.9	8.73	9.56	10.39	11.22

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG6350- Direct connection - guide pillar type
KDG6350-BC06

Note: when the motor mounting plate matches different motors, the size may change



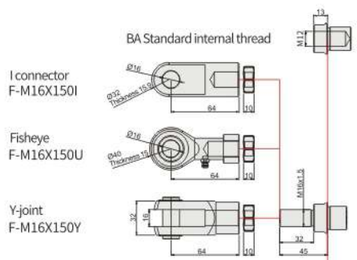


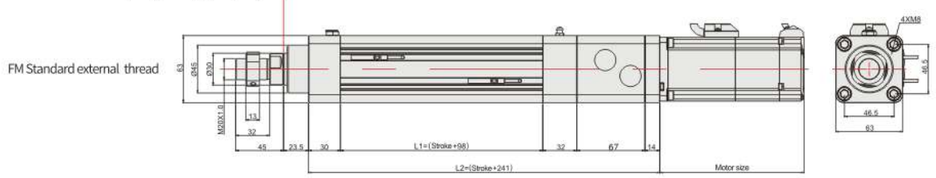
Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	306	356	406	456	506	556	606	656	706	756
Weight(Kg)	4.96	6.09	7.22	8.35	9.48	10.61	11.74	12.87	14	15.13

KDG6350- Direct connection - front lock type
KDG6350-BC07

Note: when the motor mounting plate matches different motors, the size may change





Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L1	148	198	248	298	348	398	448	498	548	598
L2	291	341	391	441	491	541	591	641	691	741
Weight(Kg)	3.49	4.32	5.15	5.98	6.81	7.64	8.47	9.3	10.13	10.96

MEMO

Maximum Stroke 1000mm | Maximum thrust 8kN(800kgf) | Maximum Speed 1250mm/s | Motor Output 750W

Ordering Method

KDG 7463 - L 05 - 100 - BC 01 - T75 R30 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R30	3000rpm

Reduction Ratio

1	1: 1
3	3: 1
5	5:1
	...

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Appearance series

Width	Cylinder diameter
74	63

Lead

5mm
10mm
20mm
25mm

Stroke

50~1000mm

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

T		75	
P	Panasonic servo	75 100	750W 1000W(80 frame)
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

AKD

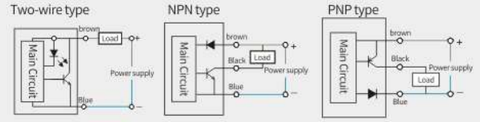
KDG7463 Servo Electric Cylinder

KDG7463 Series Standard Configuration Parameters

Foundation Information

Cylinder OD	74*74mm
Cylinder ID	63mm
Screw typp	Ball screw Φ20/Φ25
Stroke range	⩽1000 mm
Allowable maximum speed	⩽1250 mm/s
Allowable maximum thrust	⩽8kN

Sensor Layout



Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	23.6	
	Static load rating Cor(kN)	21.1	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	14.5
		Lead : 10	14.8
		Lead : 20	7.64
		Lead : 25	8.2
	Static load rating Coa(kN)	Lead : 05	36.1
		Lead : 10	37.5
		Lead : 20	17.2
		Lead : 25	21.5
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

※When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway	
Φ14/Φ19	Φ19-L32	SFR40*50-14K-19K	SFR40*50-19K-19K
	Φ22-L39.5	SFR45*55-14K-22K	SFR45*55-19K-22K

KDG6350 Force and speed

Motor power		750W servo (80 frame)		1000W servo (80 frame)		86 Stepping	
Rated speed		3000rpm		3000rpm		/	
Rated torque		2.39N.m		3.18N.m		/	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	2.55	250	3.4	250	/	/
	10	1.27	500	1.7.	500	/	/
	20	0.64	1000	0.85	1000	/	/
	25	0.51	1250	0.68	1250	/	/
2	5	5.1	125	6.8	125	/	/
3	5	7.65	83.3	/	/	/	/
	10	3.8	166.6	5.1	166.6	/	/
	20	1.92	333	2.55	333	/	/
	25	1.53	416.6	2.04	416.6	/	/
5	10	6.35	100	8.5	100	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L}*\mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

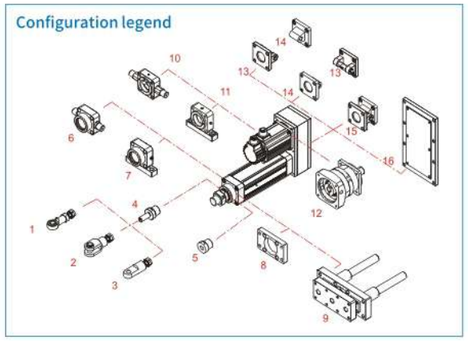
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN); F_m: average load borne by electric cylinder (kN); L: screw lead (mm)

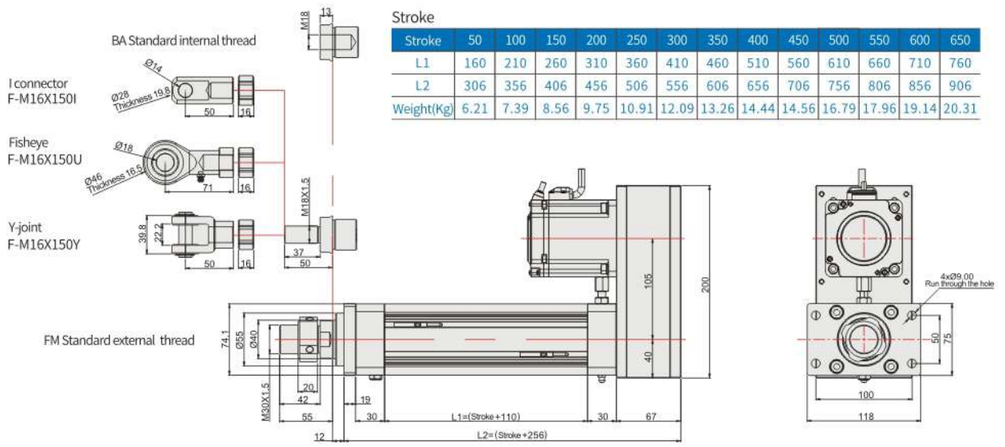
Configuration legend



KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG7463-Folding - front flange
KDG7463-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

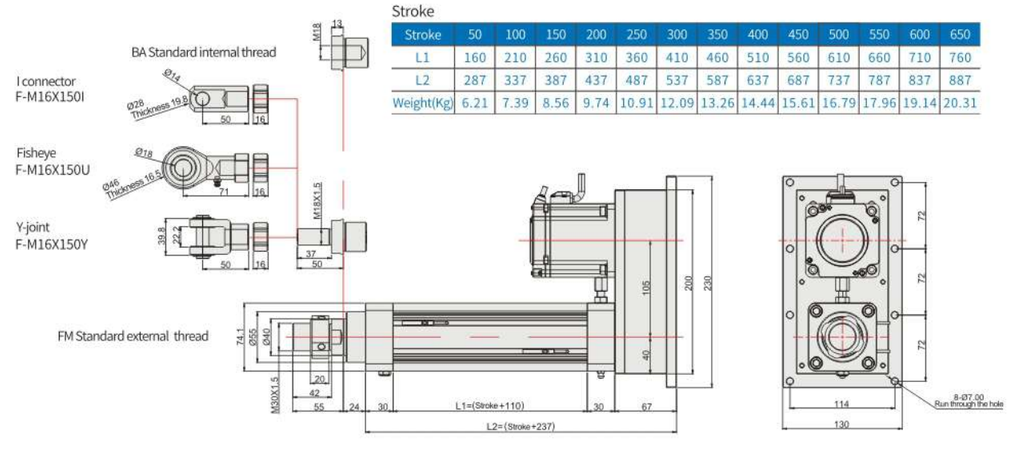


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	306	356	406	456	506	556	606	656	706	756	806	856	906
Weight(Kg)	6.21	7.39	8.56	9.75	10.91	12.09	13.26	14.44	14.56	16.79	17.96	19.14	20.31

KDG7463-Folding - rear flange
KDG7463-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

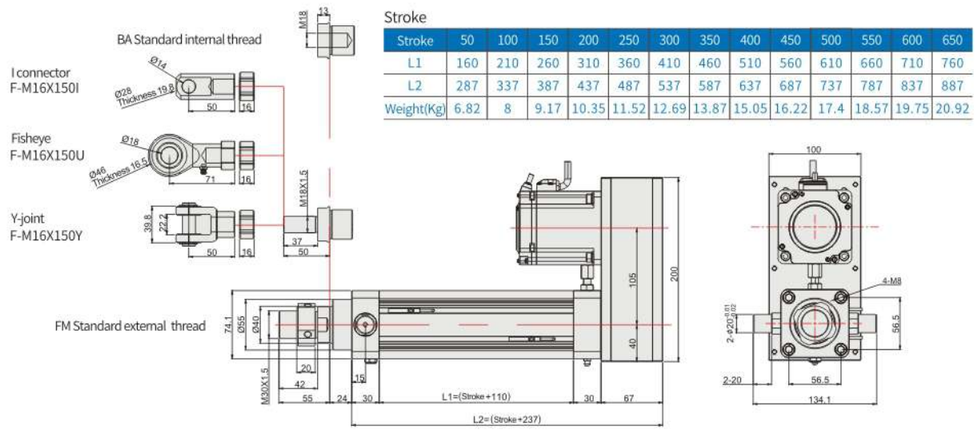


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.21	7.39	8.56	9.75	10.91	12.09	13.26	14.44	15.61	16.79	17.96	19.14	20.31

KDG7463-Folding - trunnion
KDG7463-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

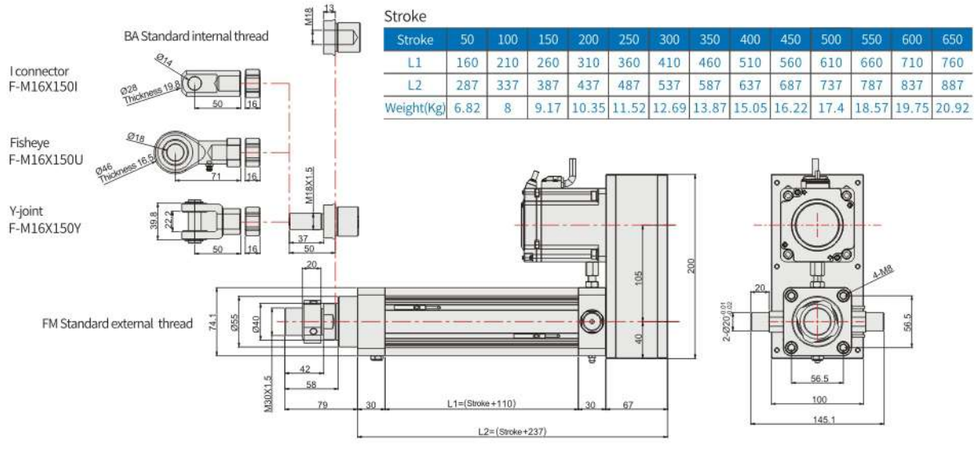


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.82	8	9.17	10.35	11.52	12.69	13.87	15.05	16.22	17.4	18.57	19.75	20.92

KDG7463-Folding - return rear trunnion
KDG7463-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



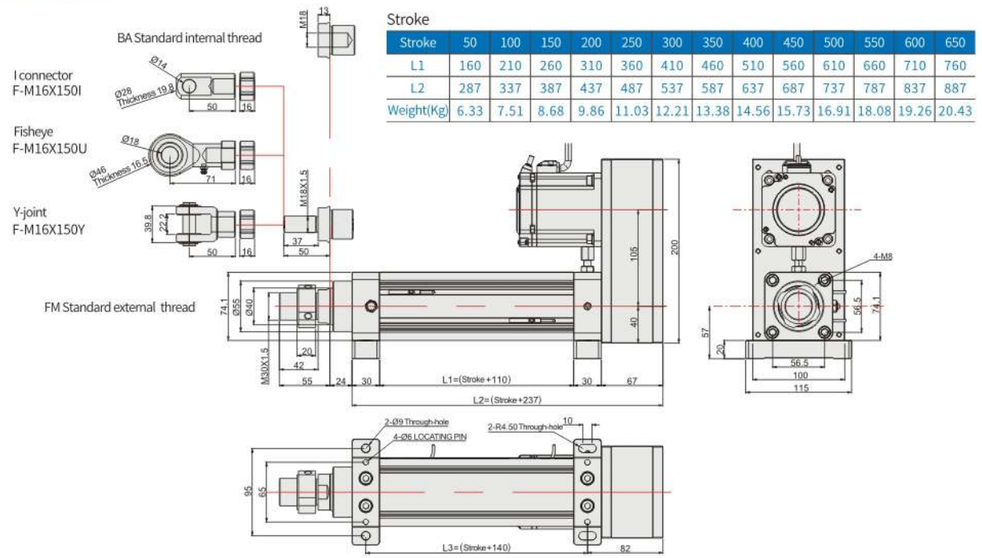
Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.82	8	9.17	10.35	11.52	12.69	13.87	15.05	16.22	17.4	18.57	19.75	20.92

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG7463-Folding - side flange
KDG7463-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

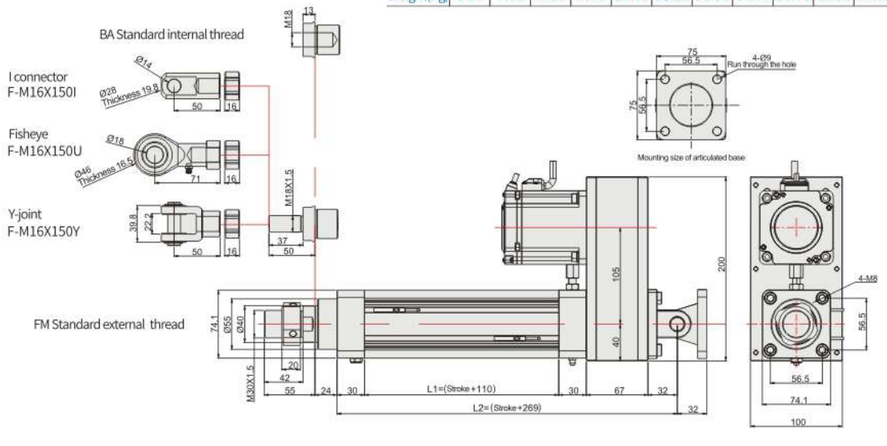


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.33	7.51	8.68	9.86	11.03	12.21	13.38	14.56	15.73	16.91	18.08	19.26	20.43

