



Modular Robotic System



Features

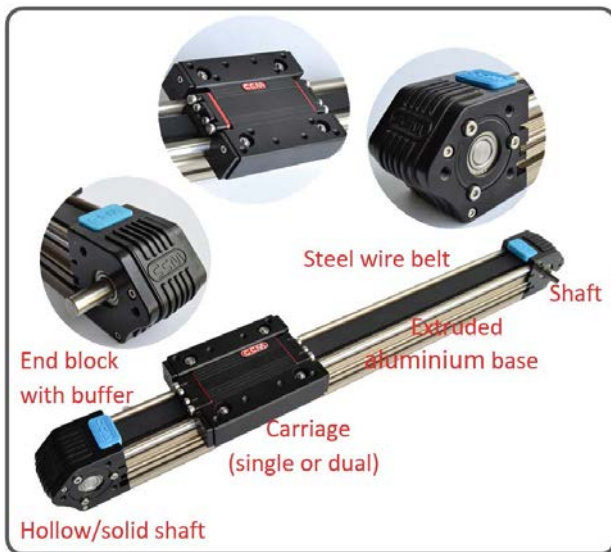
- Complete Cartesian / Gantry system
- Precision modules and accessories
- Stepper and servo motor adapters
- Fast and easy assembly
- Module lengths 300 ~ 6000mm
- High rigidity and linearity
- Dust and corrosion resistant
- Fast, quiet, smooth operation
- Self-cleaning function
- Designed for reliability & durability
- Warranty up to 5 years

Applications

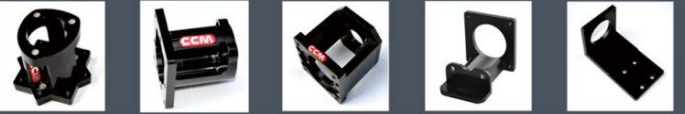
- X, X-Y, X-Z and X-Y-Z robots
- Pick and place gantries
- Robotic arm add-on / extension
- 3D printers and CNC routers
- Applicator, sensor, probe adjustment
- Automated assembly lines
- Inspection and measuring systems
- Adjustable assembly / welding jigs
- End-of-line and packaging machines
- Laser engraving, etching and cutting
- Cut to length feeders & much more



System Components



Motor Brackets



Speed Reducers



Structural Attachments



Other Parts



Auxiliary Components



Belt speed reducers



Steel couplings and shafts



Servo/stepper motor adapters



XYZ interlocking brackets



Mounting Accessories

Common Structures and Configurations

1

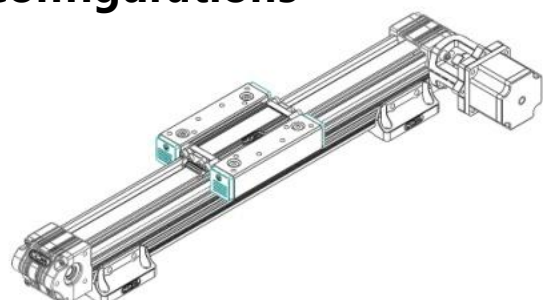
Standard Module x 1

Carriage x 1

Rail Mount x 2

Standard Mode : Motor Mount/Bracket x 1 , Coupler x 1

(Speed Reducing Mode : Speed Reducer Set x 1)

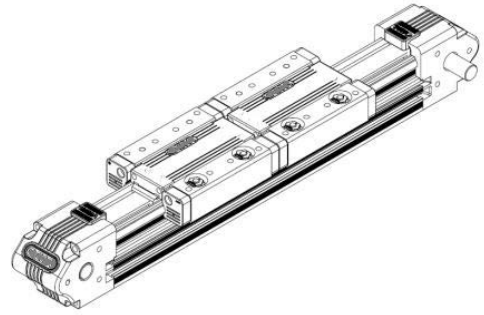


2

Standard Module x 1

Carriage x 2

Rail Mount x 2



Standard Mode : Motor Mount/Bracket x 1 , Coupler x 1

(Speed Reducing Mode : Speed Reducer Set x 1)

3

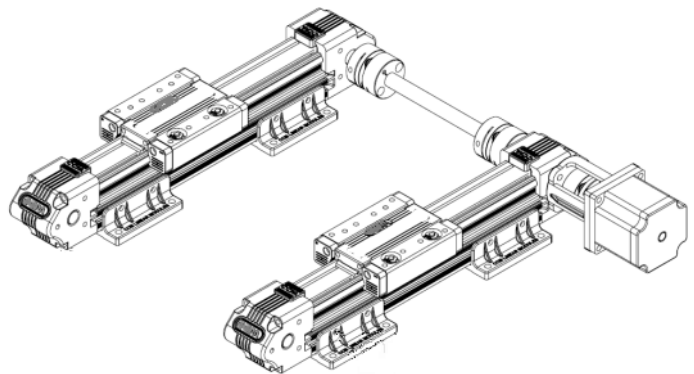
Standard Module x 2

Carriage x 2

Rail Mount x 4

Rod D12mm x 1

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 1 , Coupler x 1

(Speed Reducing Mode : Speed Reducer Set x 1)

4

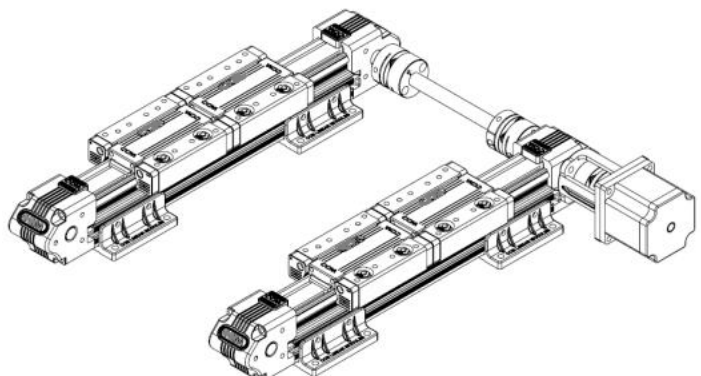
Standard Module x 2

Carriage x 4

Rail Mount x 4

Rod D12mm x 1

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 1 , Coupler x 1

(Speed Reducing Mode : Speed Reducer Set x 1)

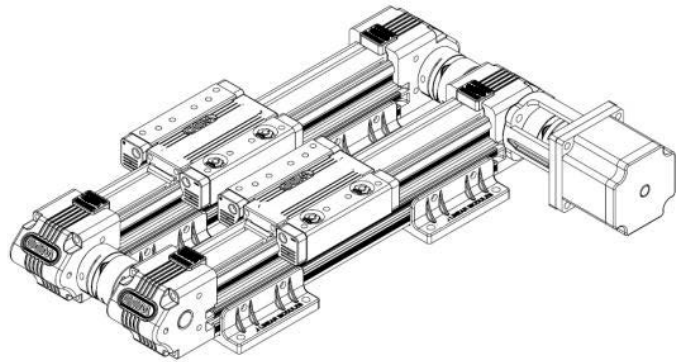
5

Standard Module x 2

Carriage x 2

Rail Mount x 4

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 1 , Coupler x 1

(Speed Reducing Mode : Speed Reducer Set x 1)



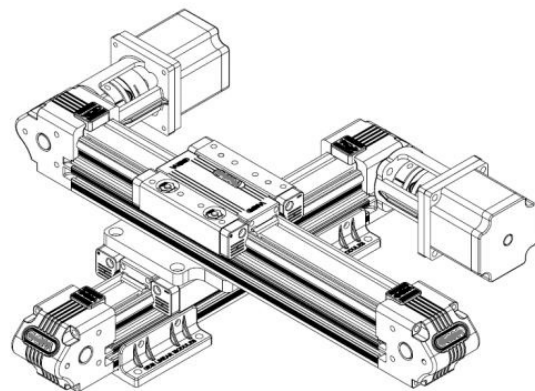
6

Standard Module x 2

Carriage x 2

Rail Mount x 2

T-Shape Connector x 1



Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)

