

Ezi-Robo[®]

Actuator series Driven by Ezi-SERVO

- High Precision, High Rigidity Economic Solution (Cross Roller Guide Equipped)
- Provide DLL Library for PC (Windows) Interface
- Provide flexible solution for various size of application
- No Hunting, High Resolution, Fast Response of Ezi-SERVO equipped stage

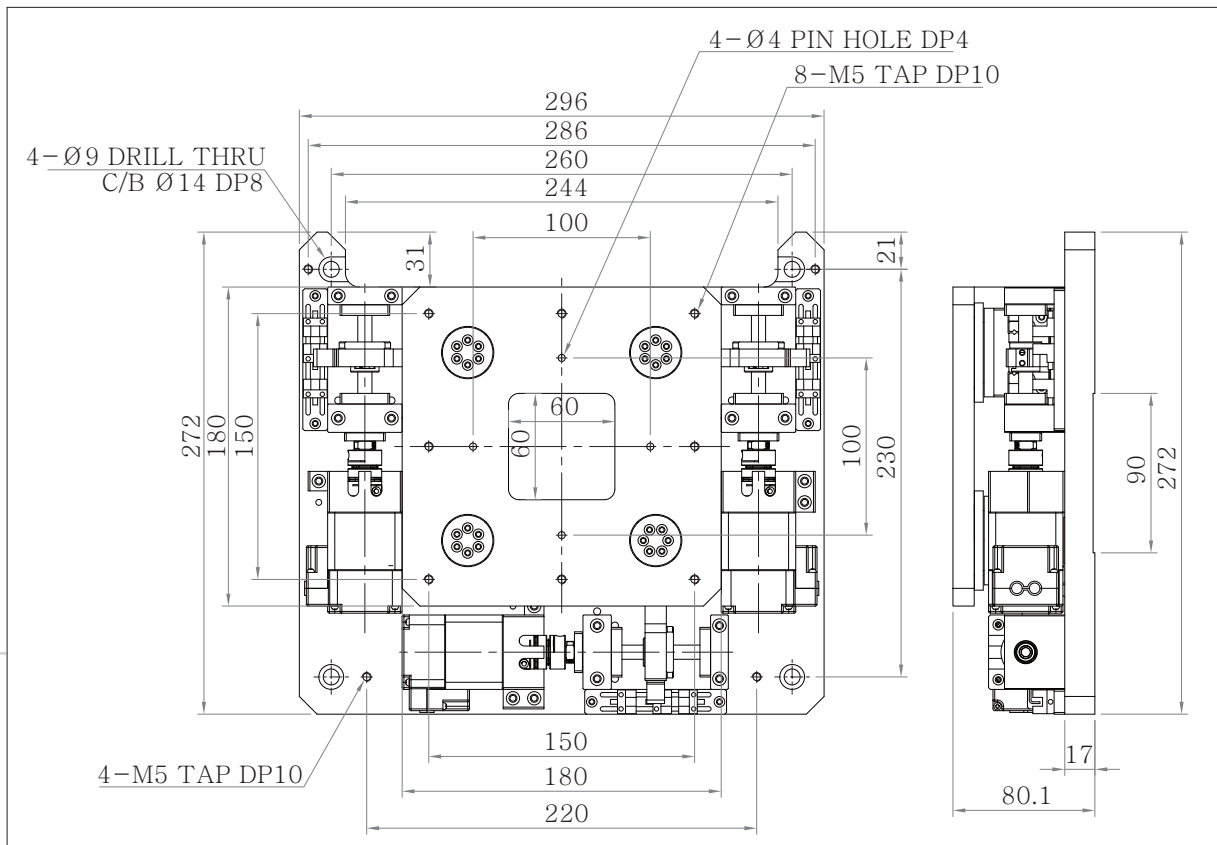
MAS



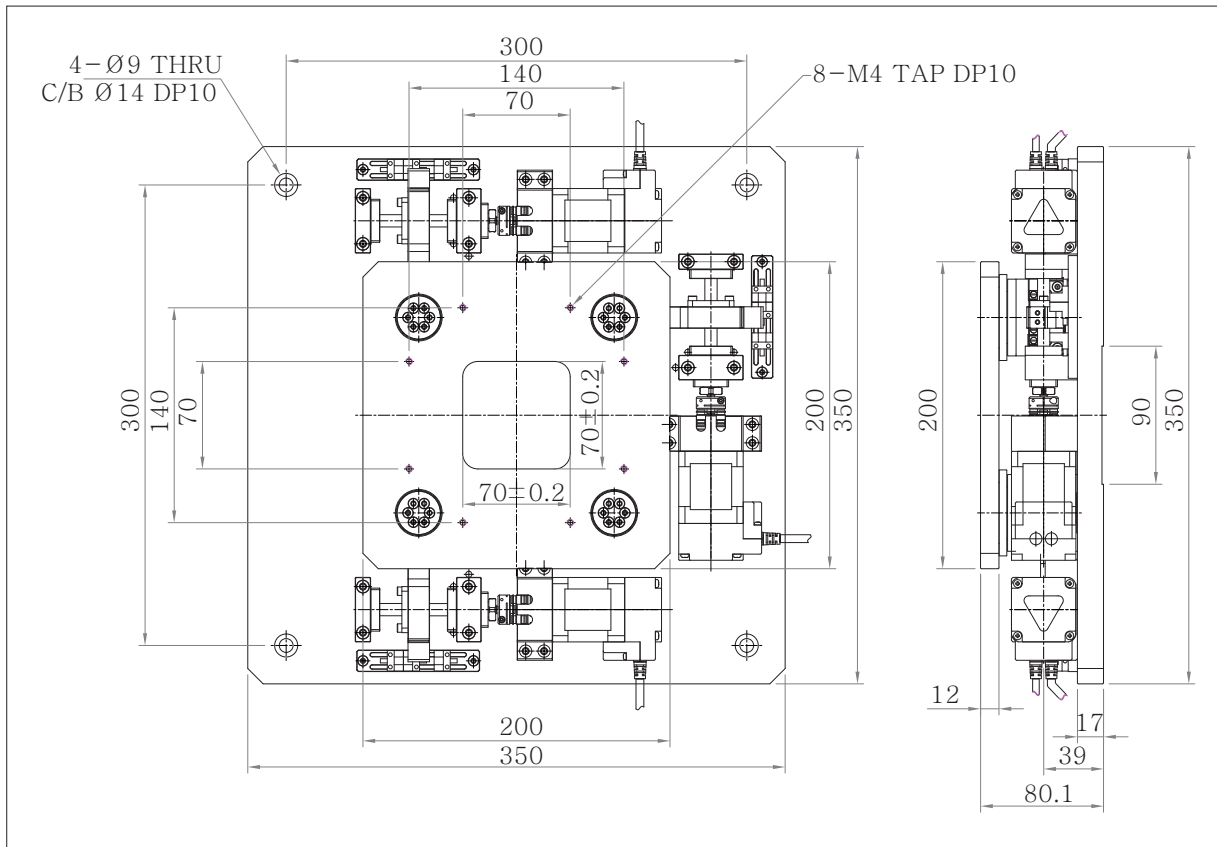
● Standard UVW Alignment Stage (MAS-180, MAS-200, MAS-300)
 Table Size : 180 x 180, 200 x 200, 300 x 300