KDG7463-Folding - rear hinge
KDG7463-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

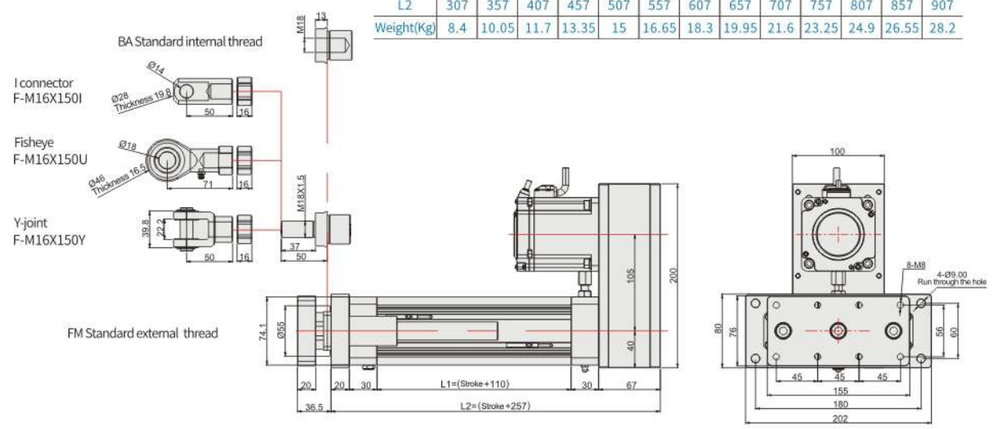


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.33	7.51	8.68	9.86	11.03	12.21	13.38	14.56	15.73	16.91	18.08	19.26	20.43

KDG7463-Folding - guide pillar type
KDG7463-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

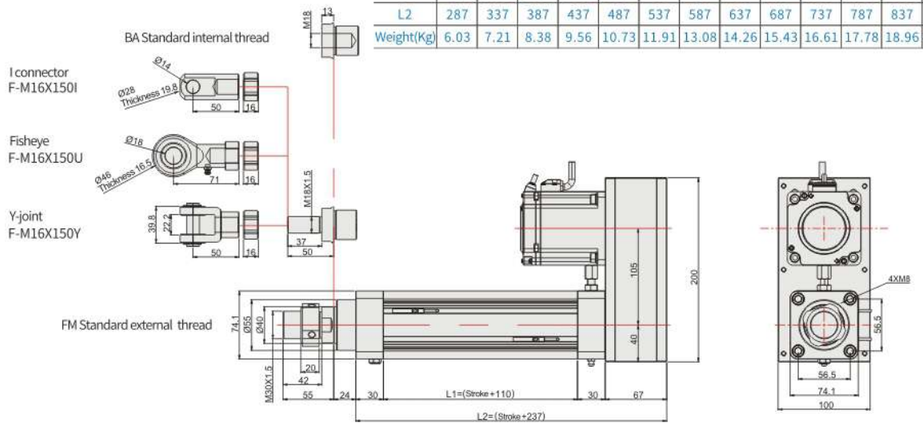


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	307	357	407	457	507	557	607	657	707	757	807	857	907
Weight(Kg)	8.4	10.05	11.7	13.35	15	16.65	18.3	19.95	21.6	23.25	24.9	26.55	28.2

KDG7463-Folding - front lock type
KDG7463-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100



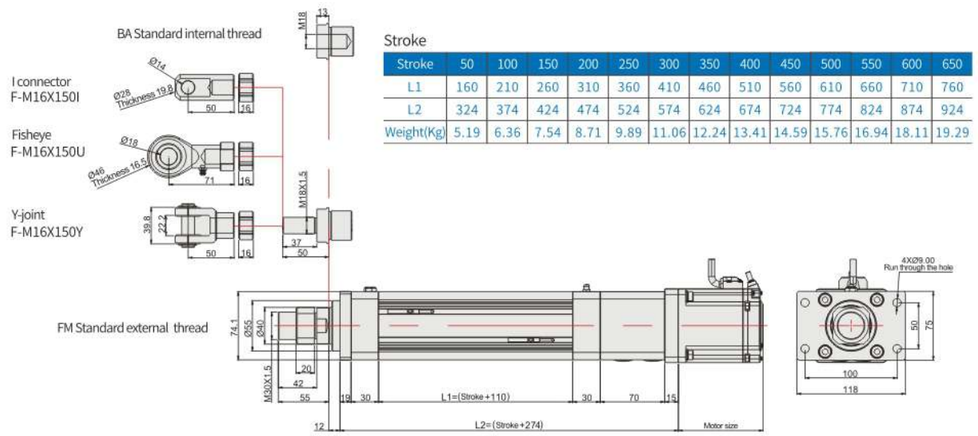
Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	287	337	387	437	487	537	587	637	687	737	787	837	887
Weight(Kg)	6.03	7.21	8.38	9.56	10.73	11.91	13.08	14.26	15.43	16.61	17.78	18.96	20.13

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG7463- Direct connection - front flange
KDG7463-BC01

Note: when the motor mounting plate matches different motors, the size may change

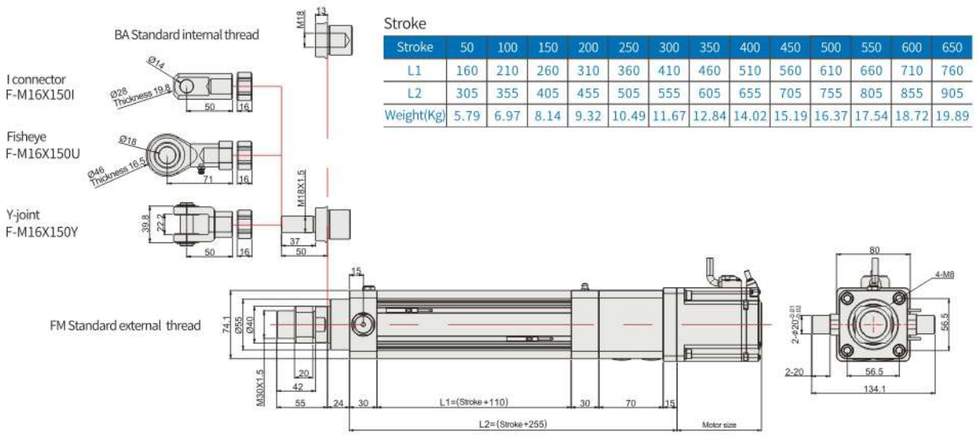


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	324	374	424	474	524	574	624	674	724	774	824	874	924
Weight(Kg)	5.19	6.36	7.54	8.71	9.89	11.06	12.24	13.41	14.59	15.76	16.94	18.11	19.29

KDG7463- Direct connection - trunnion
KDG7463-BC03

Note: when the motor mounting plate matches different motors, the size may change

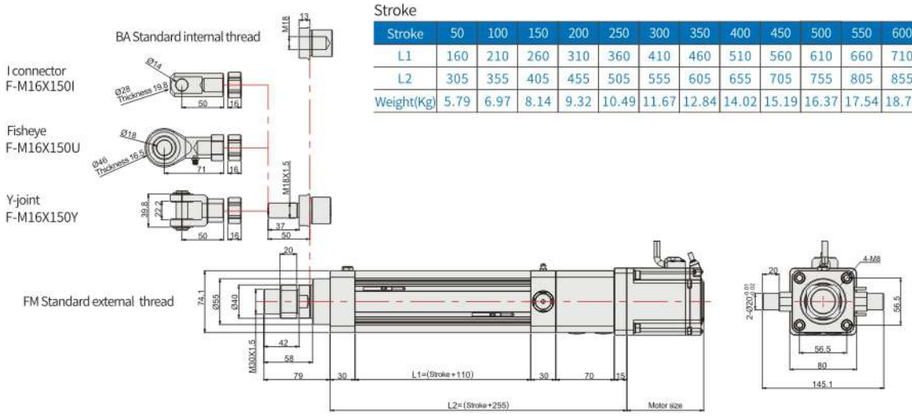


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	305	355	405	455	505	555	605	655	705	755	805	855	905
Weight(Kg)	5.79	6.97	8.14	9.32	10.49	11.67	12.84	14.02	15.19	16.37	17.54	18.72	19.89

KDG7463- Direct connection - rear trunnion
KDG7463-BC03H

Note: when the motor mounting plate matches different motors, the size may change

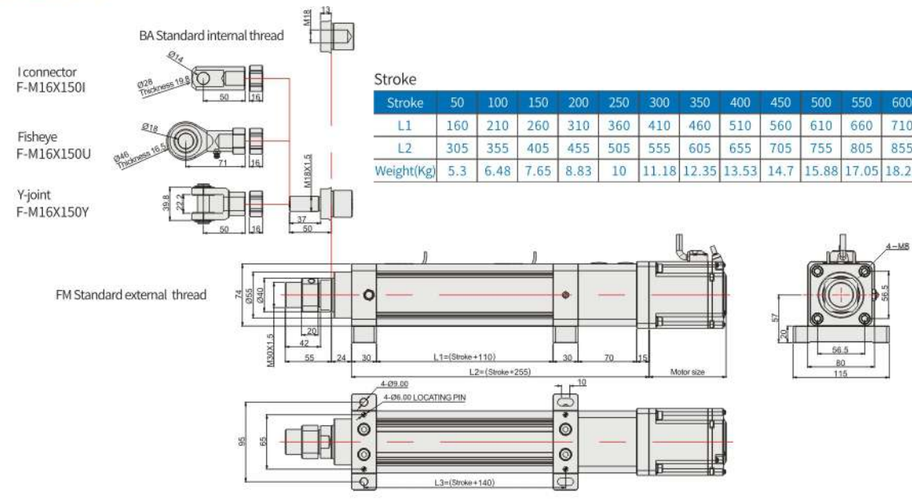


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	305	355	405	455	505	555	605	655	705	755	805	855	905
Weight(Kg)	5.79	6.97	8.14	9.32	10.49	11.67	12.84	14.02	15.19	16.37	17.54	18.72	19.89

KDG7463- Direct connection - side flange
KDG7463-BC04

Note: when the motor mounting plate matches different motors, the size may change

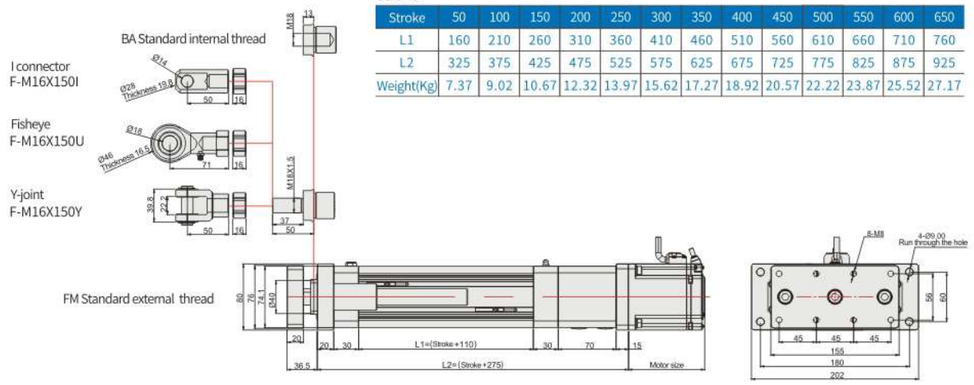


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	305	355	405	455	505	555	605	655	705	755	805	855	905
Weight(Kg)	5.3	6.48	7.65	8.83	10	11.18	12.35	13.53	14.7	15.88	17.05	18.23	19.4

KDG7463- Direct connection - guide pillar type
KDG7463-BC06

Note: when the motor mounting plate matches different motors, the size may change

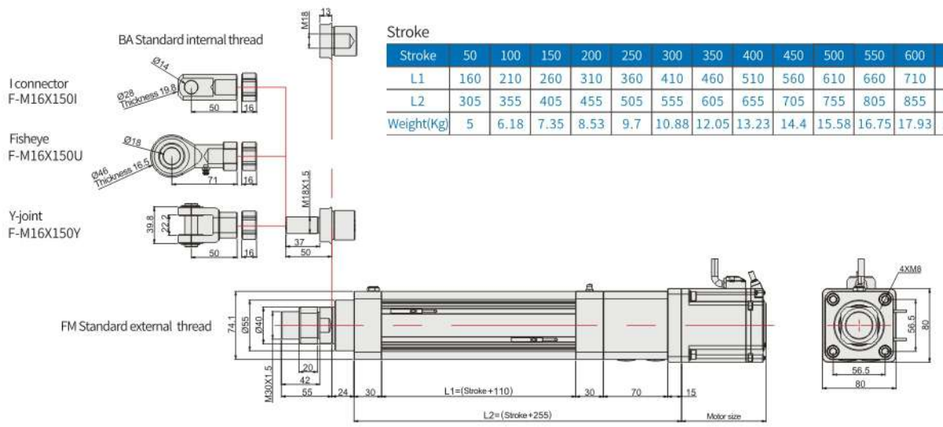


Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	325	375	425	475	525	575	625	675	725	775	825	875	925
Weight(Kg)	7.37	9.02	10.67	12.32	13.97	15.62	17.27	18.92	20.57	22.22	23.87	25.52	27.17

KDG7463- Direct connection - front lock type
KDG7463-BC07

Note: when the motor mounting plate matches different motors, the size may change



Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650
L1	160	210	260	310	360	410	460	510	560	610	660	710	760
L2	305	355	405	455	505	555	605	655	705	755	805	855	905
Weight(Kg)	5	6.18	7.35	8.53	9.7	10.88	12.05	13.23	14.4	15.58	16.75	17.93	19.1

MEMO

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

Maximum Stroke 1200mm | Maximum thrust 30kN(3000kgf) | Maximum Speed 500mm/s | Motor Output 1500W

Ordering Method

KDG 9580 - L 05 - 100 - BC 01 - T200 R30 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R30	3000rpm

Reduction Ratio

1	1: 1
3	3: 1
5	5:1
	...