7

Standard Module x 2

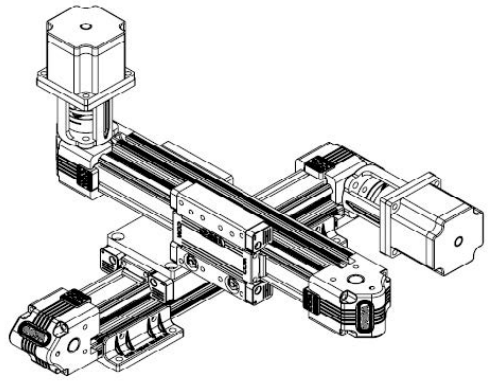
Carriage x 2

L-Shape Connector x 1

Rail Mount x 2

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



8

Standard Module x 3

Carriage x 3

T-Shape Connector x 2

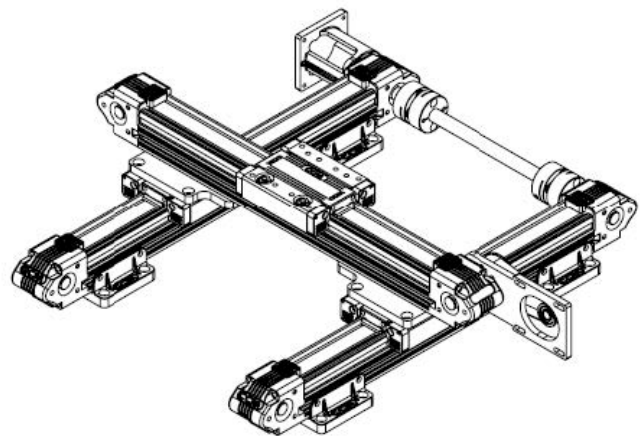
Rail Mount x 4

Rod D12mm x 1

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



9

Standard Module x 3

Carriage x 4

Rail Mount x 4

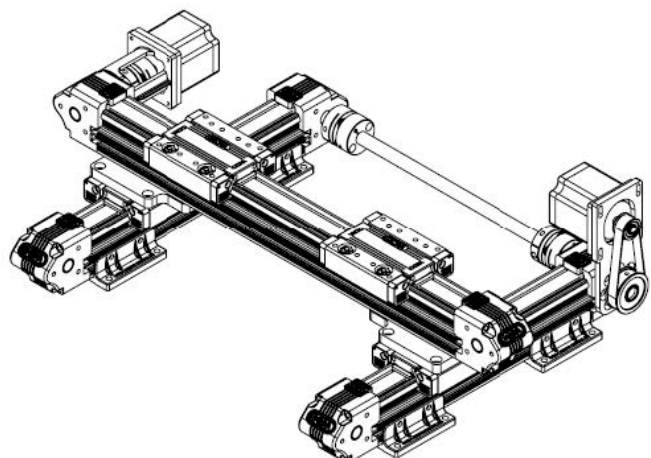
T-Shape Connector x 2

Rod D12mm x 1

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



10

Standard Module x 3

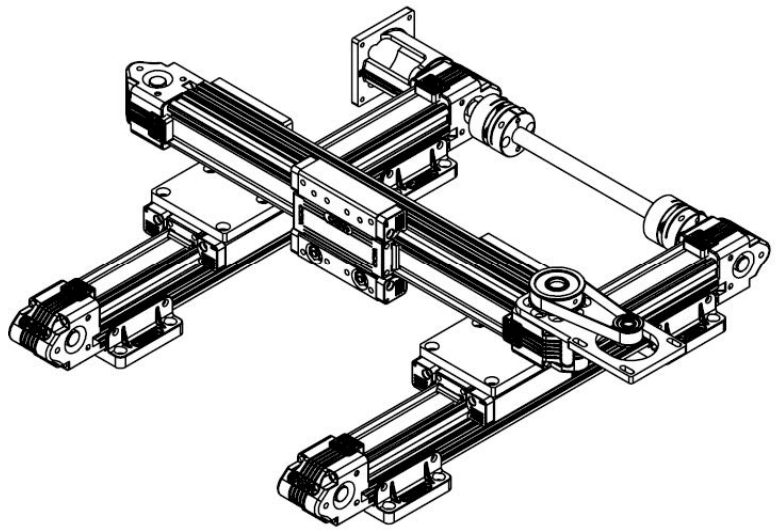
Carriage x 3

Rail Mount x 4

L-Shape Connector x 2

Rod D12mm x 1

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)

11

Standard Module x 4

Carriage x 4

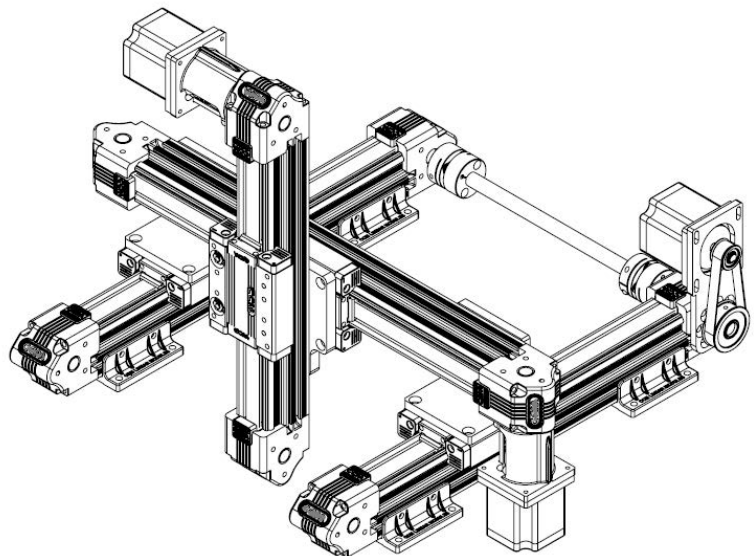
Rail Mount x 4

Rod D12mm x 1

T-Shape Connector x 1

L-Shape Connector x 2

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)

12

Standard Module x 3

Carriage x 3

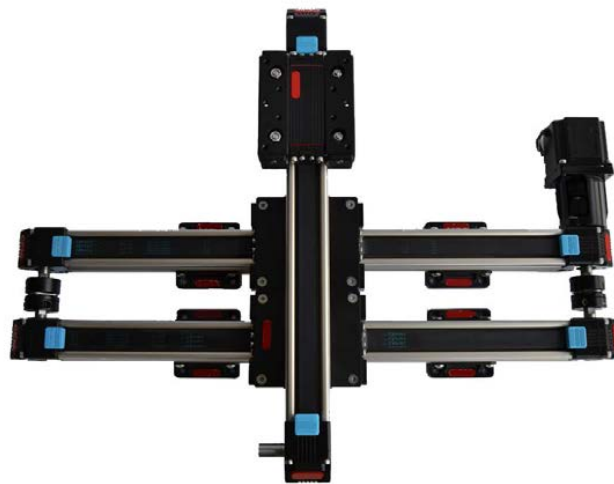
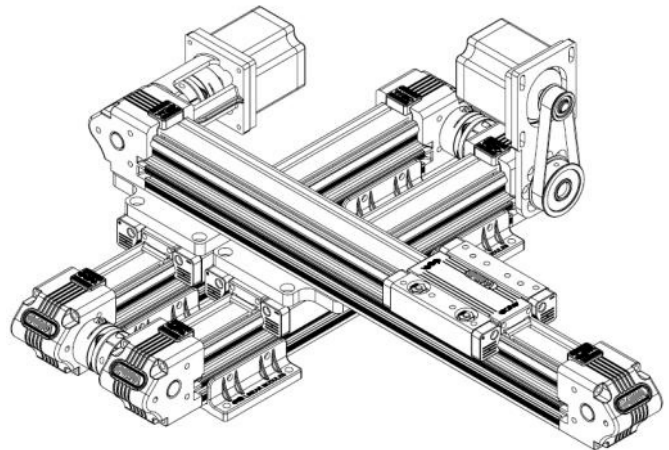
Rail Mount x 4

T-Shape Connector x 2

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



13

Standard Module x 3

Carriage x 3

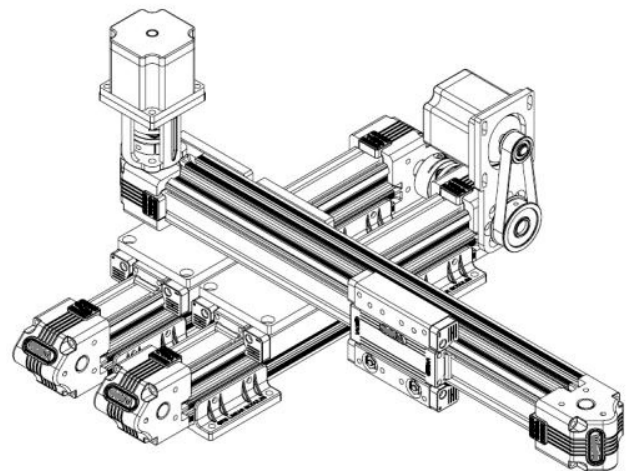
Rail Mount x 4

L-Shape Connector x 2

Coupler 12-12 x 1

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



14

Standard Module x 4

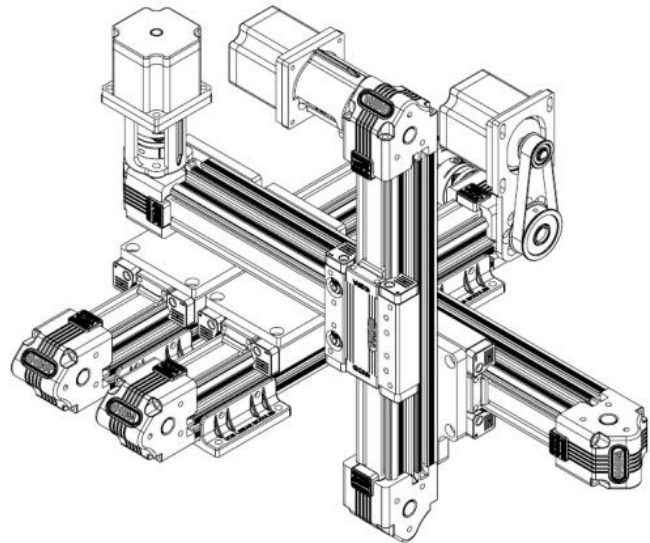
Carriage x 4

Rail Mount x 4

T-Shape Connector x 1

L-Shape Connector x 2

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)

15

Standard Module x 3

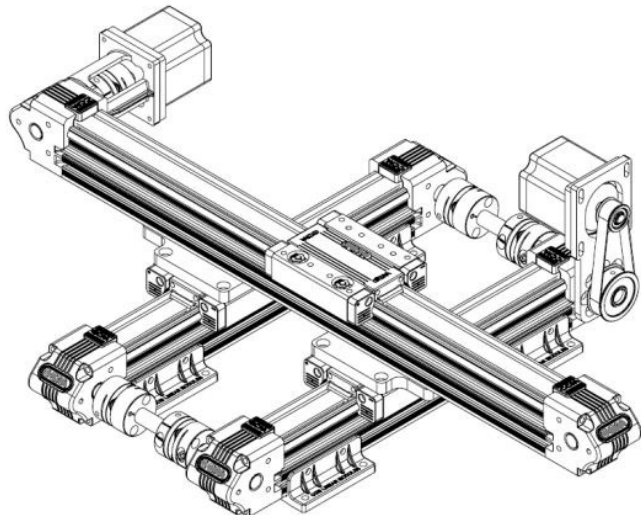
Carriage x 3

Rail Mount x 4

T-Shape Connector x 2

Rod D12mm x 2

Coupler 12-12 x 2



Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)

16

Standard Module x 3

Carriage x 3

Rail Mount x 4

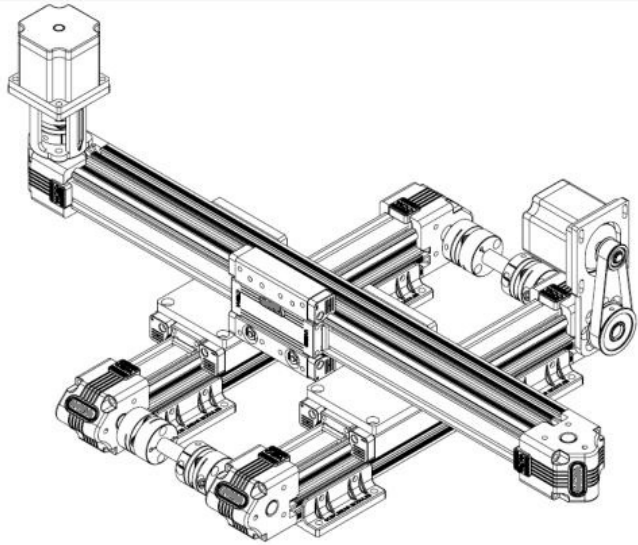
Rod D12mm x 2

L-Shape Connector x 2

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set*2)