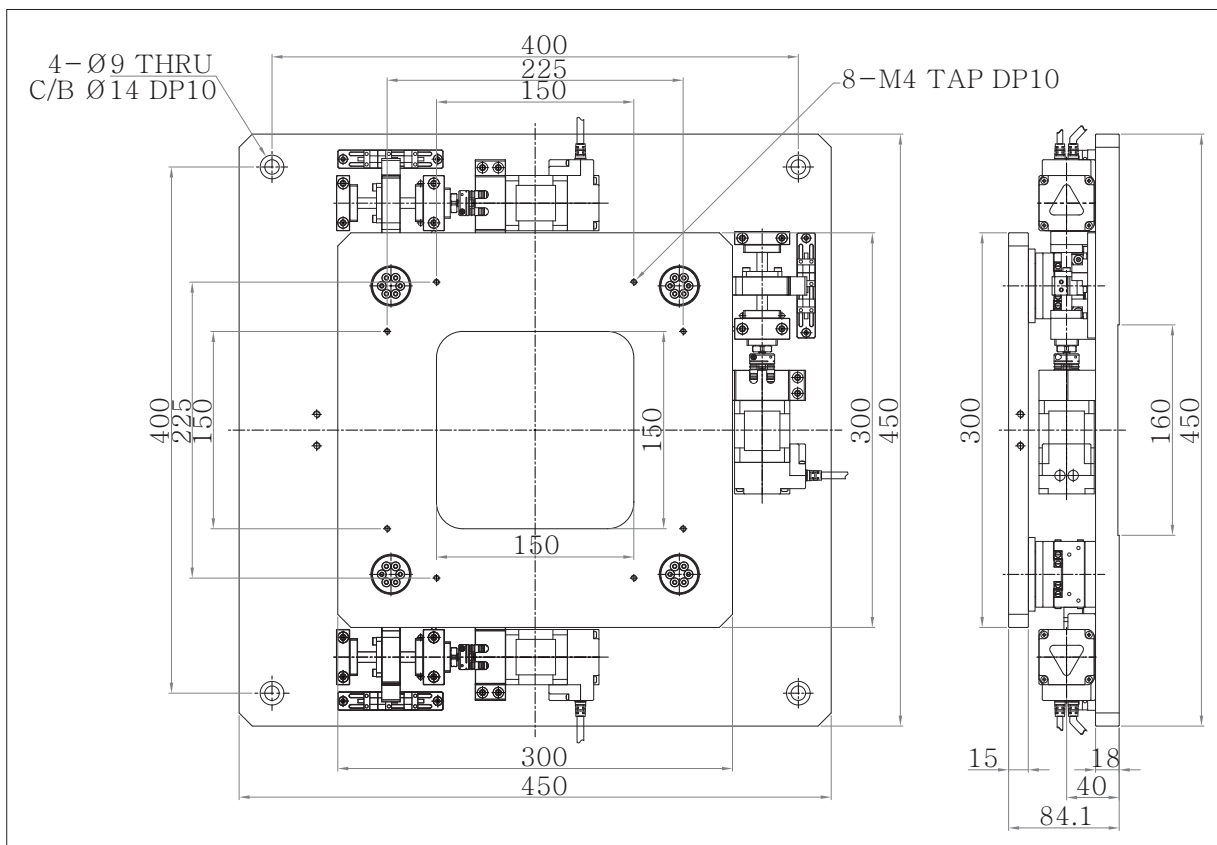
■ Ezi-Robo-MAS-PR-42S-A-MAS-180



■ Ezi-Robo-MAS-PR-42L-A-MAS-200



■ Ezi-Robo-MAS-PR-42XL-A-MAS-300



● Main Features

- Linear and Rotary Motion available alignment stage
- Cross-Roller Guide
- High precision and high rigidity structure
- Supports various size
- Closed Loop Stepping System

● Specification

Model Number	Ezi-ROBO-MAS-PR-42S-A-MAS-180	Ezi-ROBO-MAS-PR-42L-A-MAS-200	Ezi-ROBO-MAS-PR-42XL-A-MAS-300
Surface Size	180 x 180 [mm]	200 x 200 [mm]	300 x 300 [mm]
Travel Range X, Y, θ	± 10 [mm], ± 10 [mm], ± 5 [°]	± 5 [mm], ± 5 [mm], ± 2.5 [°]	± 5 [mm], ± 5 [mm], ± 2.5 [°]
Travel Guide	Crossed Roller Guide		
Mechanism	Ball Screw, Lead 1 [mm]		
Resolution*1	2 [μ m]		
Applicable Ball Screw	Ball Screw $\phi 8$ [mm] Lead 1 [mm]		
Max. Speed*2	20 [mm/sec]		
Accuracy	5 [μ m]		
Repeatability	± 2 [μ m]	± 2 [μ m]	± 3 [μ m]
Load Capacity	30 [kgf]	30 [kgf]	30 [kgf]
Parallelism	30 [μ m]	30 [μ m]	30 [μ m]
Straightness	10 [μ m]	10 [μ m]	10 [μ m]
Weight	13 [Kg]	15 [Kg]	20 [Kg]
Material	Aluminum		
Motor	EzM-42S-A (Encoder Resolution 10,000[ppr])	EzM-42L-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])
Cautions	<p>*1 Specification based on EzM-42S-A, EzM-42L-A, EzM-42XL-A Motor resolution as 500[Step/rev].</p> <p>*2 Max. speed is 10[kpps] under EzM-42S-A, EzM-42L-A, EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 10[kpps].</p>		