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Appearance series

Width	Cylinder diameter
95	80

Lead

5mm
10mm

Stroke

50~1200mm

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

	T	200	
P	Panasonic servo	100 150 200 ...	1000W 1500W 2000W ...
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

AKD

KDG9580 Servo Electric Cylinder

KDG9580 Series Standard Configuration Parameters

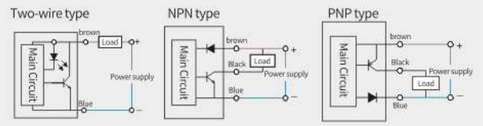
Foundation Information

Cylinder OD	95*95mm
Cylinder ID	80mm
Screw typp	Ball screw Φ25
	Ball screw Φ32
Stroke range	⩽800 mm
Allowable maximum speed	⩽500 mm/s
Allowable maximum thrust	⩽15kN
Heavy load(U type)	⩽30kN

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	32.8	
	Static load rating Cor(kN)	32.2	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	16.8
		Lead : 10	28.9
	Static load rating Coa(kN)	Lead : 05	48
		Lead : 10	71.4
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway	
Φ22/Φ19	Φ22-L50	SFR40*50-19K-22K	SFR40*50-22K-22K
	Φ24-L50	SFR40*50-19K-24K	SFR40*50-22K-24K
	Φ32-L55	SFR40*50-19K-32K	SFR40*50-22K-32K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

※When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

KDG9580 Force and speed

Motor power		1500W servo (100 frame)		2000W servo (100 frame)		2500W servo (100 frame)	
Rated speed		3000rpm		3000rpm		3000rpm	
Rated torque		4.78N.m		6.37N.m		7.96N.m	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	5.1	250	6.8	250	8.5	250
	10	2.55	500	3.4	500	4.25	500
3	10	7.65	166	10.2	166	12.74	166
4	10	10.2	125	13.59	125	16.99(Heavy load)	125
5	10	12.74	100	16.99(Heavy load)	100	21.24(Heavy load)	100
7	10	17.84(Heavy load)	71	23.79(Heavy load)	71	29.74(Heavy load)	71

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L} * \mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

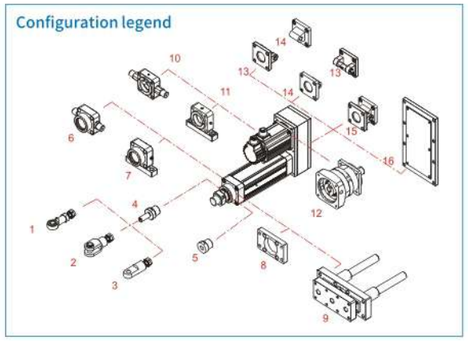
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN); F_M: average load borne by electric cylinder (kN); L: screw lead (mm)

Configuration legend



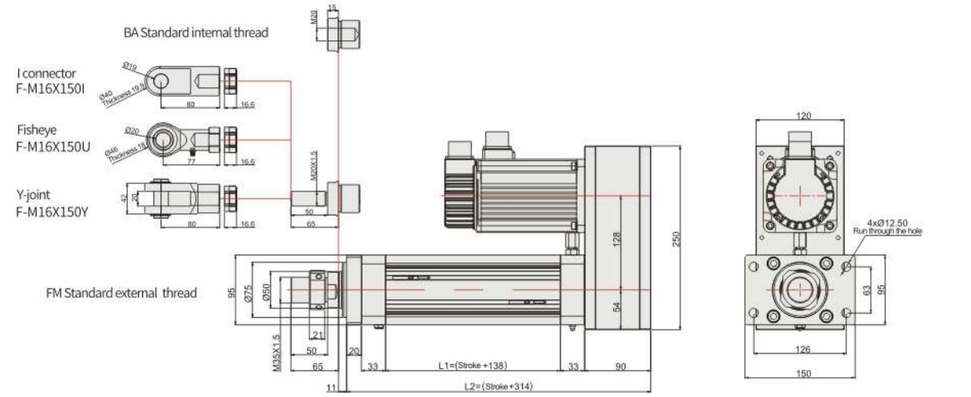
KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG9580-Folding - front flange
KDG9580-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114
Weight(Kg)	11.85	13.99	16.13	18.27	20.41	22.55	24.69	26.83	28.97	31.11	32.25	35.39	37.53	39.67	41.81	43.95

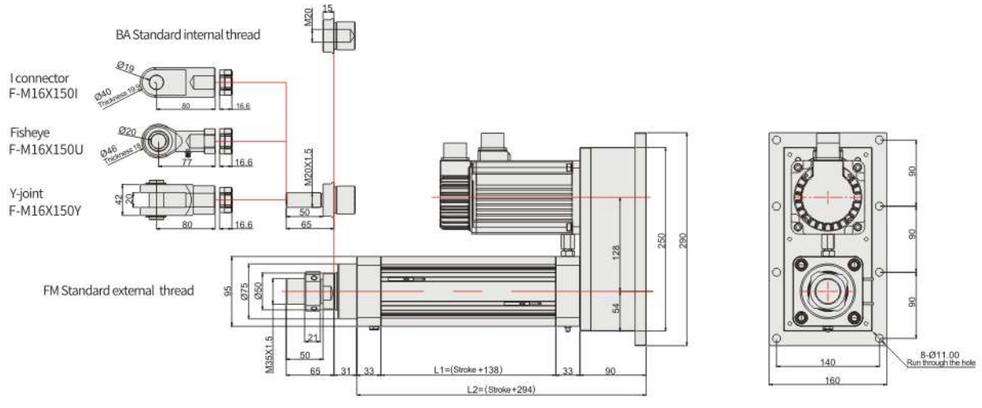


KDG9580-Folding - rear flange
KDG9580-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	11.85	13.99	16.13	18.27	20.41	22.55	24.69	26.83	28.97	31.11	32.25	35.39	37.53	39.67	41.81	43.95

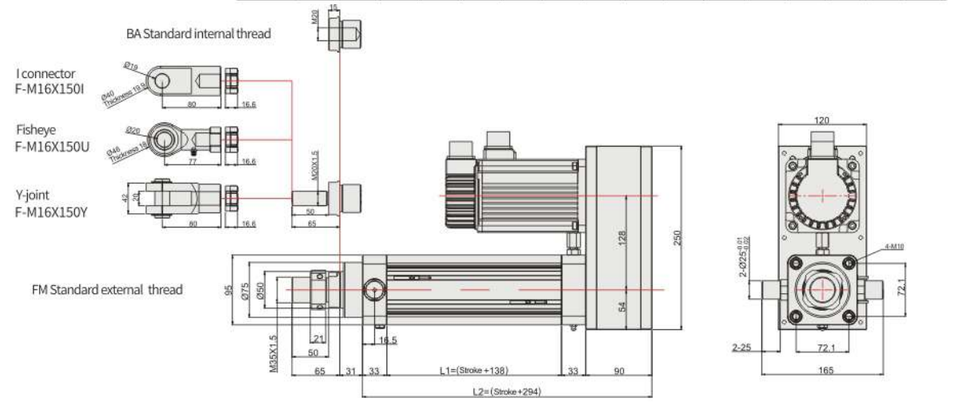


KDG9580-Folding - trunnion
KDG9580-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	12.96	15.1	17.24	19.38	21.52	23.66	25.8	27.94	30.08	32.22	34.36	36.5	38.64	40.78	42.92	45.06

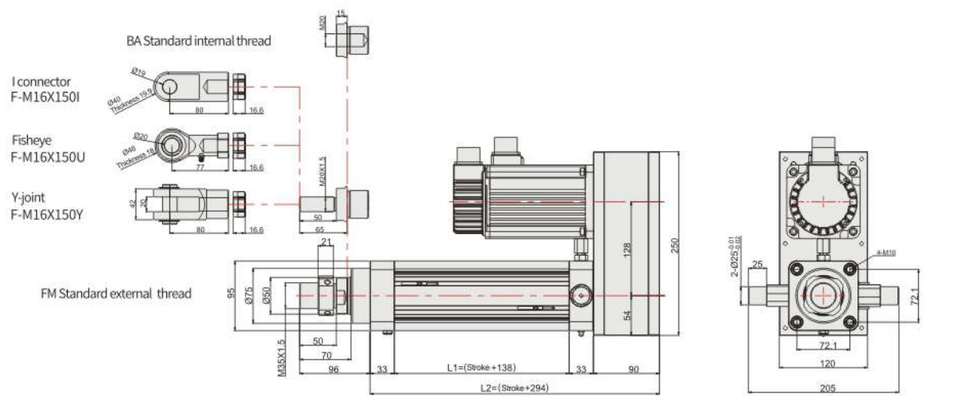


KDG9580-Folding - return rear trunnion
KDG9580-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	12.96	15.1	17.24	19.38	21.52	23.66	25.8	27.94	30.08	32.22	34.36	36.5	38.64	40.78	42.92	45.06

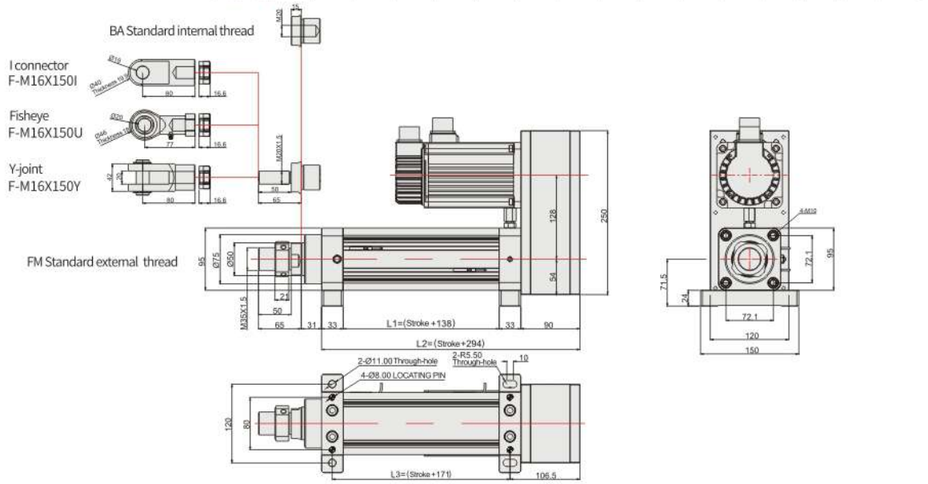


KDG9580-Folding - side flange
KDG9580-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	11.91	14.05	16.19	18.33	20.47	22.61	24.75	26.89	29.03	31.17	33.31	35.45	37.59	39.73	41.87	44.01

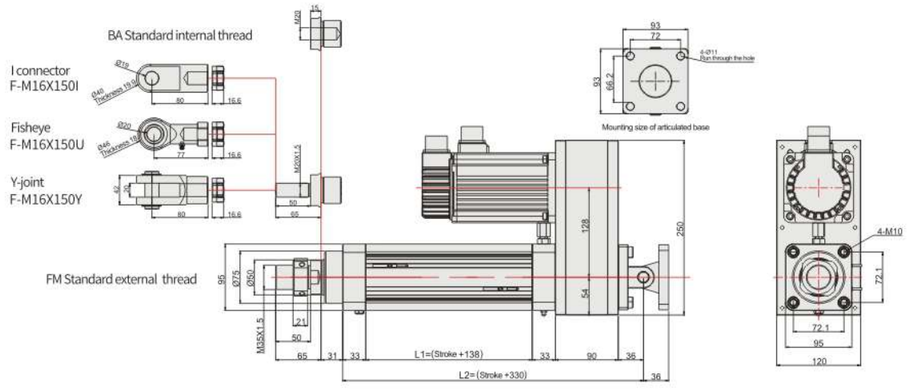


KDG9580-Folding - rear hinge
KDG9580-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130
Weight(Kg)	11.91	14.05	16.19	18.33	20.47	22.61	24.75	26.89	29.03	31.17	33.31	35.45	37.59	39.73	41.87	44.01

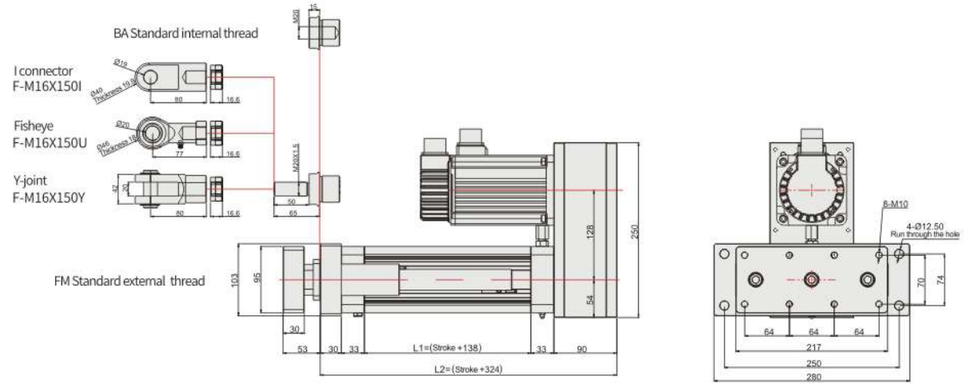


KDG9580-Folding - guide pillar type
KDG9580-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	18.08	21.82	25.56	29.3	33.04	36.78	40.52	44.26	48	51.74	55.48	59.22	62.92	66.7	70.44	74.18

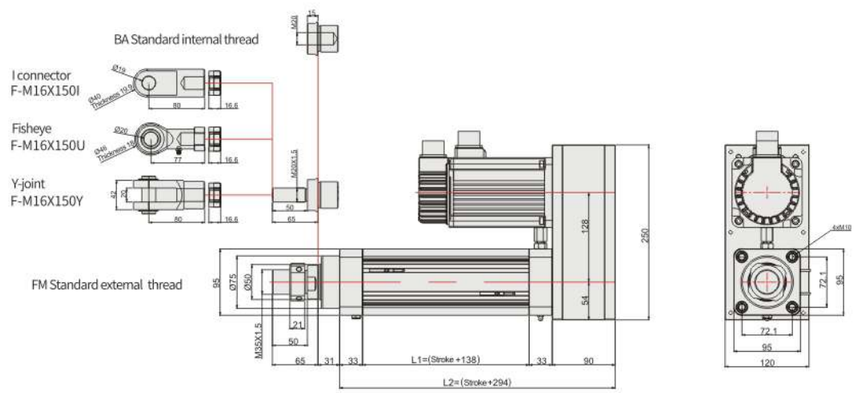


KDG9580-Folding - front lock type
KDG9580-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094
Weight(Kg)	11.38	13.52	15.66	17.8	19.94	22.08	24.22	26.36	28.5	30.64	32.78	34.92	37.06	39.2	41.34	43.48