17

Standard Module x 2

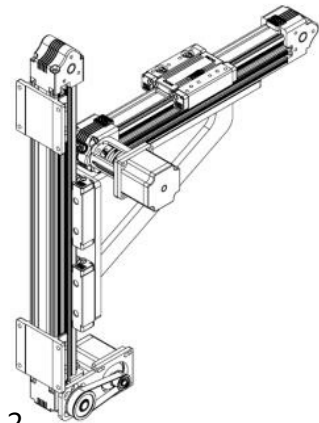
Carriage x 3

Rail Mount x 2

Tripod x 1

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



18

Standard Module x 4

Carriage x 6

Rail Mount x 4

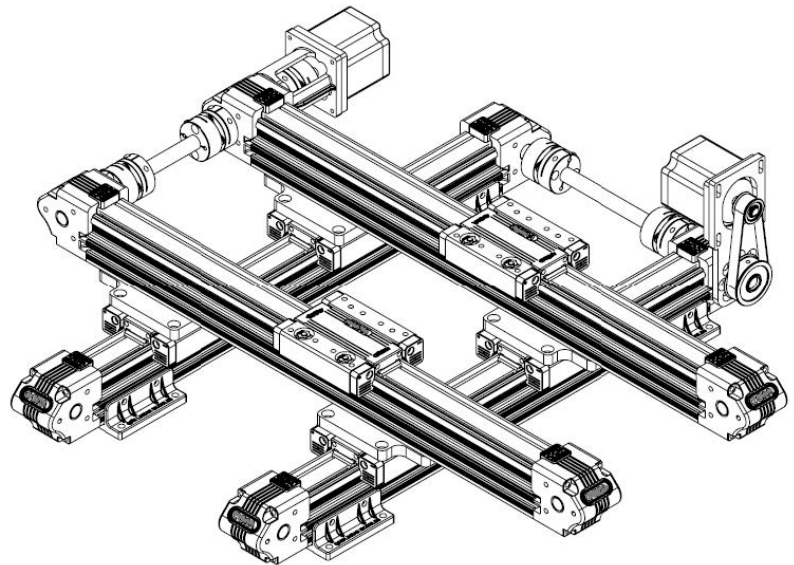
T-Shape Connector x 4

Rod D12mm x 2

Coupler 12-12 x 4

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



19

Standard Module x 4

Carriage x 8

Rail Mount x 4

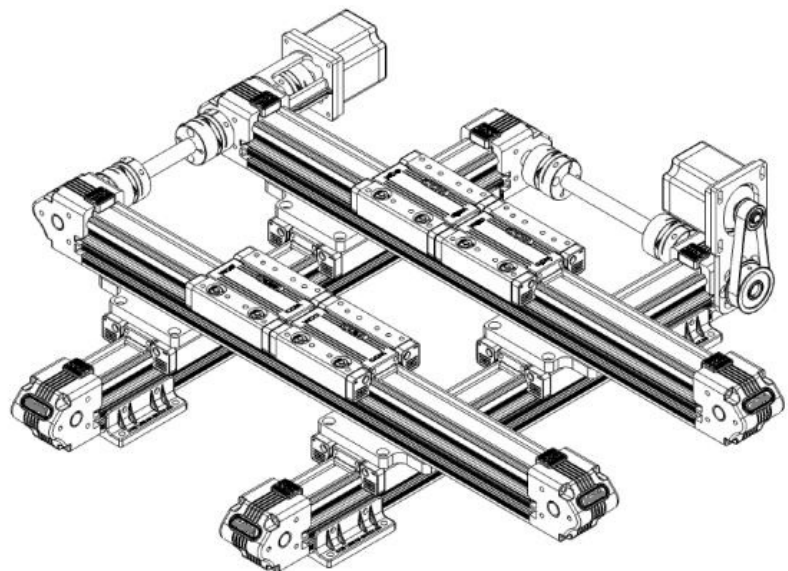
T-Shape Connector x 4

Rod D12mm x 2

Coupler 12-12 x 4

Standard Mode : Motor Mount/Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 2)



20

Standard Module x 5

Carriage x 7

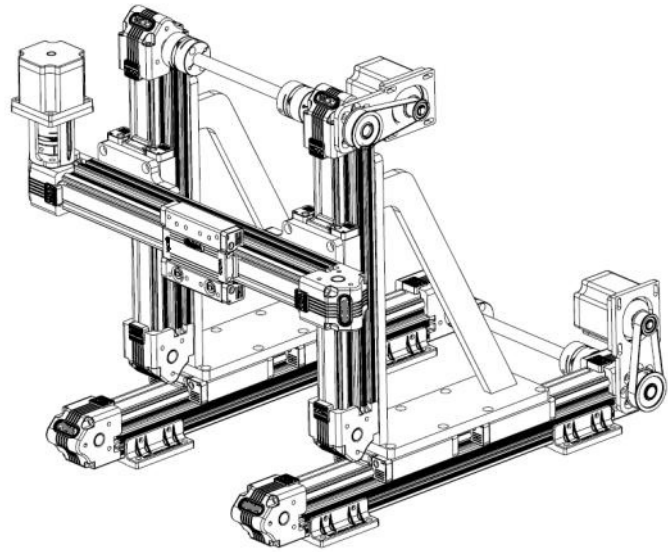
Rail Mount x 4

Rod D12mm x 2

T-Shape Connector x 2

Tripod x 2

Coupler 12-12 x 4



Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)

21

Standard Module x 3

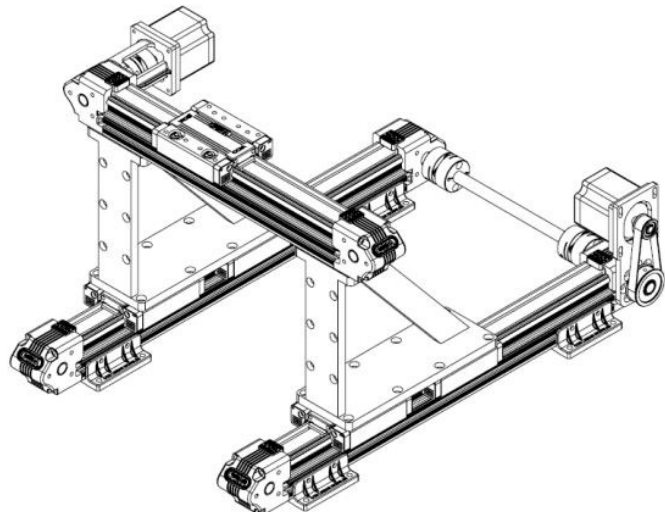
Carriage x 5

Rod D12mm x 1

Rail Mount x 4

Tripod x 2

Coupler 12-12 x 2



Standard Mode : Motor Mount / Bracket x 2 , Coupler x 2

(Speed Reducing Mode : Speed Reducer Set x 3)

22

Standard Module x 4

Carriage x 6

Rod D12mm x 1

Rail Mount x 4

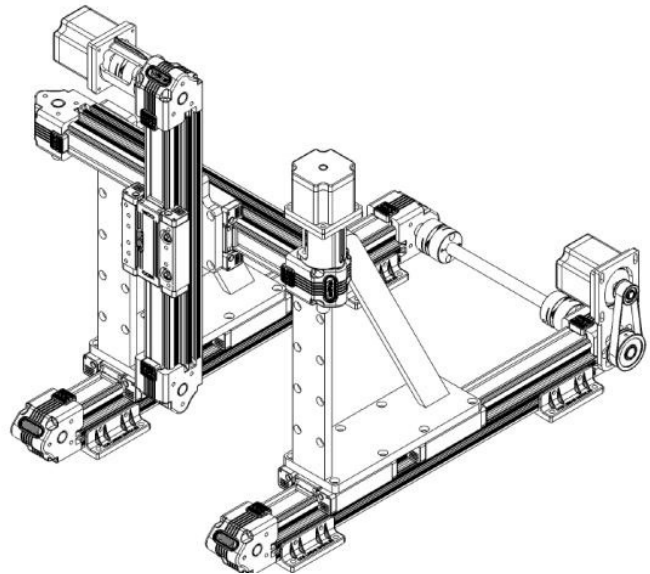
T-Shape Connector x 1

Tripod x 2

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)



23

Standard Module x 5

Carriage x 7

Rod D12mm x 1

Rail Mount x 4

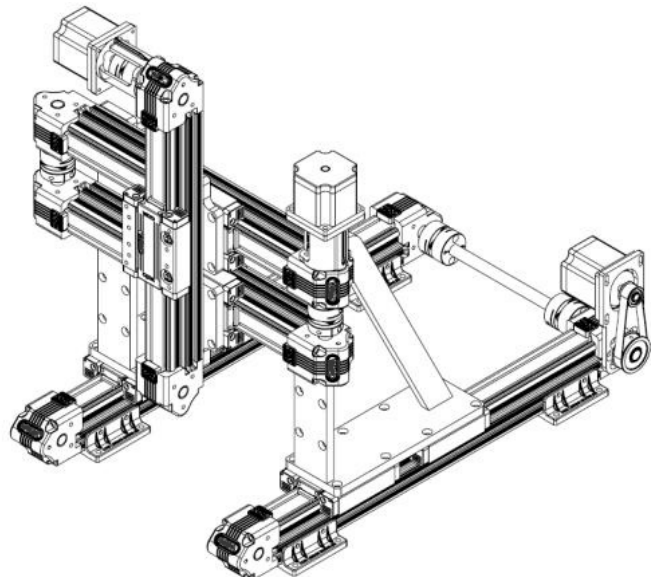
T-Shape Connector x 2

Tripod x 2

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)



24

Standard Module x 3

Ball-screw module x 1

Carriage x 4

Rod D12mm x 1

Rail Mount x 4

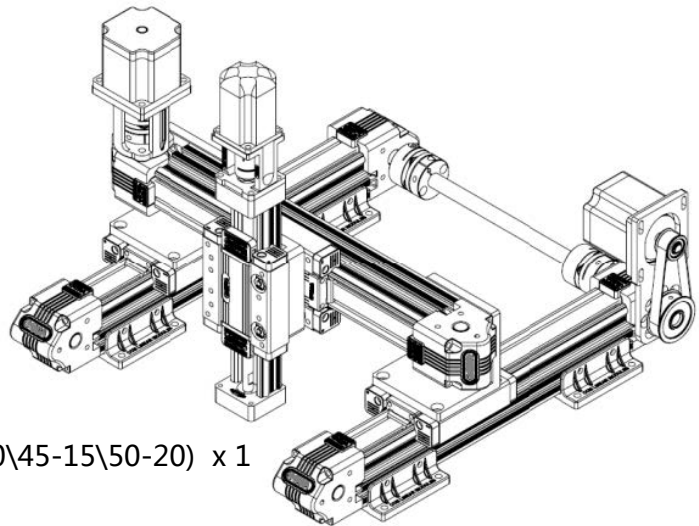
S35 conector (suitable for Sizes 40-10\45-15\50-20) x 1