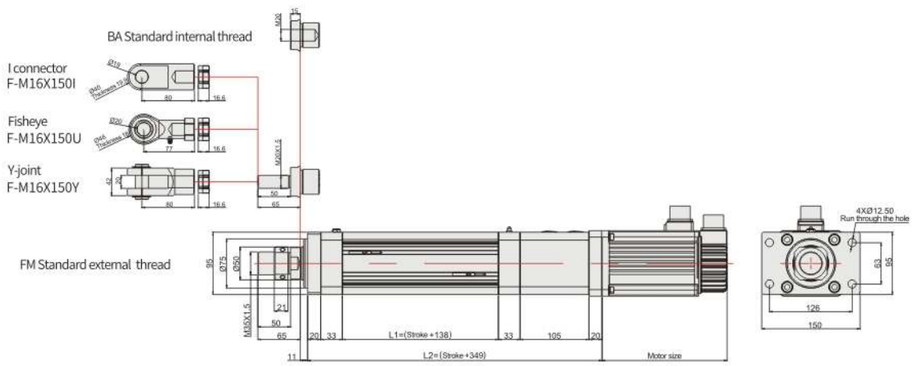


KDG9580-Direct connection - front flange
KDG9580-BC01

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149
Weight(Kg)	9.6	11.74	13.88	16.02	18.16	20.3	22.44	24.58	26.72	28.86	31	33.14	35.28	37.42	39.56	41.7

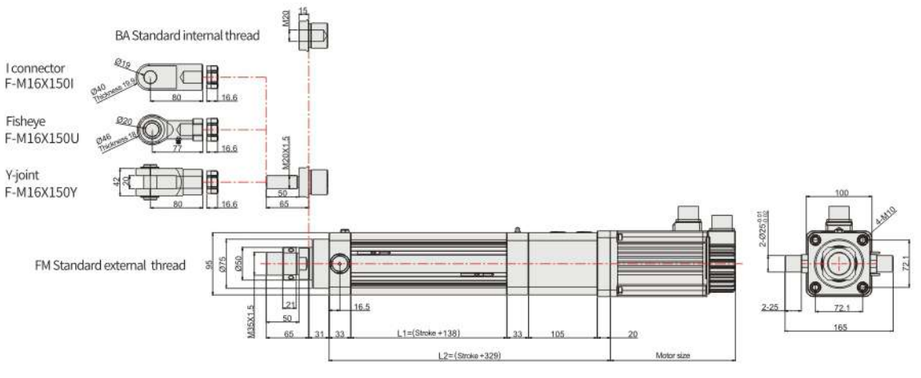


KDG9580-Direct connection - trunnion
KDG9580-BC03

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129
Weight(Kg)	10.72	12.86	15	17.14	19.28	21.42	23.56	25.7	27.84	29.98	32.12	34.26	36.4	38.54	10.68	42.82

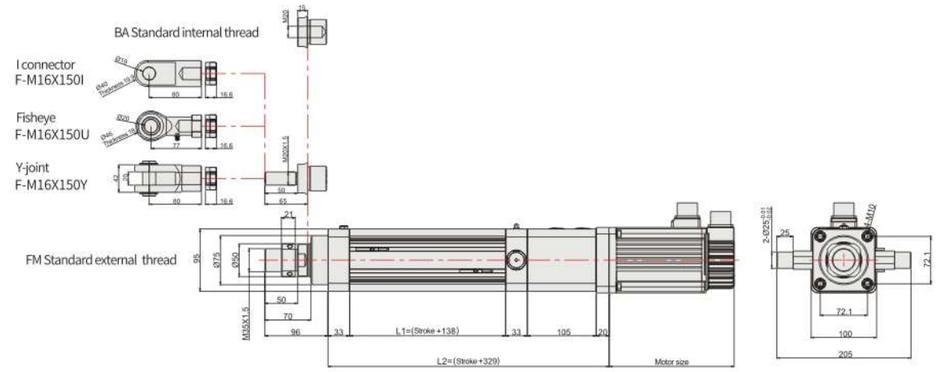


KDG9580-Direct connection - rear trunnion
KDG9580-BC03H

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129
Weight(Kg)	10.72	12.86	15	17.14	19.28	21.42	23.56	25.7	27.84	29.98	32.12	34.26	36.4	38.54	40.68	42.82

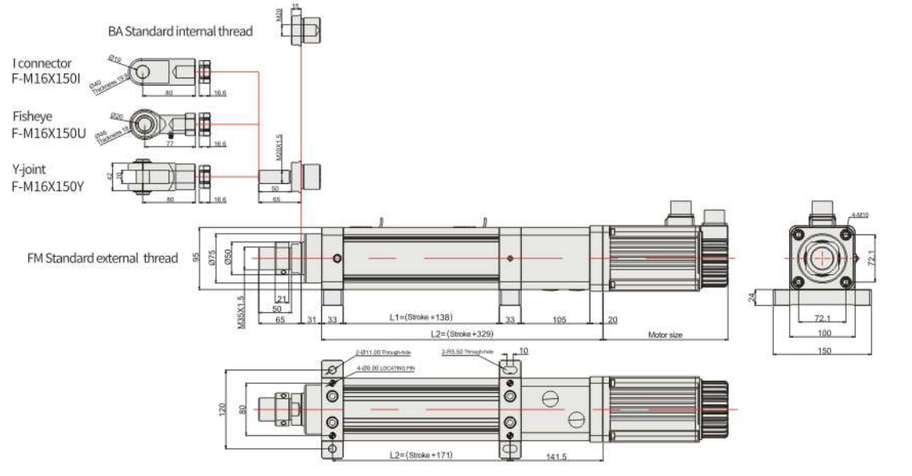


KDG9580-Direct connection - side flange
KDG9580-BC04

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129
Weight(Kg)	9.67	11.81	13.95	16.09	18.23	20.37	22.51	24.65	26.79	28.93	31.07	33.21	35.35	37.49	39.63	41.77

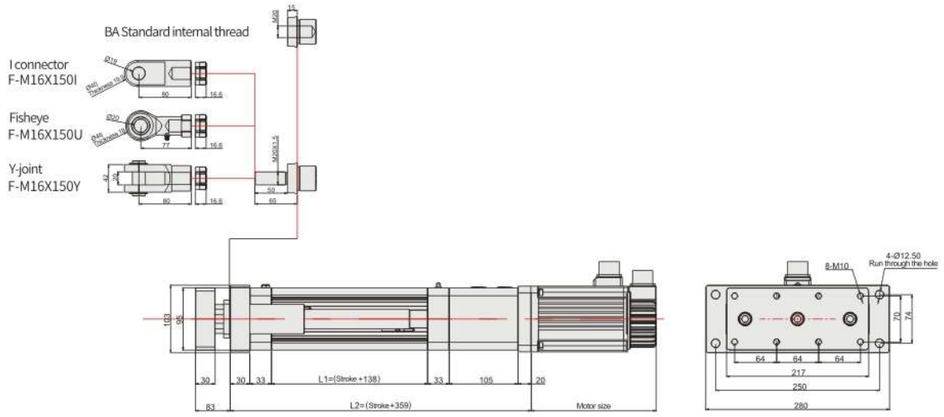


KDG9580- Direct connection - guide pillar type
KDG9580-BC06

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159
Weight(Kg)	15.84	19.58	23.32	27.06	30.8	34.54	38.28	42.02	45.76	49.5	53.24	56.98	60.72	64.46	68.2	71.94

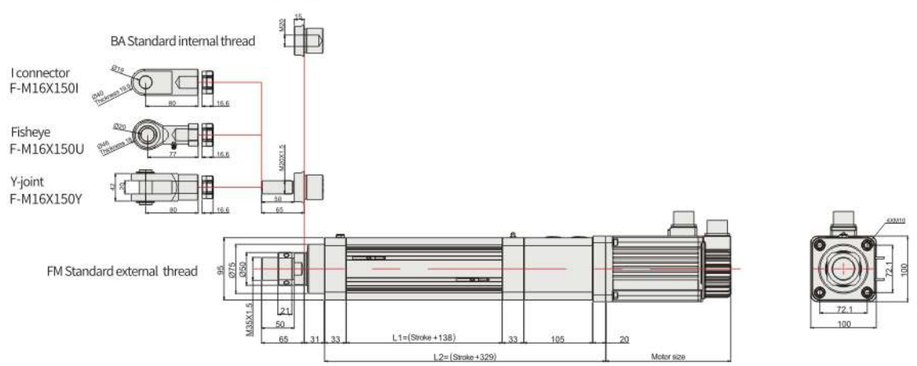


KDG9580- Direct connection - front lock type
KDG9580-BC07

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L1	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938
L2	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129
Weight(Kg)	9.14	11.28	13.42	15.56	17.7	19.84	21.98	24.12	26.26	28.4	30.54	32.68	34.82	36.96	39.1	41.24



MEMO

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

Maximum Stroke 1500mm | Maximum thrust 50kN(5000kgf) | Maximum Speed 500mm/s | Motor Output 1300W

Ordering Method

KDG110100 - L 05 - 100 - BC 01 - T180 R15 JS1 - BA - T3 - D123

Accuracy

L	Standard accuracy
P	Precision-level

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R15	1500rpm
R30	3000rpm

Reduction Ratio

1	1: 1
3	3: 1
5	5:1
	...

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

Special Order No.

Appearance series

Width	Cylinder diameter
110	100

Lead

5mm
10mm

Stroke

50~1500mm

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

T		180	
P	Panasonic servo	130 180 290 ...	130W0 1800W 2900W ...
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	42/57/86	Stepping motor frame number

Travel Switch

Type of transducers	
T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor
Number of sensors	
3	Standard configuration: 3 pieces
0	Without sensor

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG110100 Series Standard Configuration Parameters

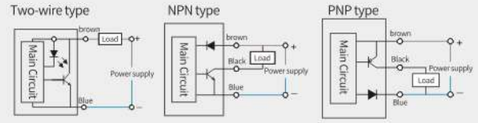
Foundation Information

Cylinder OD	110*110mm
Cylinder ID	100mm
Screw typp	Ball screw Φ32
	Ball screw Φ40
Stroke range	⩽1000 mm
Allowable maximum speed	⩽500 mm/s
Allowable maximum thrust	⩽30kN
Heavy load(U type)	⩽50kN

Load and accuracy

Bearings	Dynamic load rating Cr(kN)	49.1	
	Static load rating Cor(kN)	46.4	
Screw rod	Dynamic load rating Ca(kN)	Lead : 05	18.8
		Lead : 10	47
	Static load rating Coa(kN)	Lead : 05	62.1
		Lead : 10	119.6
	Accuracy Grade (mm)	C5	C7
	Repeatability (mm)	±0.01	±0.02

Sensor Layout



Coupling and reducer configuration

Electric cylinder direct connecting Screw shaft diameter	Reducer / motor shaft diameter	Coupling model (AKD brand) OD * length - output shaft - K: international keyway
Φ22	Φ22-L50	SFR55*78-22K-22K
	Φ32-L50	SFR55*78-22K-32K

Conductor Spec.

Code	Type	Model Specifications
T	Standard two-wire system	ZMDG-2 N/O
		ZMDGC-2 N/C
N	NPN Type	ZMDN-2 N/O
		ZMDNC-2 N/C
P	PNP Type	ZMDP-2 N/O
		ZMDPC-2 N/C

※When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

KDG110100 Force and speed

Motor power		1300W servo (130 frame)		1800W servo (130 frame)		5000W servo (130 frame)	
Rated speed		1500rpm		1500rpm		3000rpm	
Rated torque		8.34N.m		11.5N.m		15.92N.m	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
1	5	8.9	125	12.2	125	17	250
	10	4.45	250	6.1	250	8.5	500
3	10	13.35	83	18.3	83	25.49	166
4	10	17.8	62	24.4	62	33.99 (Heavy load)	125
5	10	22.5	50	30.5 (Heavy load)	50	42.49 (Heavy load)	100
7	10	31.15 (Heavy load)	35	40.82 (Heavy load)	35	/	/
9	10	39.76 (Heavy load)	27	/	/	/	/

Rated thrust calculation formula:

$$F = \frac{T*2\pi*i}{L}*\mu$$

F: electric cylinder thrust (kN); T: motor torque (N.m); π: ratio of circumference to diameter; i: reduction ratio; L: screw lead (mm); μ: efficiency; the total working efficiency of electric cylinder is recommended to be 85%

Calculation formula of output shaft speed:

$$V = \frac{R*L}{i} \div 60$$

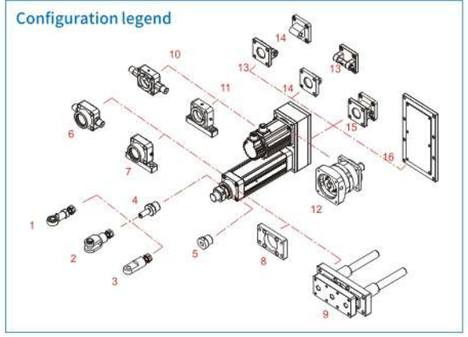
V: output shaft speed (mm/s); R: motor speed (r/min); L: screw lead (mm); i: reduction ratio; 60: constant

Calculation formula of electric cylinder life:

$$L_{10} = \left(\frac{Ca}{F_M}\right)^3 * L$$

L_{10}: electric cylinder life (km); Ca: dynamic rated load of screw (kN);
F_M: average load borne by electric cylinder (kN); L: screw lead (mm)

Configuration legend



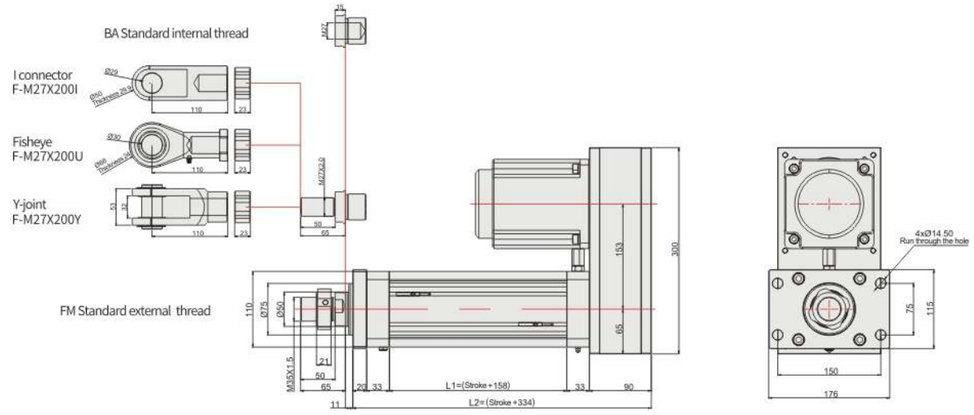
KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

KDG110100-Folding - front flange
KDG110100-BL01

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334
Weight(Kg)	15.53	18.02	20.53	23.02	25.52	28.02	30.52	33.02	35.52	38.02	40.52	43.02	45.52	48.02	50.52	53.02	55.52	58.02	60.52	63.02

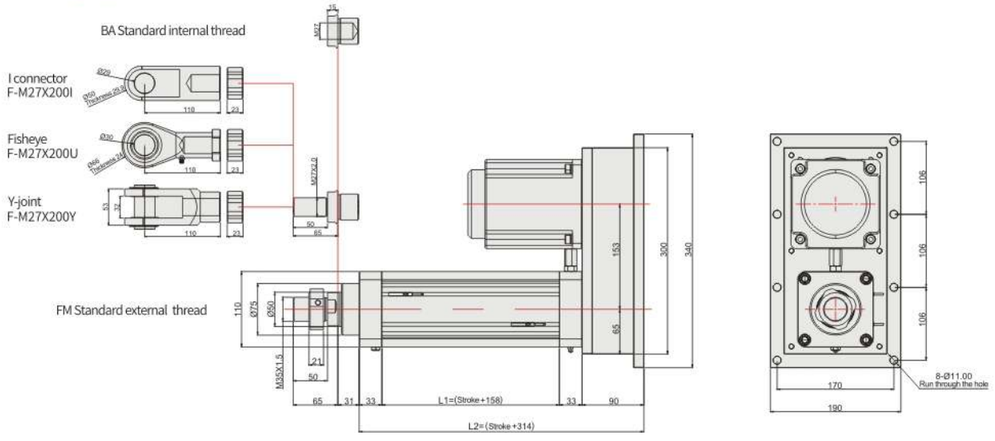


KDG110100-Folding - rear flange
KDG110100-BL02

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
Weight(Kg)	15.53	18.02	20.53	23.02	25.52	28.02	30.52	33.02	35.52	38.02	40.52	43.02	45.52	48.02	50.52	53.02	55.52	58.02	60.52	63.02

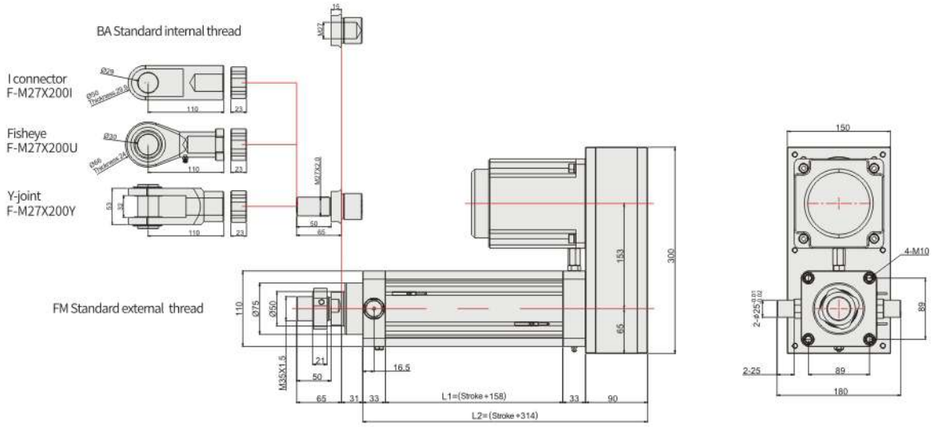


KDG110100-Folding - trunnion
KDG110100-BL03

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
Weight(Kg)	15.54	18.04	20.54	23.04	25.54	28.04	30.54	33.04	35.54	38.04	40.54	43.04	45.54	48.04	50.54	53.04	55.54	58.04	60.54	63.04

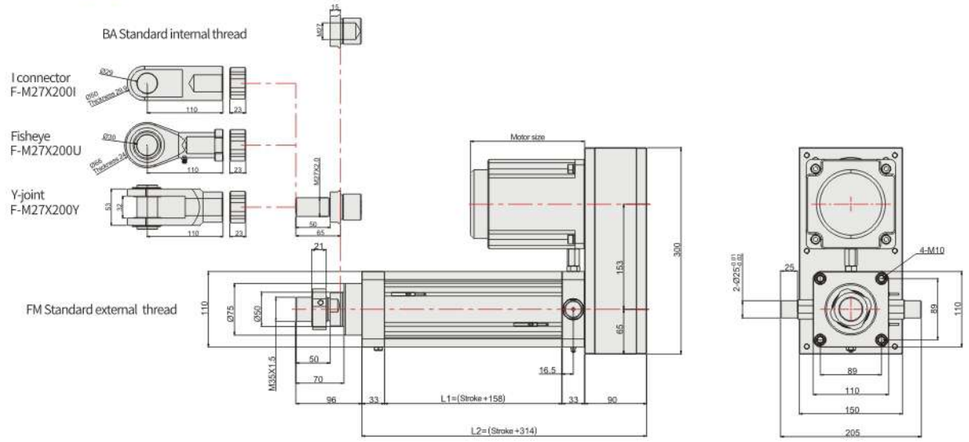


KDG110100-Folding - return rear trunnion
KDG110100-BL03H

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
Weight(Kg)	15.54	18.04	20.54	23.04	25.54	28.04	30.54	33.04	35.54	38.04	40.54	43.04	45.54	48.04	50.54	53.04	55.54	58.04	60.54	63.04

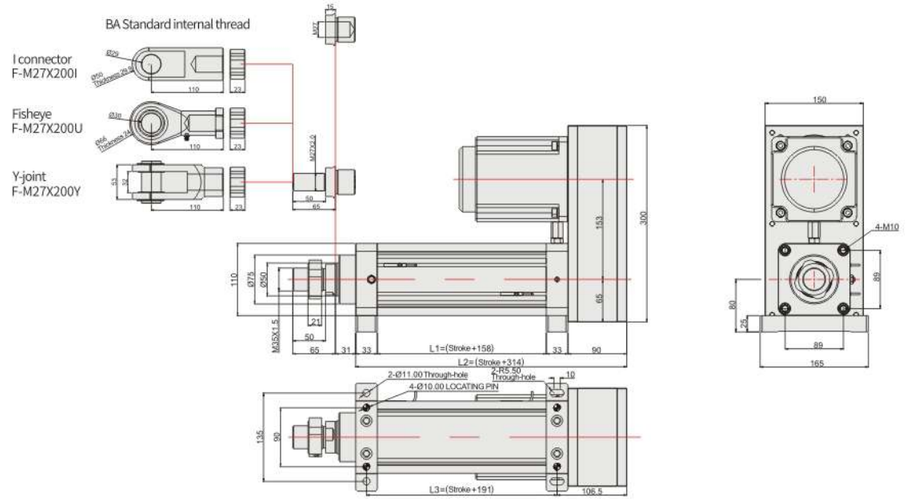


KDG110100-Folding - side flange
KDG110100-BL04

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
Weight(Kg)	13.86	16.36	18.86	21.36	23.86	26.36	28.86	31.36	33.86	36.36	38.86	41.36	43.86	46.36	48.86	51.36	53.86	56.36	58.86	61.36

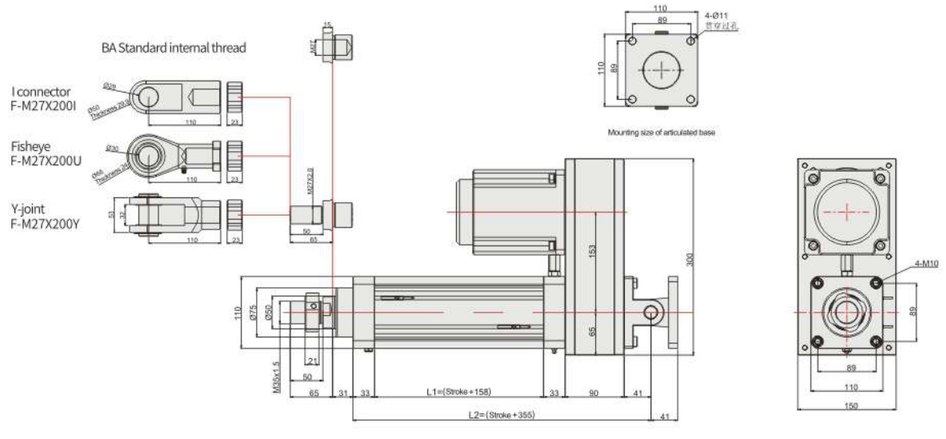


KDG110100-Folding - rear hinge
KDG110100-BL05

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	405	455	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355
Weight(Kg)	13.86	16.36	18.86	21.36	23.86	26.36	28.86	31.36	33.86	36.36	38.86	41.36	43.86	46.36	48.86	51.36	53.86	56.36	58.86	61.36

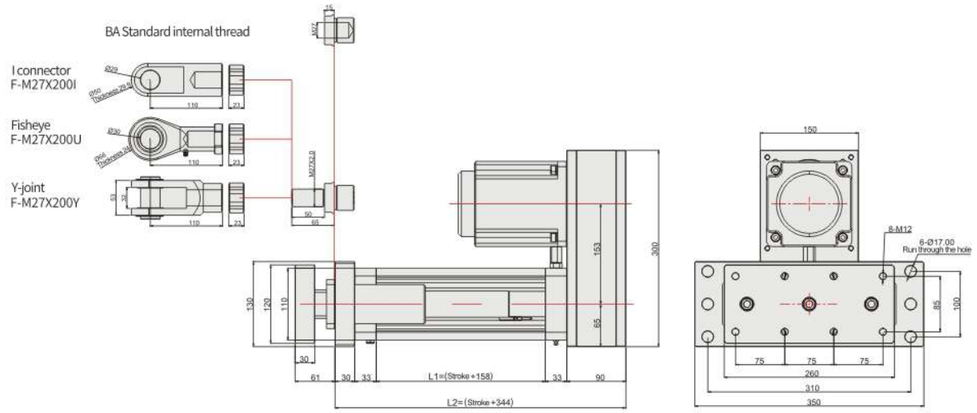


KDG110100-Folding - guide pillar type
KDG110100-BL06

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194	1244	1294	1344
Weight(Kg)	25.16	30.56	35.96	41.36	46.76	52.16	57.56	62.96	68.36	73.76	79.16	84.56	89.96	95.36	100.76	106.16	111.56	116.96	122.36	127.76

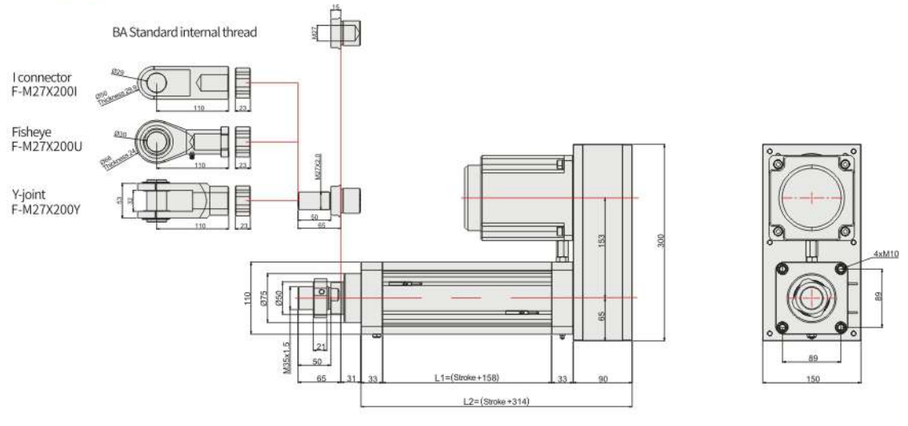


KDG110100-Folding - front lock type
KDG110100-BL07

Note: for the motor folding series, pay attention to the motor overheight within the stroke 100

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164	1214	1264	1314
Weight(Kg)	13.26	15.76	18.26	20.76	23.26	25.76	28.26	30.76	33.26	35.76	38.26	40.76	43.26	45.76	48.26	50.76	53.26	55.76	58.26	60.76

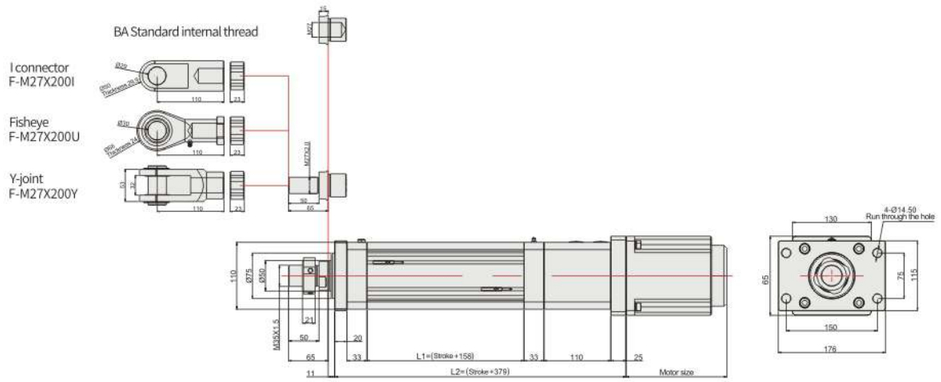


KDG110100-Direct connection - front flange
KDG110100-BC01

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1229	1279	1329	1379
Weight(Kg)	14.5	17	19.5	22	24.5	27	29.5	32	34.5	37	39.5	42	44.5	47	49.5	52	54.5	57	59.5	62

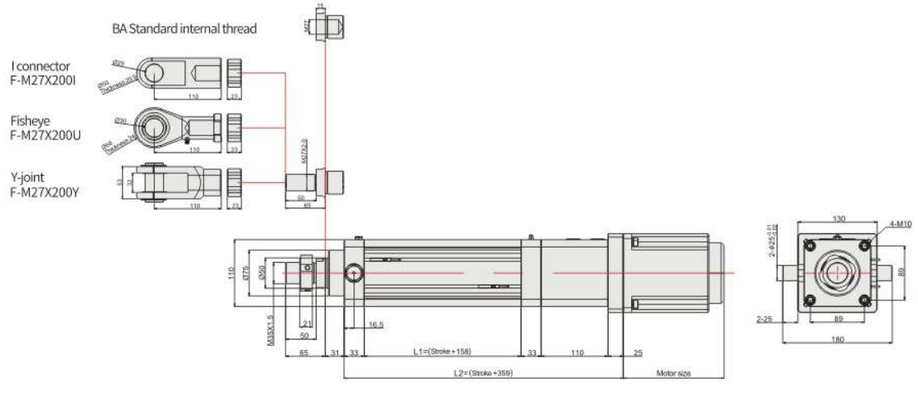


KDG110100-Direct connection - trunnion
KDG110100-BC03

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309	1359
Weight(Kg)	14.5	17	19.5	22	24.5	27	29.5	32	34.5	37	39.5	42	44.5	47	49.5	52	54.5	57	59.5	62