L-Shape Connector x 2

Coupler 12-12 x 2

Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)



25

Standard Module x 3

Carriage x 3

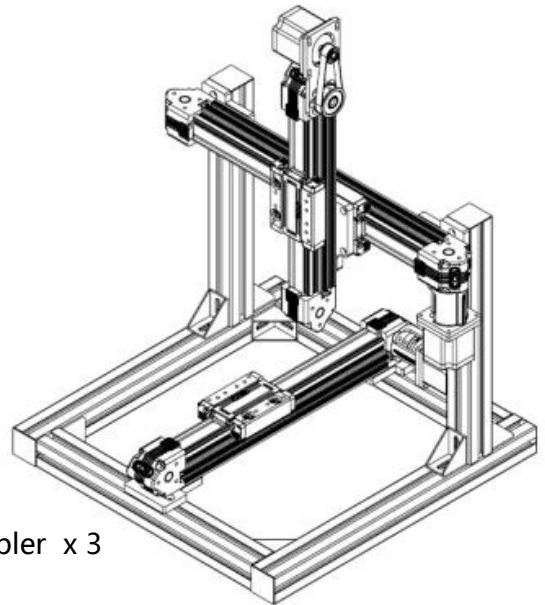
Customized T-Shape Connector x 4

T-Shape Connector x 1

Aluminum Frame x 1

Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)



26

Standard Module x 4

Carriage x 4

Customized T-Shape Connector x 2

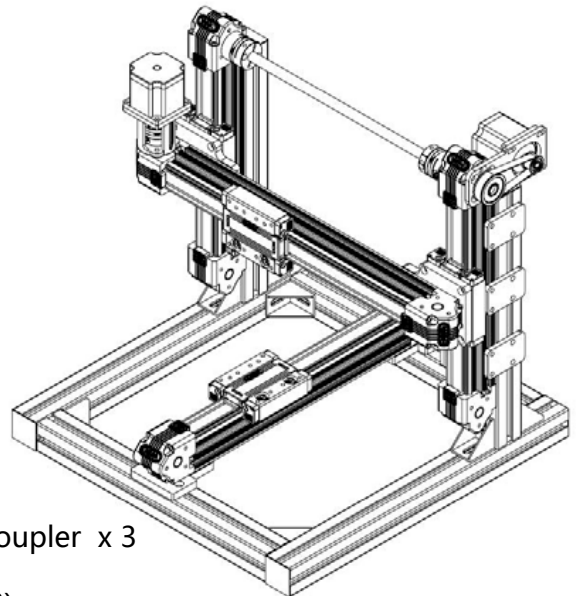
T-Shape Connector x 2

Z Axis mount x 6

Aluminum Frame x 1

Standard Mode : Motor Mount/Bracket x 3 , Coupler x 3

(Speed Reducing Mode : Speed Reducer Set x 3)



T / TX-series Rod-type Belt Modules

Designed for rapid rod positioning

Optional motorized end-effector

Applications:

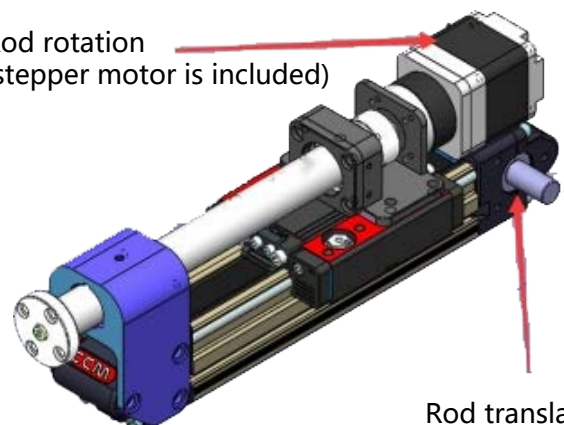
Sensor / camera adjustment

Applicator / dispenser positioning

Ejector / diverter mechanisms

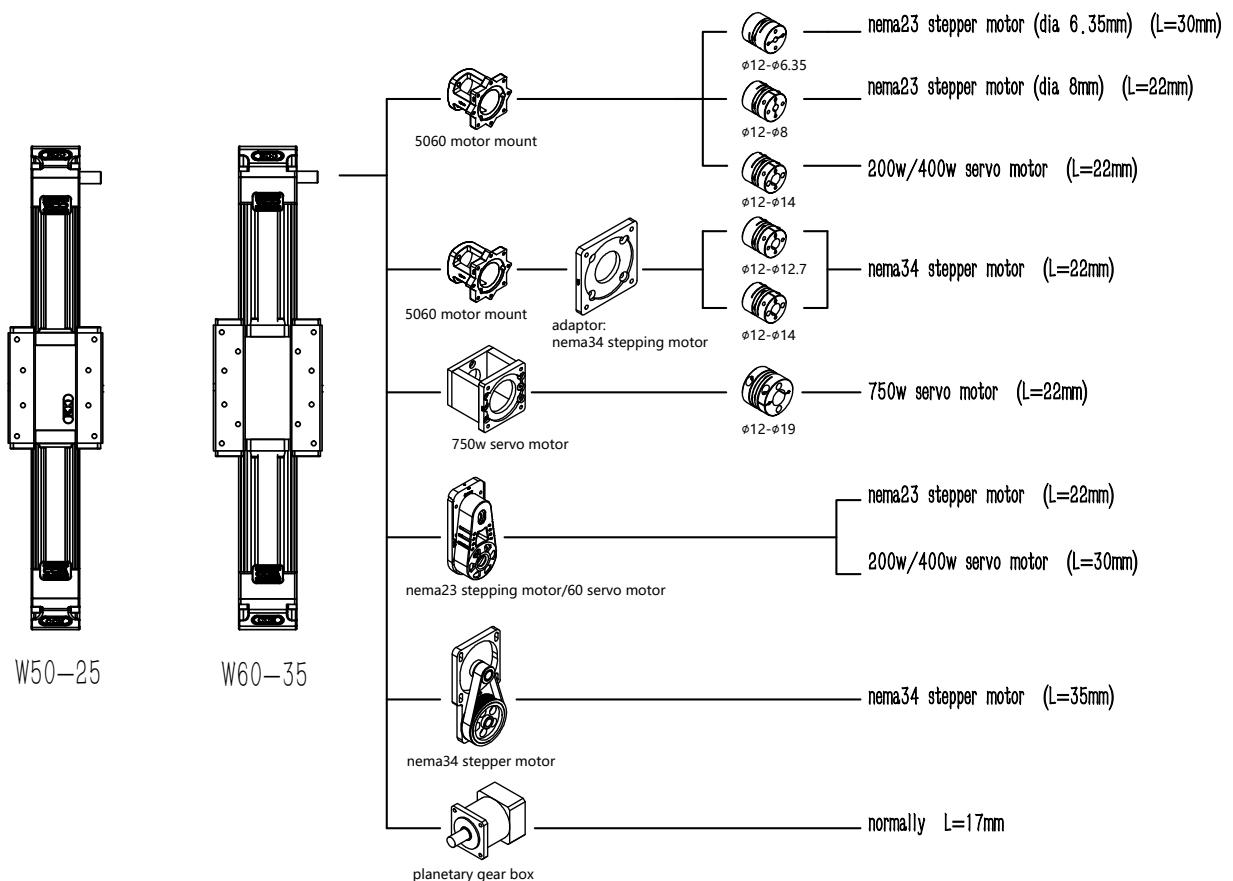
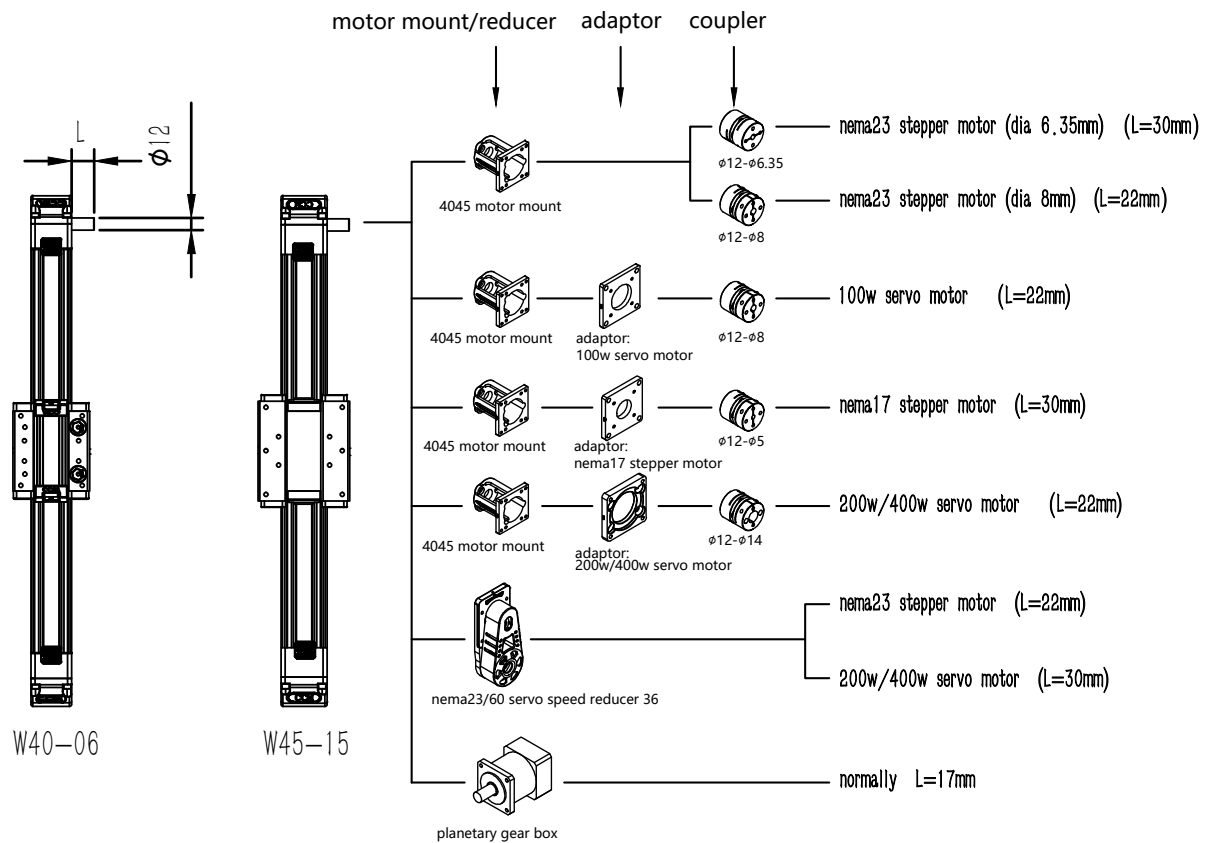
Pneumatic cylinder replacment

Rod rotation
(stepper motor is included)

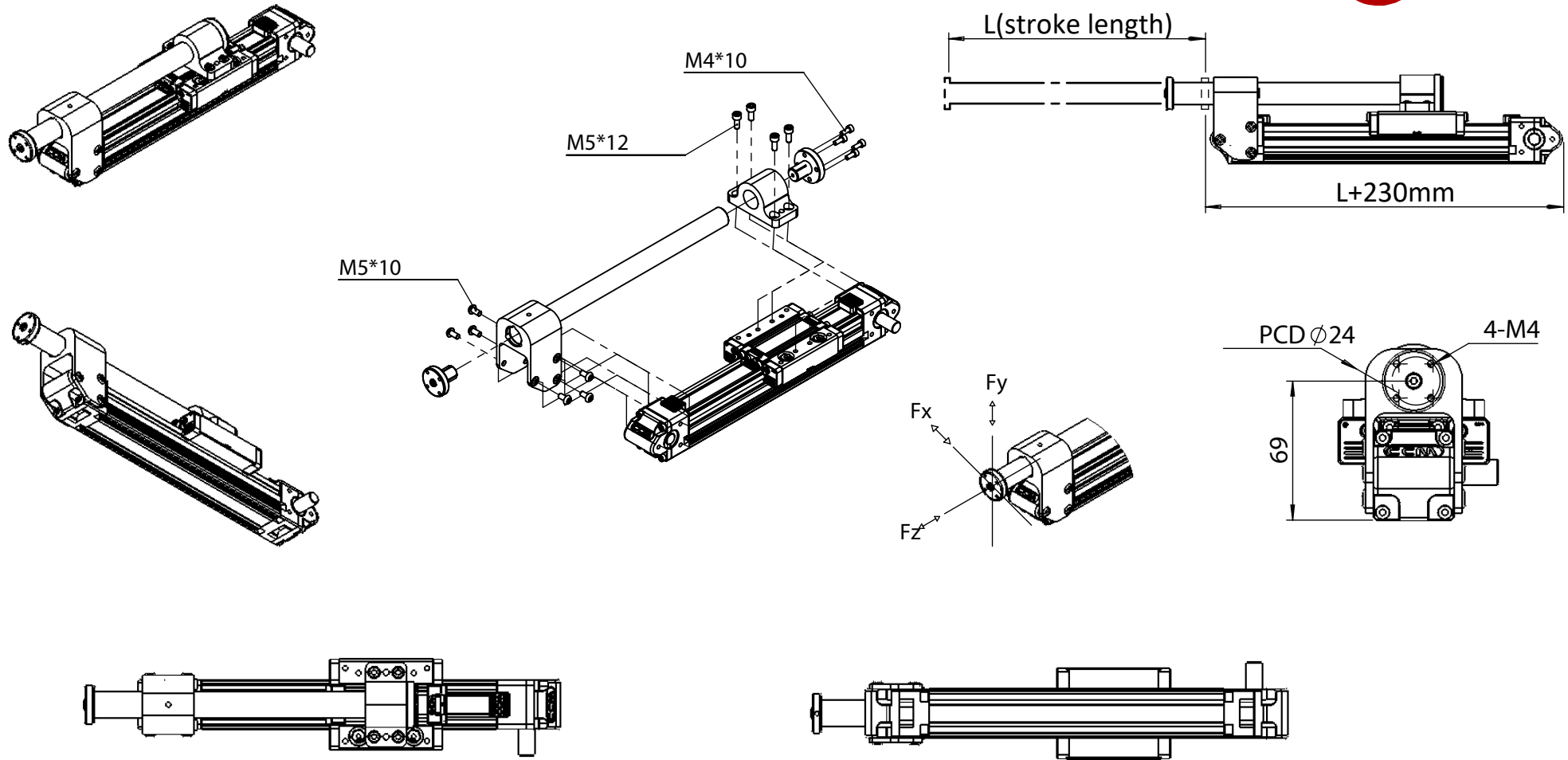


Rod translation
(user supplied stepper or servo motor)

Standard Motor Mounting Accesories

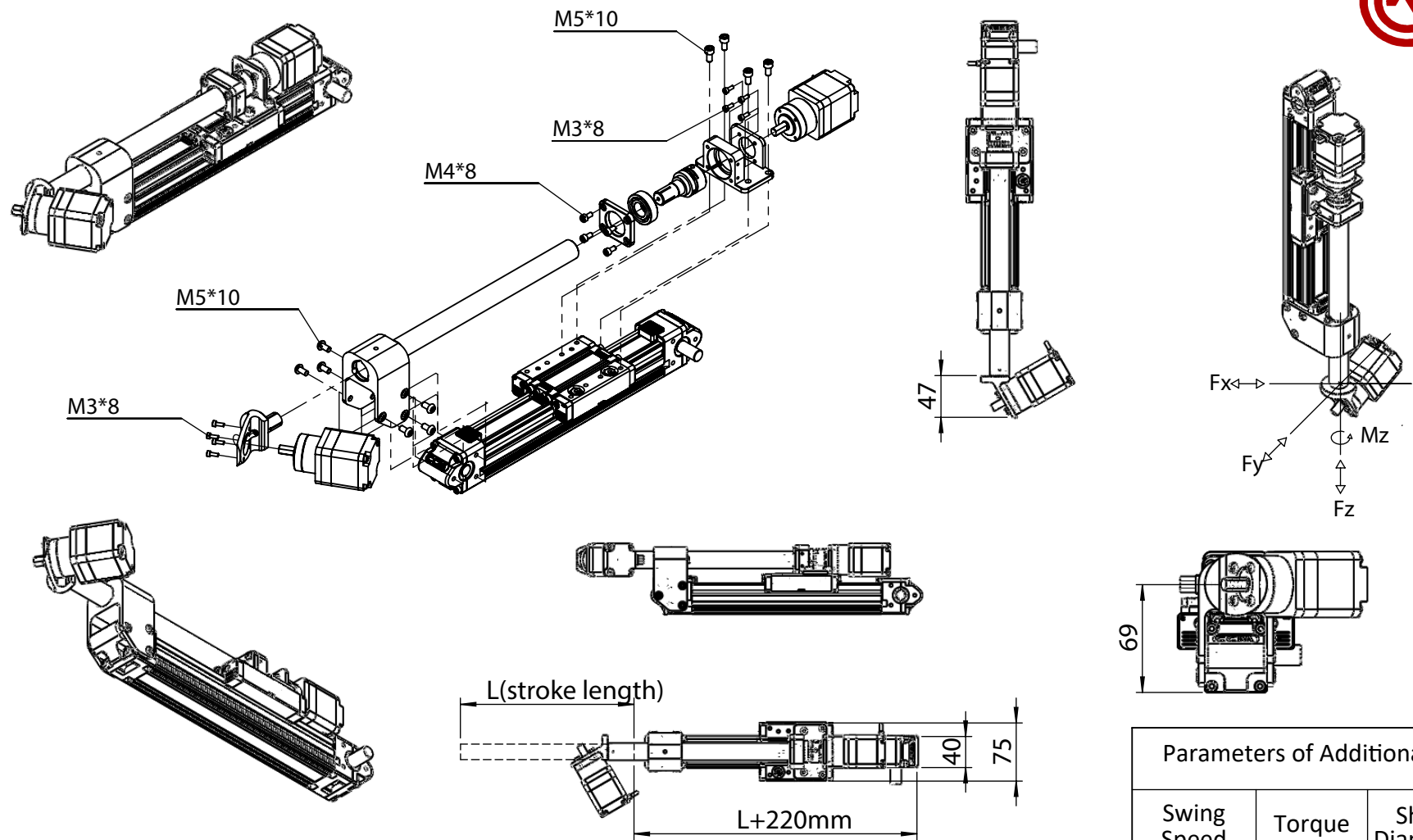


T-series Rod Module (translation only)



Stroke length (L)	Linear Modul Total length	Pitch	Linear Accuracy	Acceleration	Applicable Load	Vertical Movement Speed	Horizontal Movement Speed	Working Temperature	Service Life	Load Parameters		
										Fx	Fy	Fz
≤500mm	L+230mm	75mm	≤0.05mm	10m/s ²	≤2kg	≤500mm/s	≤800mm/s	-20~+60C	5 Million Double Strokes	30N	30N	30N

Tx-series Rod Module (translation, rotation and end-effector option)



Parameters of Additional Axial Motor			
Swing Speed	Torque	Shaft Diameter	Teeth Ratio
150r/min	0.16N·M	8mm	63:17

Stroke Length (L)	Total Length	Pitch (stroke/rev)	Linear Accuracy	Acceleration	Applicable Load	Vertical Movement Speed	Horizontal Movement Speed	Swing Speed	Working Temperature	Service Life	Load Parameters			
											Fx	Fy	Fz	Mz
≤500mm	L+220mm	75mm	≤0.05mm	10m/s ²	≤2kg	≤500mm/s	≤800mm/s	60r/min	-20~+60C	5 Million Double Strokes	30N	30N	30N	0.16Nm



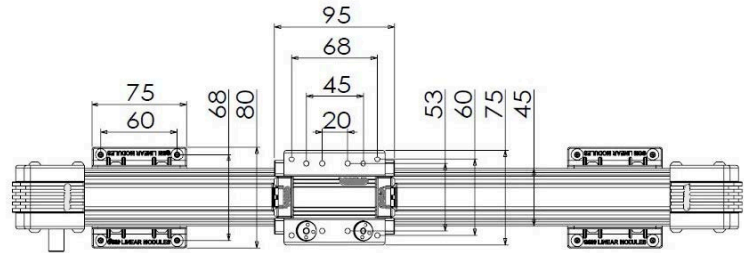
W-series Belt Modules

Features: Customized stroke: 50 to 5750mm;
 Max load from 6kg to 35kg;
 Positional repeatability better than 0.05mm;
 Module length = Stroke lengths+(250mm..400mm);
 High torsional rigidity; Low vibration; Quiet operation;
 Dual carriage option; Mounting accessories