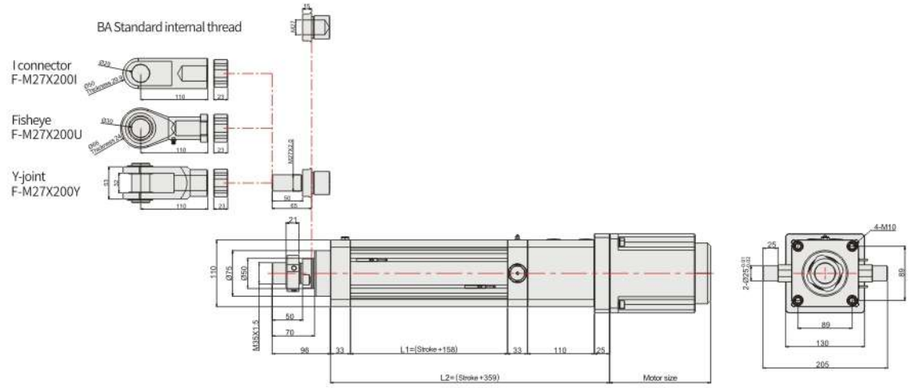


KDG110100-Direct connection - rear trunnion
KDG110100-BC03H

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309	1359
Weight(Kg)	14.5	17	19.5	22	24.5	27	29.5	32	34.5	37	39.5	42	44.5	47	49.5	52	54.5	57	59.5	62

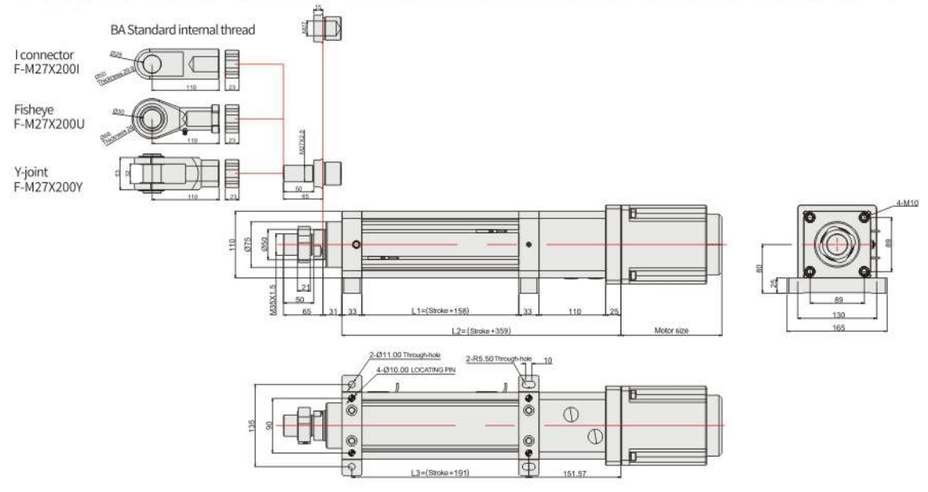


KDG110100-Direct connection - side flange
KDG110100-BC04

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309	1359
Weight(Kg)	12.84	15.34	17.84	20.34	22.84	25.34	27.84	30.34	32.84	35.34	37.84	40.34	42.84	45.34	47.84	50.34	52.84	55.34	57.84	60.34

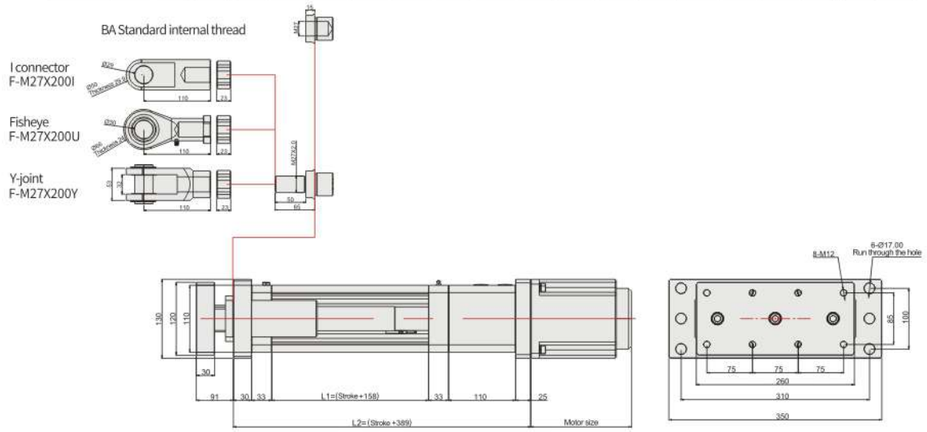


KDG110100Direct connection - guide pillar type
KDG110100-BC06

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	439	489	539	589	639	689	739	789	839	889	939	989	1039	1089	1139	1189	1239	1289	1339	1389
Weight(Kg)	24.14	29.54	34.94	40.34	45.74	51.14	56.54	61.94	67.34	72.74	78.14	83.54	88.94	93.94	99.74	105.14	110.54	115.94	121.34	126.74

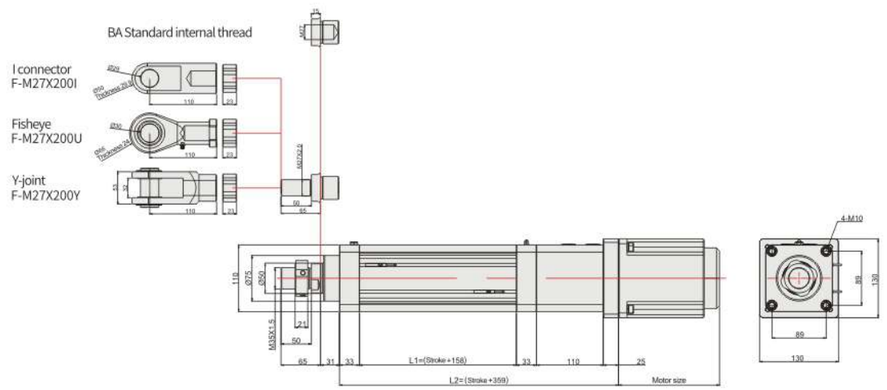


KDG110100Direct connection - front lock type
KDG110100-BC07

Note: when the motor mounting plate matches different motors, the size may change

Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
L1	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
L2	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309	1359
Weight(Kg)	12.24	14.74	17.24	19.74	22.24	24.74	27.24	29.74	32.24	34.74	37.24	39.74	42.24	44.74	47.24	49.74	52.24	54.74	57.24	59.74



MEMO

KDG4027
KDG4432
KDG5340
KDG6350
KDG7463
KDG9580
KDG110100

Basic Introduction of Servo Electric Cylinder

Principle of electric cylinder:

The electric cylinder converts the rotary motion of motor into the linear motion of push rod through the mechanical motion of the screw and lead screw pair. Using the closed-loop control characteristics of servo motor, it is easy to realize precise control of thrust, speed and position; applying the modern motion control technology, numerical control technology and bus (network) technology, the program-based, bus (network) control is realized. Due to the convenience of its control and use, it will realize the precise motion control that cannot be realized by cylinder and hydraulic cylinder transmission.

Features of electric cylinder:

KDG series electric cylinders adopt the advanced modular design methods and have the following significant features:

1. Compact structure, small outline size, convenient installation and use, simple maintenance, low noise, long life, and multiple safety protection measures.
2. Precise position control: the repeat positioning accuracy can reach ±0.01 mm, and even ±0.005 mm after adding an external displacement sensor.
3. Precise speed control: any speed waveform can be set to achieve high-speed, smooth and shock-free operation, and the control accuracy can reach 0.05%.
4. Precise thrust control: the control accuracy can reach 0.5% after adding an external push-pull force sensor.
5. The trapezoidal screw, ball screw and planetary needle roller screw transmission methods can be used.
6. The servo motor, stepping motor, DC motor and AC motor can be used to drive, servo and variable frequency control.

The relationship between motor output torque and electric cylinder output force:

$$F=T \times \eta \times 2\pi \times R / L$$

F: electric cylinder output force, unit: kN
T: motor output torque, unit: Nm
R: reduction ratio
L: screw lead, unit: mm
π: ratio of circumference to diameter
η: efficiency (generally choose the total efficiency of electric cylinder as 85%, but please note that the efficiency changes as the actual working conditions)

Life calculation of electric cylinder:

The service life of an electric cylinder generally refers to the life of screw inside the electric cylinder.
The life of electric cylinder can be divided into two parts:
The first is the theoretical fatigue life of electric cylinder, which can be calculated;
The second is the service life of electric cylinder, which is affected by the operating conditions (such as temperature, dust, type of lubricant used and frequency of regular refilling, etc.). The service life can often be calculated through experience. The following is the calculation method of fatigue life of electric cylinder:

$$L_{10} = (Ca / Fm)^3 \times L$$

L_{10} : electric cylinder life, unit: km

F_m : Average load borne by the electric cylinder, unit: kN

C_a : basic dynamic rated load of screw nut, unit: kN (it can be found from screw sample)

L: Screw lead, unit: mm

Definition of electric cylinder product model

KDA 134 - L 20 - 100 - BC 01 - T40 R15 JS1 - BA - N3 - D123

Special Order No.

Appearance series
134x134
140x140 (134 Heavy load)
180x180
190x190 (180 Heavy load)
240x240

Motor orientation

BC	Motor direct connection
BL	Motor bending

Motor rated speed

R10	1000rpm
R15	1500rpm
R20	2000rpm
R30	3000rpm

Accuracy

L	Standard accuracy
P	Precision-level

Lead

KDA134	10
KDA180	20
KDA240	

Stroke

KDA134	50~2000
KDA180	
KDA240	

Installation mode

01	Front flange
02	Rear flange
03	Trunnion
04	Side
05	Rear hinge
06	Guide pillar type
07	Front lock type

Motor Code

	T	40	
P	Panasonic servo	10 20 40 ...	100W 200W 400W ...
T	It generally refers to Mingzhi, Inovance, HCFA, Delta, Yaskawa, Mitsubishi and other		
B	Standard stepping motor	57/86	Stepping motor frame number

Reduction Ratio

1	1:1
3	3:1
5	5:1
	.....

Reduced load connecting method

BA	Standard internal thread
FM	Standard external thread
P	Fisheye
Y	Y-joint
Y1	I connector

Note: when the thread specification is inconsistent with the sample, the push rod is treated as a non-standard part

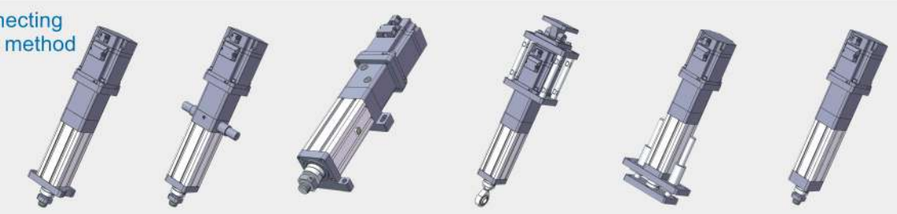
Travel Switch

T	Two-wire (NPN/PNP universal)
N	NPN N/O
NB	NPN N/C
P	PNP N/O
PB	PNP N/C
E	Without sensor

Number of sensors

3	Standard configuration: 3 pieces
0	Without sensor

Direct connecting installation method



Folding installation method

Shaft end load connecting method

KDA134 Series Standard Configuration Parameters

Basic parameters

Cylinder OD	134x134mm
Cylinder ID	Φ120mm
Screw typp	Ball screw
Allowable maximum thrust	⩽80kN
Stroke range	⩽2000mm
Allowable maximum speed	⩽500mm/s

Basic configuration

Screw diameter	50mm
Screw slenderness ratio	1:50
Screw lead	20mm
Synchronous wheel speed ratio	1
	1.5
	2
Matching motor	180-frame servo
Matching reducer	115-frame servo
	142-frame servo

Stress and accuracy

Bearings	Cr(kN)	115	
	Cor(kN)	147	
Screw rod	Ca(kN)	20mm	71.42
	Coa(kN)	20mm	225.88
Screw accuracy level		C5	C7
Repeated positioning accuracy		±0.01	±0.02
Piston rod rotation angle		±0.3°	
Magnet ring switch		DFGH	

※ When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

Force and speed:

Rated thrust = motor torque × 2π × reduction ratio ÷ lead × efficiency (85%)
Rated speed = motor speed × lead ÷ reduction ratio ÷ 60

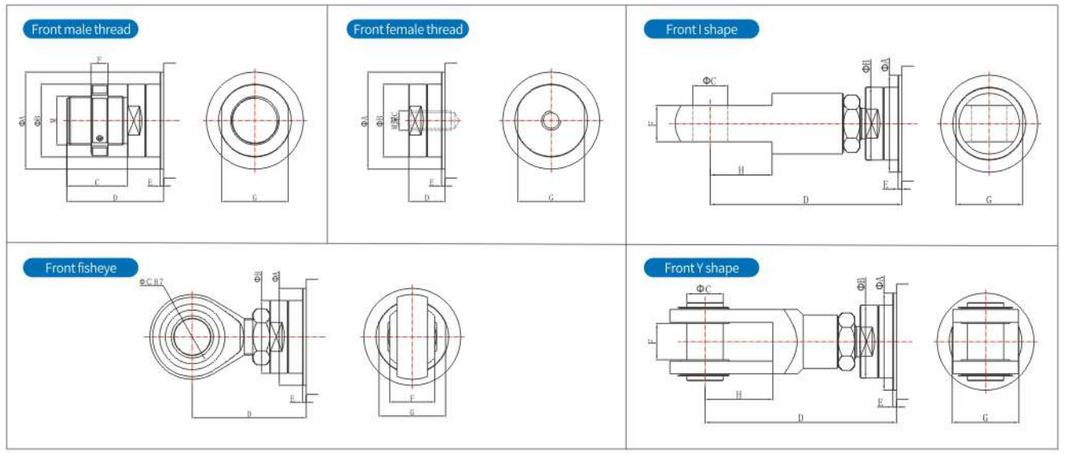
Motor power		4500W (180 frame)		5500W (180 frame)		7500W (180 frame)	
Rated speed		1500 rpm		1500 rpm		1500 rpm	
Rated torque		28.65 N.m		35.01 N.m		47.75 N.m	
Reduction Ratio	Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
Synchronous wheel speed ratio 1	20	7.65	500	9.34	500	12.74	500
Synchronous wheel speed ratio 1.5	20	11.47	333	14.02	333	19.11	333
Synchronous wheel speed ratio 2	20	15.29	250	18.69	250	25.49	250
Reducer Ratio 3	20	22.94	166.67	28.03	166.67	38.23	166.67
Reducer Ratio 4	20	30.58	125	37.38	125	50.97	125
Reducer Ratio 5	20	38.23	100	46.72	100	63.72	100
Reducer Ratio 6	20	45.88	83.33	56.07	83.33	76.46	83.33
Reducer Ratio 7	20	53.52	71.43	65.41	71.43	89.2	71.43
Reducer Ratio 8	20	61.17	62.5	74.76	62.5	-	-

The motors equipped above are standard motor frame numbers that can be equipped without adding a reducer. After adding a reducer, the applicable motor frame numbers are more extensive. Due to limited space, the speed ratio of many reducers is not marked. If you need to know other configuration parameters, please consult our staff.