Light Load

1. SIZE 45-06

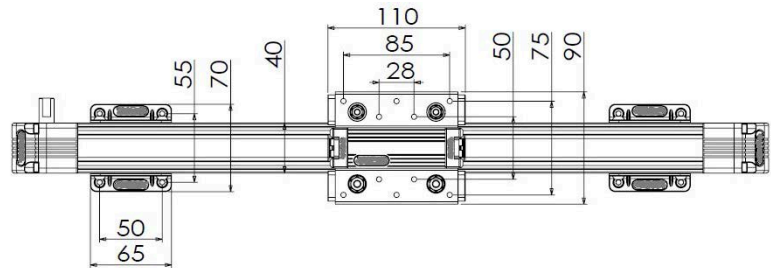
Body profile : 45mm*40mm
 Stroke length : 50~5750mm
 Linear accuracy : $\leq 0.03/300\text{mm}$
 Twist : $\leq 0.03/300\text{mm}$
 Max. slider load : 6kg
 Max. slider moment : 30Nm



Medium Load

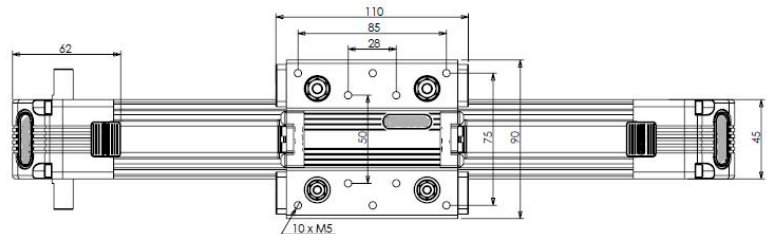
2. SIZE 40-10

Body profile : 40mm*40mm
 Stroke length : 50~5730mm
 Linear accuracy : $\leq 0.03/300\text{mm}$
 Twist : $\leq 0.03/300\text{mm}$
 Max. slider load : 10kg
 Max. slider moment : 30Nm



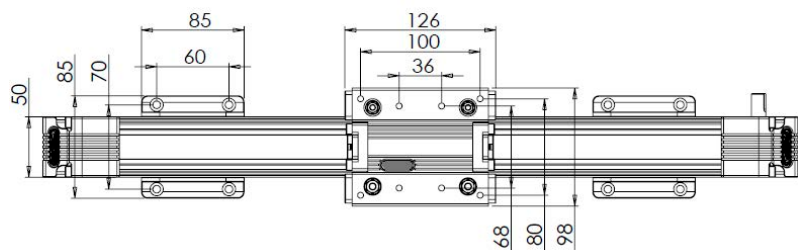
3. SIZE 45-15

Body profile : 45mm*45mm
 Stroke length : 50~5700mm
 Linear accuracy : $\leq 0.03/300\text{mm}$
 Twist : $\leq 0.03/300\text{mm}$
 Max. slider load : 15kg
 Max. slider moment : 40Nm



4. SIZE 50-25

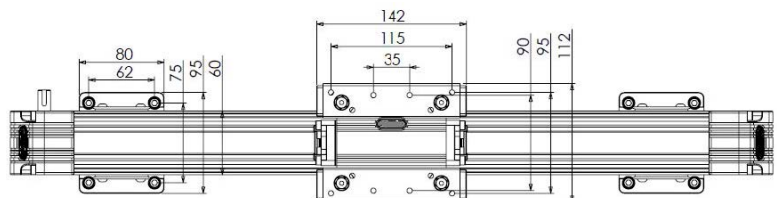
Body profile : 50mm*50mm
 Stroke length : 50~5650mm
 Linear accuracy : $\leq 0.03/300\text{mm}$
 Twist : $\leq 0.03/300\text{mm}$
 Max. slider load : 25kg
 Max. slider moment : 60Nm



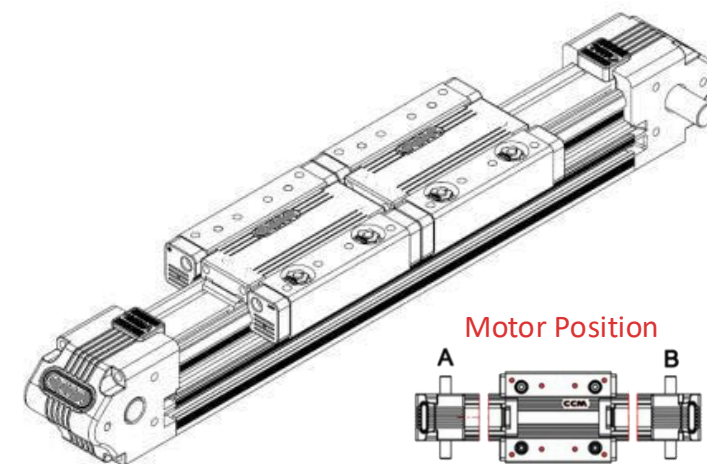
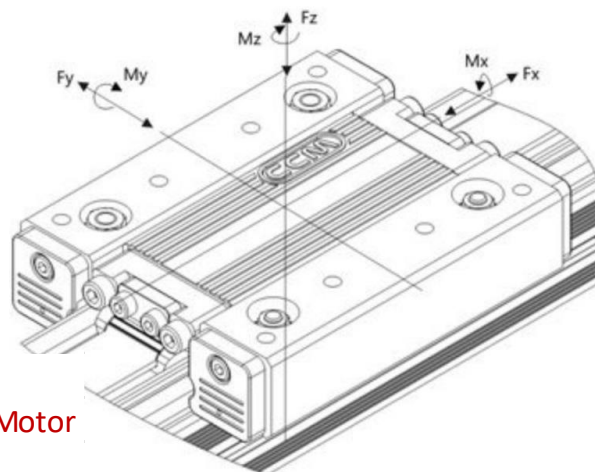
Heavy Load

5. SIZE 60-35

Body profile : 60mm*55mm
 Stroke length : 50~5600mm
 Linear accuracy : $\leq 0.03/300\text{mm}$
 Twist : $\leq 0.03/300\text{mm}$
 Max. slider load : 35kg
 Max. slider moment : 80Nm



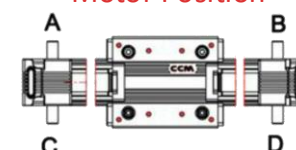
W-Series Belt Module Specifications (for single and dual sliders)



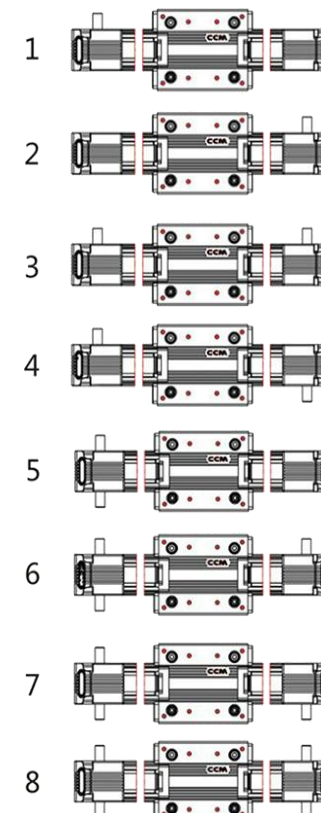
CCM — W50-25 — 1200 — 1A
 Module Size Total Length Shafts and Motor
 W40/45/50/60 300..6000mm 1..8 & A..D

Parameter with /1 Slider and /2 Sliders (in tandem)	units	W40-06/1	W40-06/2	W40-10/1	W40-10/2	W45-15/1	W45-15/2	W50-25/1	W50-25/2	W60-35/1	W60-35/2
Module length (standard)	mm	300 -3600	300 -3600	300 -3600	300 -3600	300 -3600	300 -3600	350 -3600	350 -3600	350 -3600	350 -3600
Stroke (standard)	mm	50 -3350	50 -3255	50 -3330	50 -3220	50 -3300	50 -3190	50 -3250	50 -3125	50 -3200	50 -3060
Module length (extended)	mm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Maximum stroke (extended)	mm	5750	5655	5730	5620	5700	5590	5650	5525	5600	5460
Horizontal load	kg	6	8	10	14	15	21	25	35	35	49
Vertical load	kg	4	6	7	9	10	15	17	25	24	35
Inverted load	kg	3	4	5	7	7	10	12	17	17	25
Pitch	mm	75	75	75	75	75	75	95	95	95	95
Belt width / Type	mm	15/HDT3M	15/HDT3M	15/HDT3M	15/HDT3M	15/HDT3M	15/HDT3M	20/STD5M	20/STD5M	20/STD5M	20/STD5M
Belt tension	N	150	150	150	150	150	150	300	300	300	300
Belt expansion	%	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Torque	Nm	2.3	2.3	2.3	2.3	3	3	5	5	7	7
Max speed	m/s	4	4	4	4	4	4	4	4	4	4
Max acceleration	m/s ²	15	15	15	15	15	15	15	15	15	15
Positional repeatability	±mm	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.08	<0.08	<0.08	<0.08
Slider Static / Dynamic (Fx)	N	150/100	150/100	200/130	200/130	220/150	220/150	400/250	400/250	600/350	600/350
Slider Static / Dynamic (Fy)	N	100/50	150/75	150/80	210/120	200/110	300/165	300/ 185	450/270	450/ 260	800/390
Slider Static/ Dynamic (Fz)	N	120/60	180/90	200/100	300/150	300/150	450/230	450/250	650/350	650/350	950/530
Slider Static / Dynamic (Mx)	Nm	3	6	5	10	5	10	8	16	10	20
Slider Static / Dynamic (My)	Nm	5	10	8	16	8	16	12	24	18	36
Slider Static / Dynamic (Mz)	Nm	4	8	6	12	6	12	10	20	15	30
Weight (first meter/continued)	kg	2.2/1.9	3.5/1.9	3.2/1.9	4/1.9	2.6/2.3	4.2/2.3	3.8/3.2	4.5/3.2	4.65/4.05	6/4.05