Direct-connecting servo electric cylinder

Folding servo electric cylinder

KDA134-Dimensional Diagram of Front Connection Method

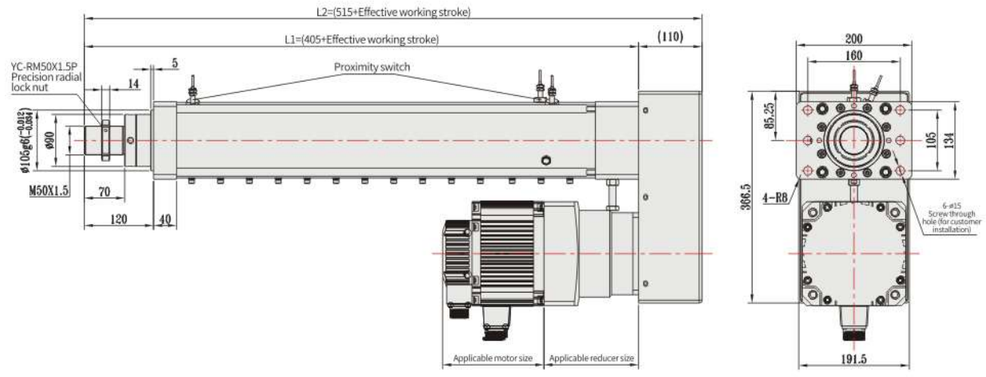


Load Type	ΦA	ΦB	ΦC	C	D	E	F	H	G	M
Front male thread	Φ110	Φ90	-	70	120	10	14	-	-	M50x2
Front female thread	Φ110	Φ90	-	45	50	10	-	-	-	M30x1.5
Front I shape	Φ110	Φ90	Φ40	-	245	10	40	85	-	-
Front fisheye	Φ110	Φ90	Φ50	-	165	10	60	-	-	-
Front Y shape	Φ110	Φ90	Φ40	-	245	10	40.3	86	85	-

KDA134-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

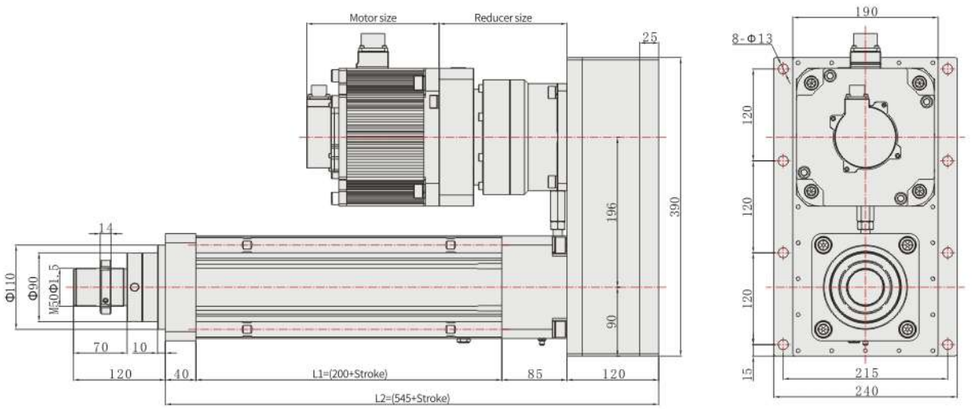
KDA134-R01 Dimensional Diagram of Flange before Folding



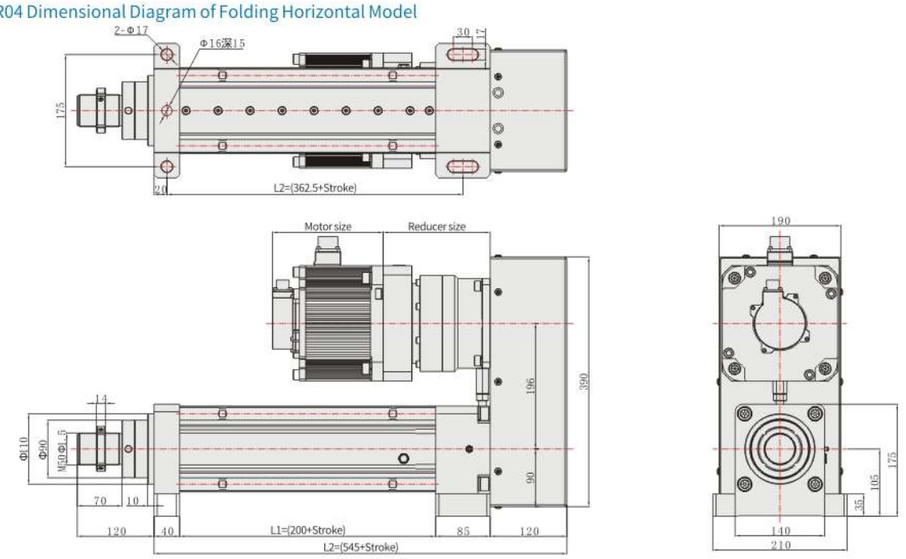
KDA134-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA134-R02 Dimensional Diagram of Flange after Folding



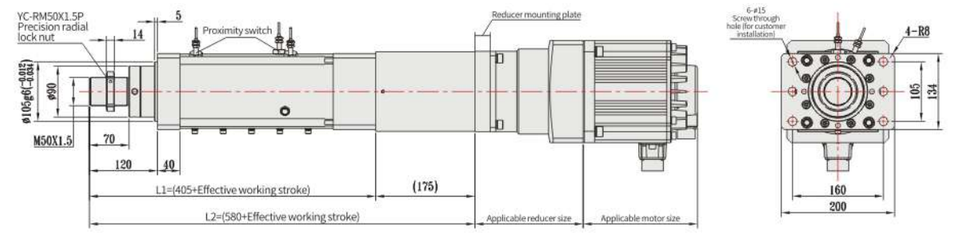
KDA134-R04 Dimensional Diagram of Folding Horizontal Model



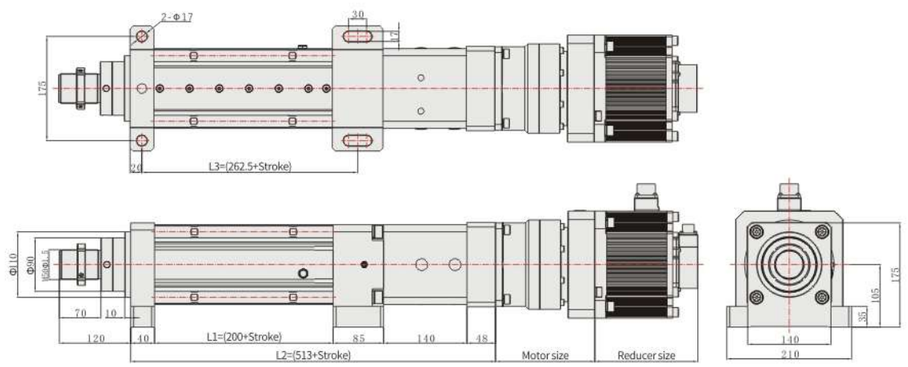
KDA134-Dimensional Diagram Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA134-L01 Dimensional Diagram of Direct Connecting Front Flange



KDA134-L04 Dimensional Diagram of Direct Connecting Horizontal Model



KDA190 Series Standard Configuration Parameters

Basic parameters

Cylinder OD	195x195mm
Cylinder ID	Φ160mm
Screw typp	Ball screw
Allowable maximum thrust	⩽200kN
Stroke range	⩽2000mm
Allowable maximum speed	⩽500mm/s

Basic configuration

Screw diameter	63mm
Screw slenderness ratio	1:50
Screw lead	20mm
Synchronous wheel speed ratio	1
	1.5
Matching motor	180-frame servo
Matching reducer	142-frame servo
	180-frame servo

Stress and accuracy

Bearings	Cr(kN)	226	
	Cor(kN)	303	
Light load Screw rod	Ca(kN)	20mm	114.4
	Coa(kN)	20mm	366.5
Heavy load Screw rod	Ca(kN)	20mm	326.2
	Coa(kN)	20mm	774.7
Screw accuracy level		C5	C7
Repeated positioning accuracy		±0.01	±0.02
Piston rod rotation angle		±0.3°	
Magnet ring switch		DFGH	

※ When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

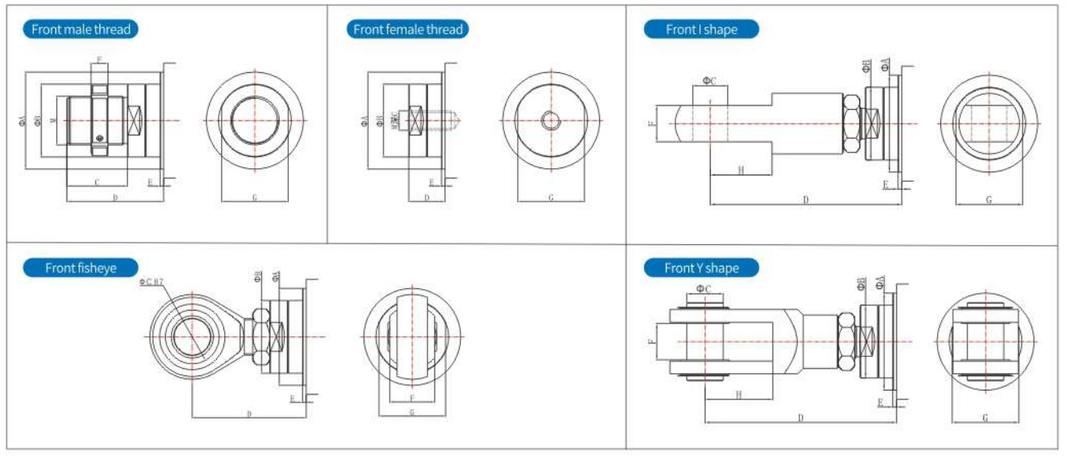
Force and speed:

Rated thrust = motor torque × 2π × reduction ratio ÷ lead × efficiency (85%)
Rated speed = motor speed × lead ÷ reduction ratio ÷ 60

Motor power			4500W (180 frame)		5500W (180 frame)		7500W (180 frame)	
Rated speed			1500 rpm		1500 rpm		1500 rpm	
Rated torque			28.65 N.m		35.01 N.m		47.75 N.m	
Reduction Ratio		Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
Synchronous wheel speed ratio	1	20	7.65	500	9.34	500	12.74	500
	1.5	20	11.47	333	14.02	333	19.11	333
Reducer Ratio	3	20	22.94	166.67	28.03	166.67	38.23	166.67
	4	20	30.58	125	37.38	125	50.97	125
	5	20	38.23	100	46.72	100	63.72	100
	6	20	45.88	83.33	56.07	83.33	76.46	83.33
	7	20	53.52	71.43	65.41	71.43	89.2	71.43
	8	20	61.17	62.5	74.76	62.5	101.95	62.5

The motors equipped above are standard motor frame numbers that can be equipped without adding a reducer. After adding a reducer, the applicable motor frame numbers are more extensive. Due to limited space, the speed ratio of many reducers is not marked. If you need to know other configuration parameters, please consult our staff.

KDA190-Dimensional Diagram of Front Connection Method

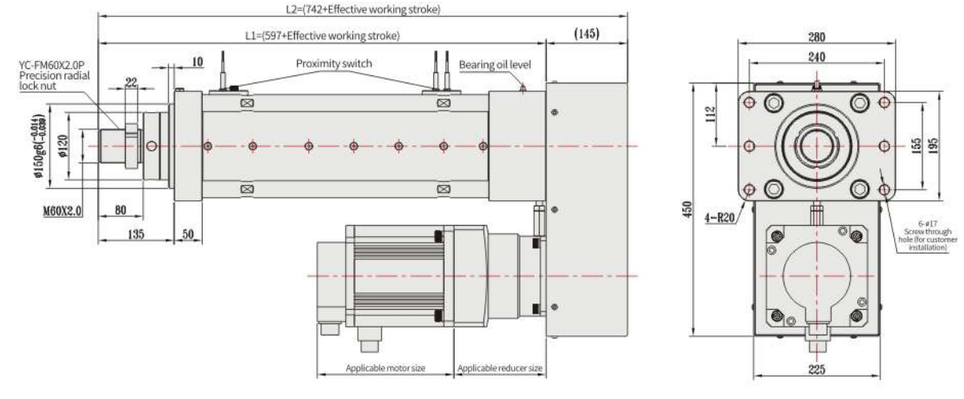


Load Type	ΦA	ΦB	ΦC	C	D	E	F	H	G	M
Front male thread	Φ150	Φ120	-	80	135	10	16	-	-	M60x2
Front female thread	Φ150	Φ120	-	45	55	10	-	-	-	M40x1.5
Front I shape	-	-	-	-	-	-	-	-	-	-
Front fisheye	-	-	-	-	-	-	-	-	-	-
Front Y shape	-	-	-	-	-	-	-	-	-	-

KDA190-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

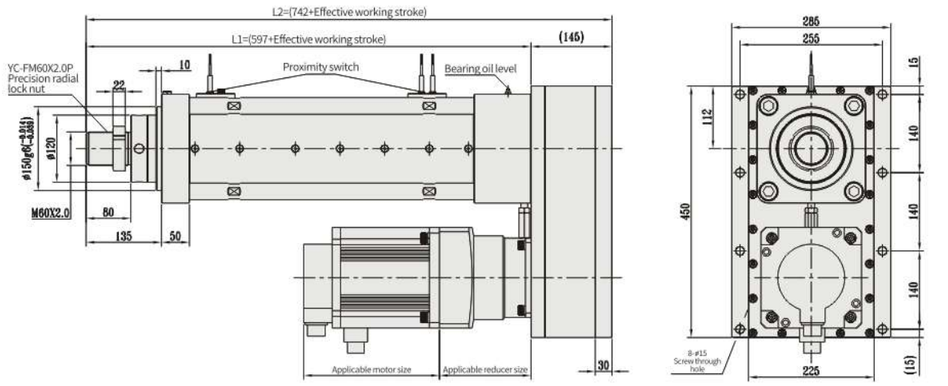
KDA190-R01 Dimensional Diagram of Flange before Folding



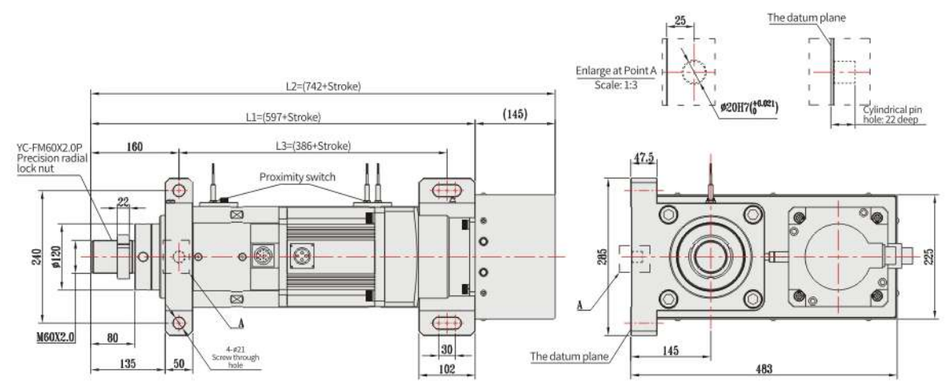
KDA190-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA190-R02 Dimensional Diagram of Flange after Folding



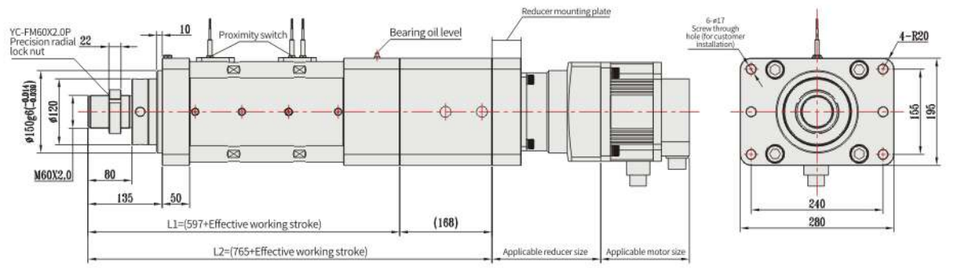
KDA190-R04 Dimensional Diagram of Folding Horizontal Model



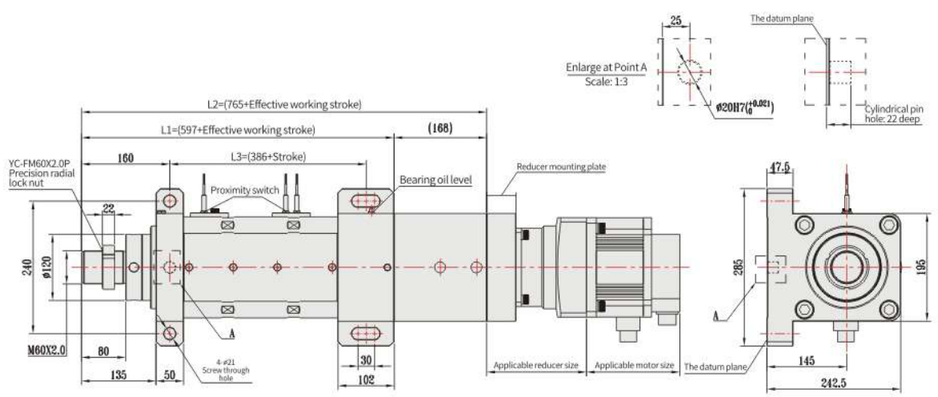
KDA190-Dimensional Diagram Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA190-L01 Dimensional Diagram of Direct Connecting Front Flange



KDA190-L04 Dimensional Diagram of Direct Connecting Horizontal Model



KDA240 Series Standard Configuration Parameters

Basic parameters

Cylinder OD	245x245mm
Cylinder ID	Φ180mm
Screw typp	Ball screw
Allowable maximum thrust	⩽300kN
Stroke range	⩽2000mm
Allowable maximum speed	⩽500mm/s

Basic configuration

Screw diameter	80mm
Screw slenderness ratio	1:50
Screw lead	20mm
Synchronous wheel speed ratio	1
	1.5
Matching motor	180-frame servo
Matching reducer	180-frame servo
	220-frame servo

Stress and accuracy

Bearings	Cr(kN)	345	
	Cor(kN)	480	
Light load Screw rod	Ca(kN)	20mm	129.11
	Coa(kN)	20mm	477.47
Heavy load Screw rod	Ca(kN)	20mm	-
	Coa(kN)	20mm	-
Screw accuracy level		C5	C7
Repeated positioning accuracy		±0.01	±0.02
Piston rod rotation angle		±0.3°	
Magnet ring switch		DFGH	

※ When the DmN value of the screw exceeds 50000, please contact the manufacturer for technical confirmation

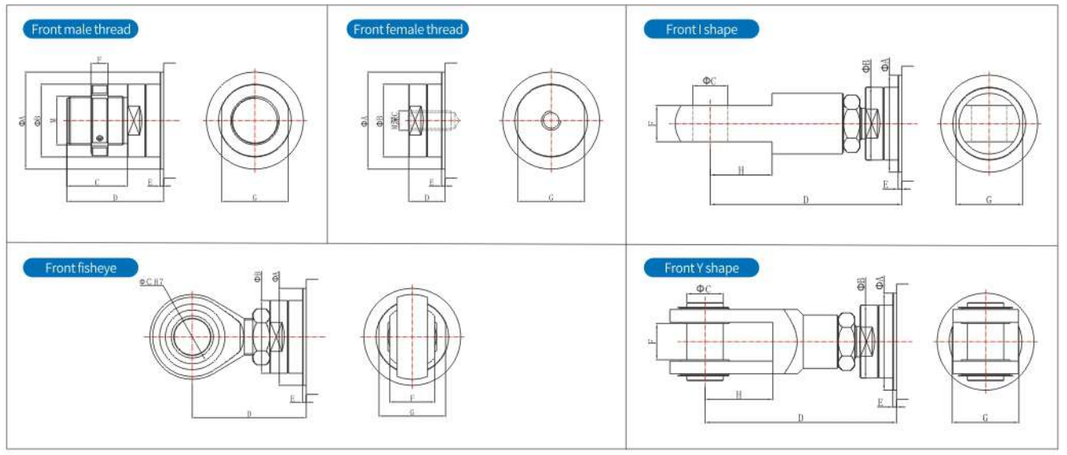
Force and speed:

Rated thrust = motor torque × 2π × reduction ratio ÷ lead × efficiency (85%)
Rated speed = motor speed × lead ÷ reduction ratio ÷ 60

Motor power			4500W (180 frame)		5500W (180 frame)		7500W (180 frame)	
Rated speed			1500 rpm		1500 rpm		1500 rpm	
Rated torque			28.65 N.m		35.01 N.m		47.75 N.m	
Reduction Ratio		Lead (mm)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)	Rated thrust (kN)	Rated speed (mm/s)
Synchronous wheel speed ratio	1	20	7.65	500	9.34	500	12.74	500
	1.5	20	11.47	333	14.02	333	19.11	333
Reducer Ratio	3	20	22.94	166.67	28.03	166.67	38.23	166.67
	4	20	30.58	125	37.38	125	50.97	125
	5	20	38.23	100	46.72	100	63.72	100
	6	20	45.88	83.33	56.07	83.33	76.46	83.33
	7	20	53.52	71.43	65.41	71.43	89.2	71.43
	8	20	61.17	62.5	74.76	62.5	101.95	62.5

The motors equipped above are standard motor frame numbers that can be equipped without adding a reducer. After adding a reducer, the applicable motor frame numbers are more extensive. Due to limited space, the speed ratio of many reducers is not marked. If you need to know other configuration parameters, please consult our staff.

KDA240-Dimensional Diagram of Front Connection Method

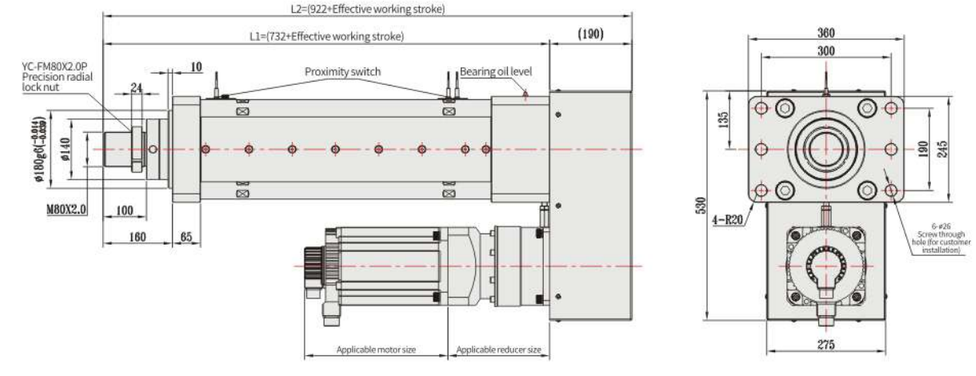


Load Type	ΦA	ΦB	ΦC	C	D	E	F	H	G	M
Front male thread	Φ180	Φ140	-	100	160	10	18	-	-	M80x2
Front female thread	Φ180	Φ140	-	50	60	10	-	-	-	M50x1.5
Front I shape	-	-	-	-	-	-	-	-	-	-
Front fisheye	-	-	-	-	-	-	-	-	-	-
Front Y shape	-	-	-	-	-	-	-	-	-	-

KDA240-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

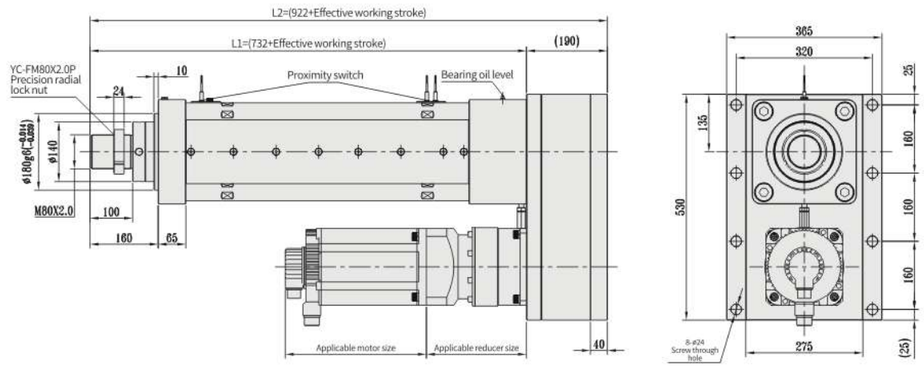
KDA240-R01 Dimensional Diagram of Flange before Folding



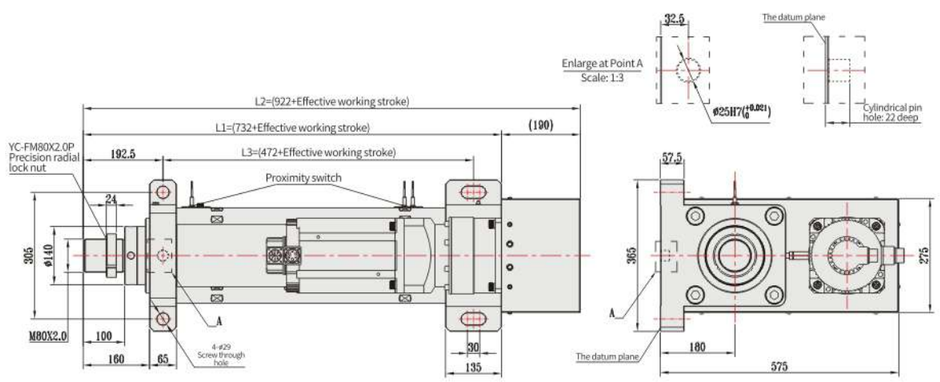
KDA240-Standard Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA240-R02 Dimensional Diagram of Flange after Folding



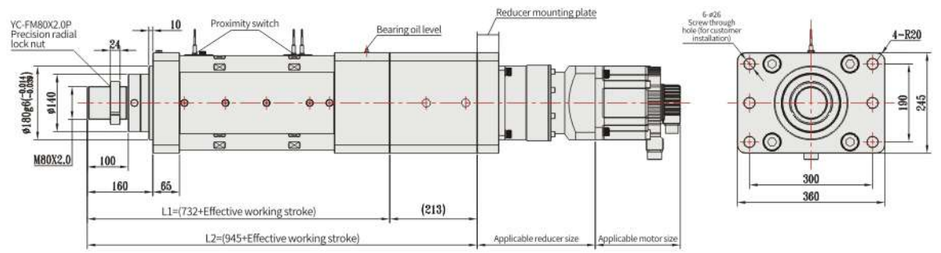
KDA240-R04 Dimensional Diagram of Folding Horizontal Model



KDA240-Dimensional Diagram Dimensional Diagram of Folding Series

Note: when the motor mounting plate matches different motors, the size may change

KDA240-L01 Dimensional Diagram of Direct Connecting Front Flange



KDA240-L04 Dimensional Diagram of Direct Connecting Horizontal Model