Motor Position



Shaft Positions

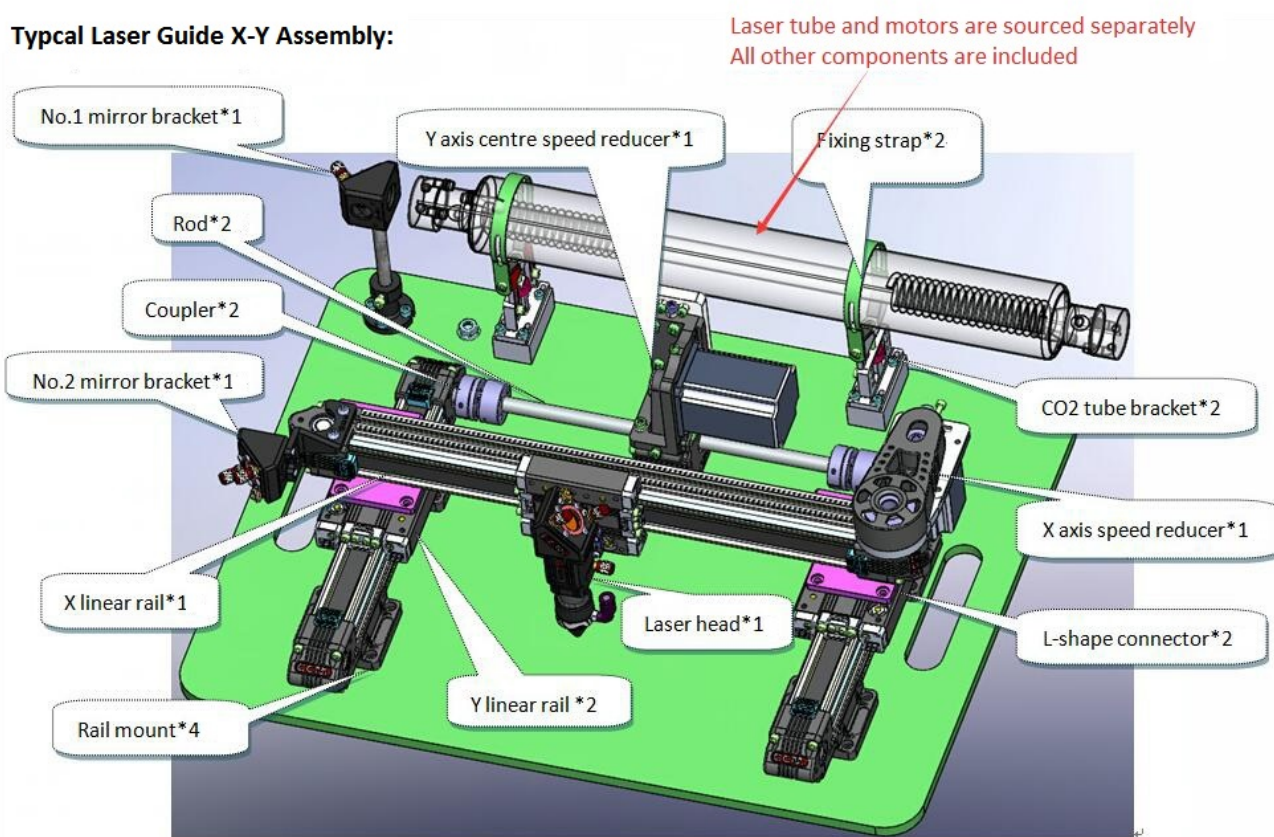


Solution Example

X-Y Assembly for Laser Etching / Engraving



Typical Laser Guide X-Y Assembly:



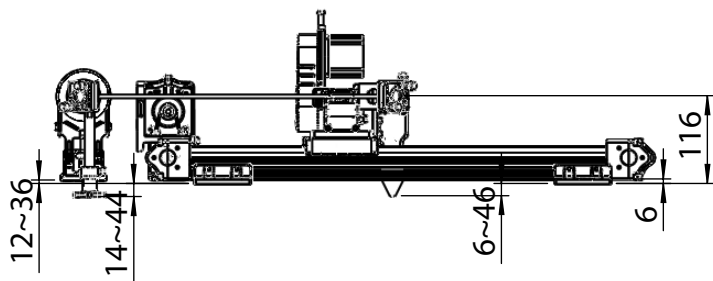
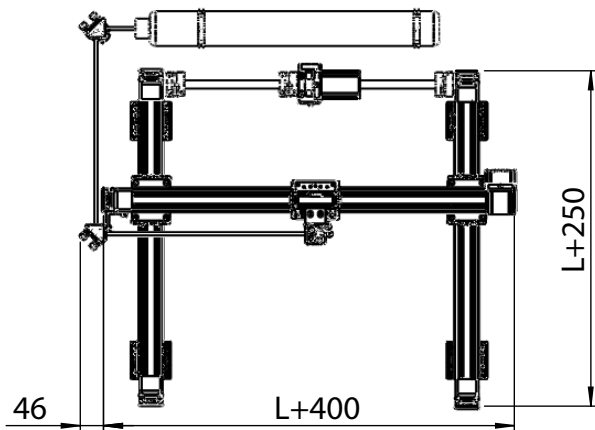
Standard Laser Kits:

Part Number	Standard Assembly
ID-W6040	X-Y 600mm x 400mm Laser Guide Assembly
ID-W9060	X-Y 900mm x 600mm Laser Guide Assembly
ID-W1390	X-Y 1300mm x 900mm Laser Guide Assembly
ID-W1313	X-Y 1300mm x 1300mm Laser Guide Assembly

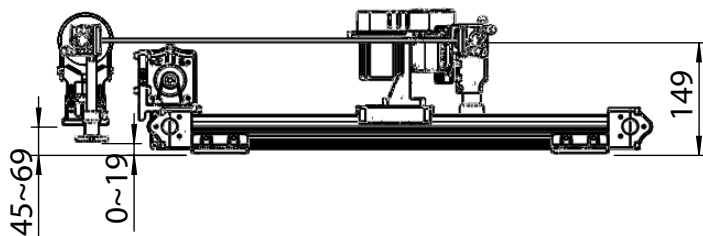
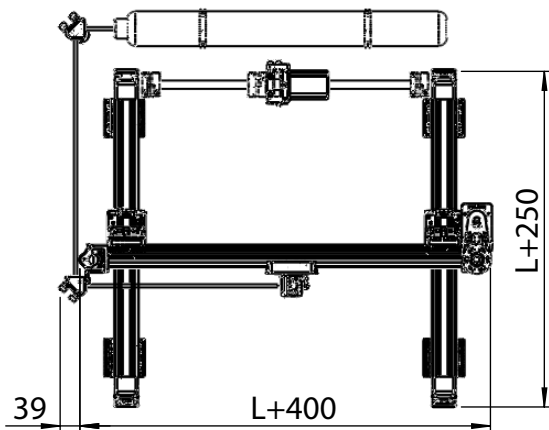
Customised work area assemblies are available

Solution Example

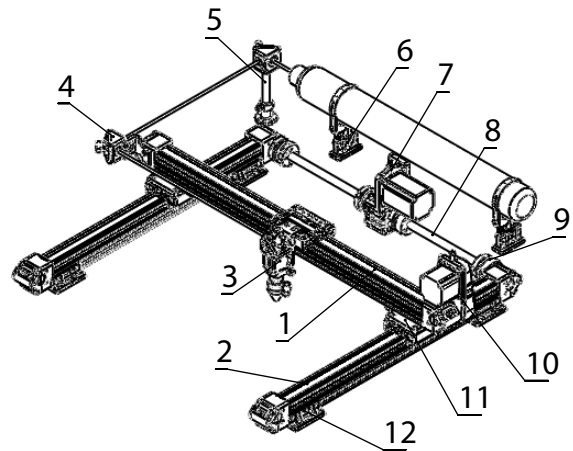
X-Y System Components for Laser Cutting / Etching / Engraving



L: stroke length



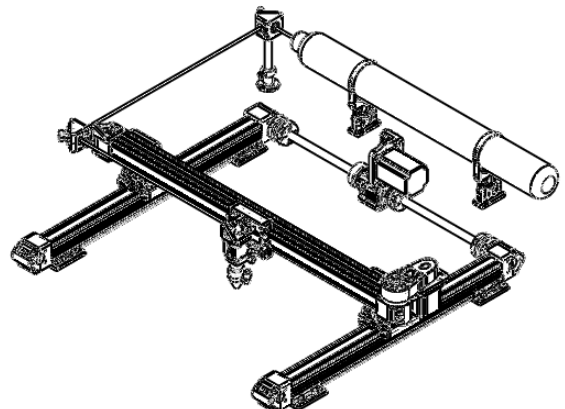
Type A X-axis cart face up



One Head Laser Head Kit

1. X axis rail: 1 pc, (belt module)
2. Y axis rail: 2 pcs, (belt modules)
3. Laser head left: 1 pcs
4. Mirror bracket left: 2 pcs
5. Mirror stand: 1 pcs
6. Laser tube stand: 2 pcs
7. Central speed reducer: 1 set, $i=1:2.5$
(teeth ratio 20:50, belt width 12mm, belt length 249mm)
8. Rod: 2 pcs
9. Coupling: 4 pcs
10. Speed reducer: 1 set, $i=1:2.5$
(teeth ratio 20:50, belt width 12mm, belt length 249mm)
11. L/T connector: 2 pcs
12. Rail mount: 4 pcs

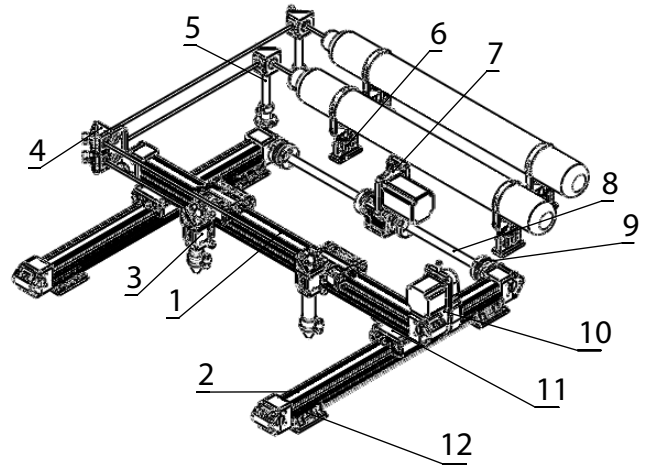
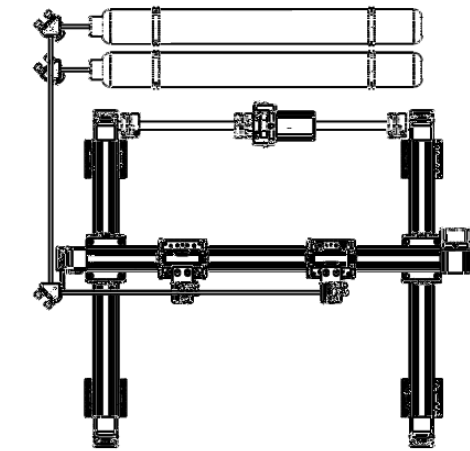
Type B X-axis cart face aside



Solution Example

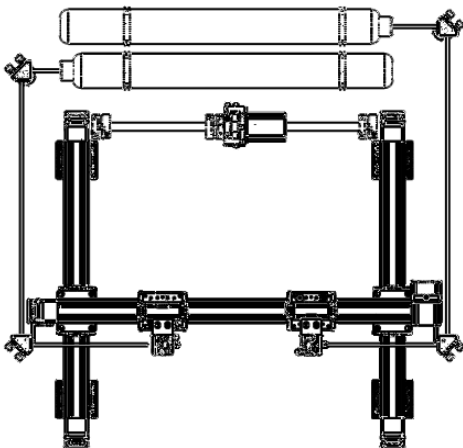
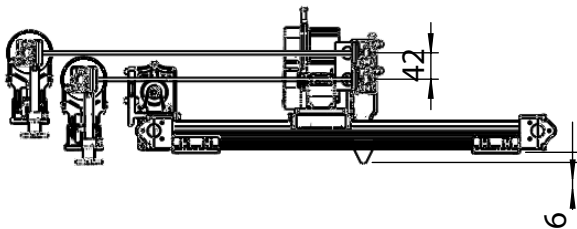
X-Y System Components for Laser Cutting / Etching / Engraving

Type C Laser beam from left

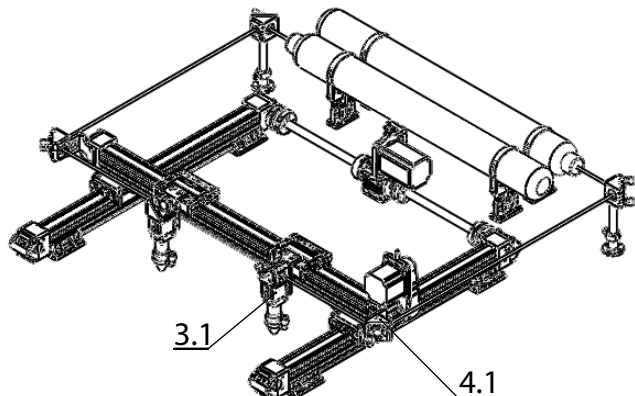


Two Head Laser Head Kit

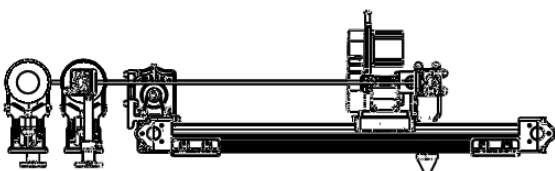
1. X axis rail: 1 pc, (belt module)
2. Y axis rail: 2 pcs, (belt modules)
3. Laser head left/right : 2 pcs
4. Mirror bracket left/right : 4 pcs
5. Mirror stand: 2 pcs
6. Laser tube stand: 4 pcs
7. Central speed reducer: 1 set, $i=1:2.5$ (teeth ratio 20:50, belt width 12mm, belt length 249mm)
8. Rod: 2 pcs
9. Coupling: 4 pcs
10. Belt speed reducer: 1 set, $i=1:2.5$ (teeth ratio 20:50, belt width 12mm, belt length 249mm)
11. L/T connector: 2 pcs
12. Rail mount: 4 pcs



Type D Laser beam from left and right



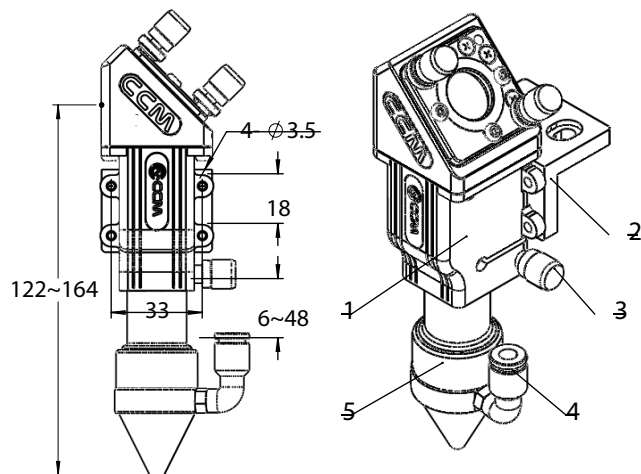
- 3.1 Laser head right: 1 pcs
- 4.1 Mirror bracket right: 2 pcs



X-Y Laser Guide (accessories)

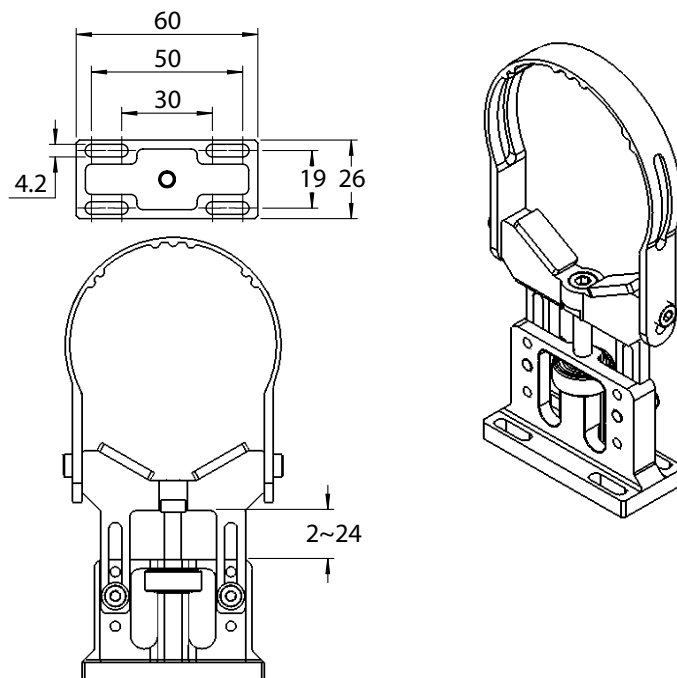
Laser Head (left)

1. Laser Head Base
2. Connector
3. Fasten screw
4. Air pipe connector 6mm
5. Laser head



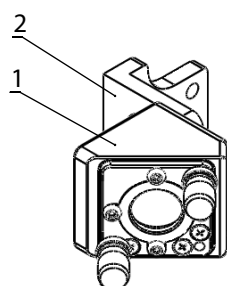
CO2 Tube Bracket

1. Height adjustable: 0~22mm
2. For CO2 tube with diameter varies from 60~80mm
3. Rubber belt



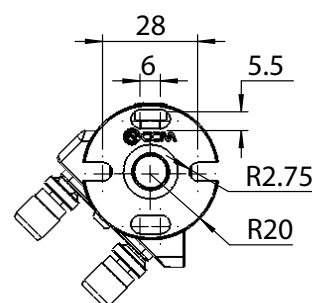
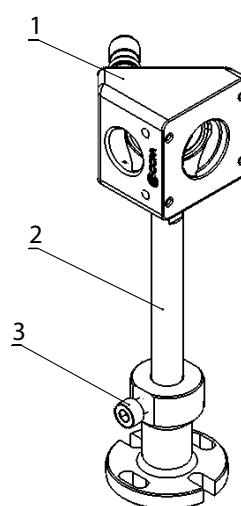
Mirror Bracket (left)

1. Mirror bracket
2. Connector



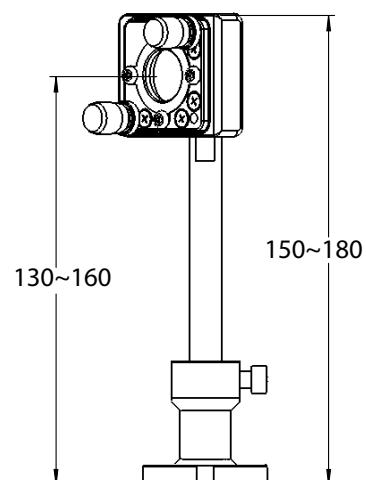
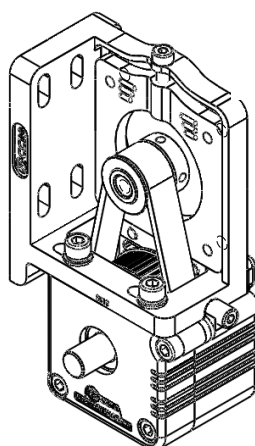
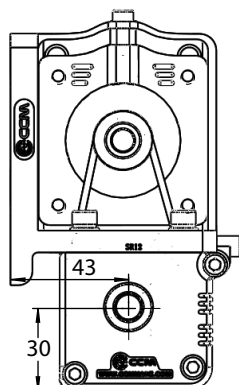
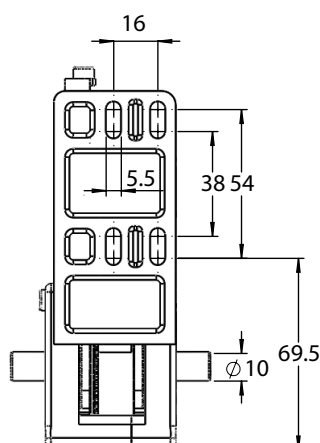
Mirror Stand (left)

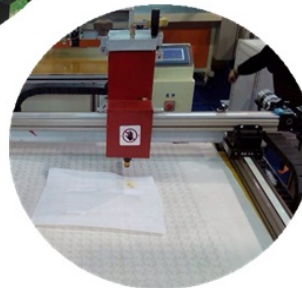
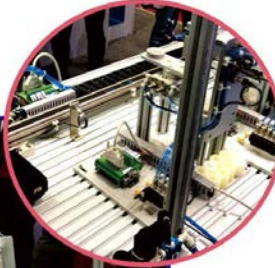
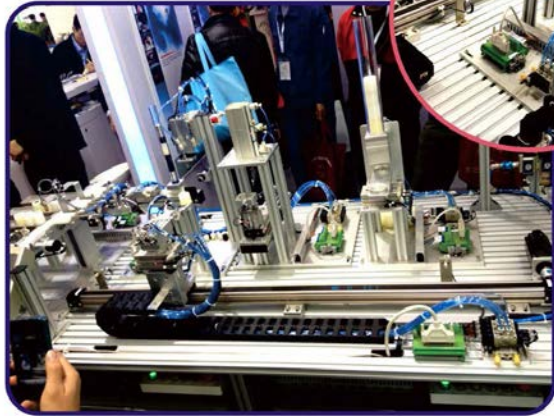
1. Mirror bracket
2. Mirror stand
3. Fasten screw



Central-Speed-Reducer

1. Central speed reducer: 1 set,
i=1:2.5 (teeth ratio 20:50,
belt width 12mm, belt length 249mm)





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