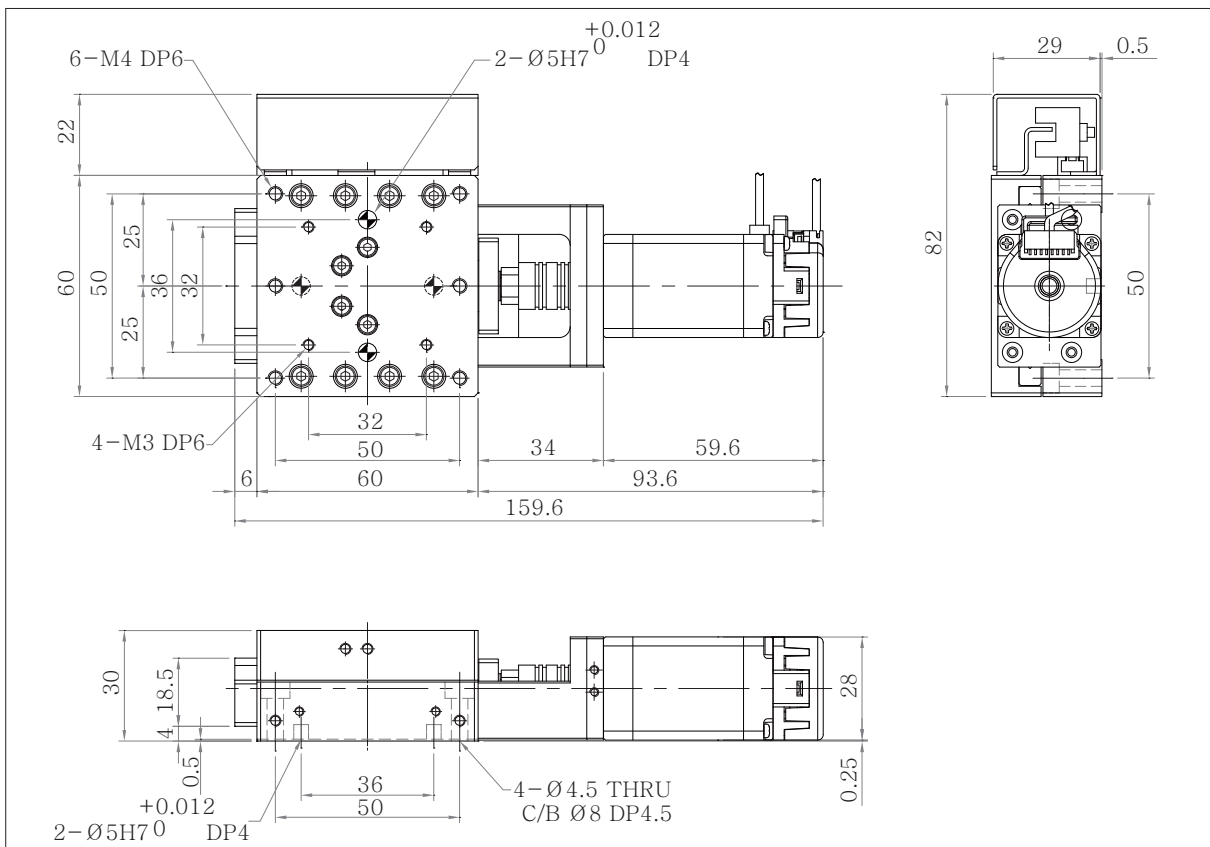
● Applications

- Mini substrate alignment measurement and bonding for LCD or OLED etc
- Mark Alignment of Screen printing
- Probe Inspection Machine
- Circular Glass Cutting Process
- Optical equipment, Medical Instrument, Bio Device Alignment and Evaluation

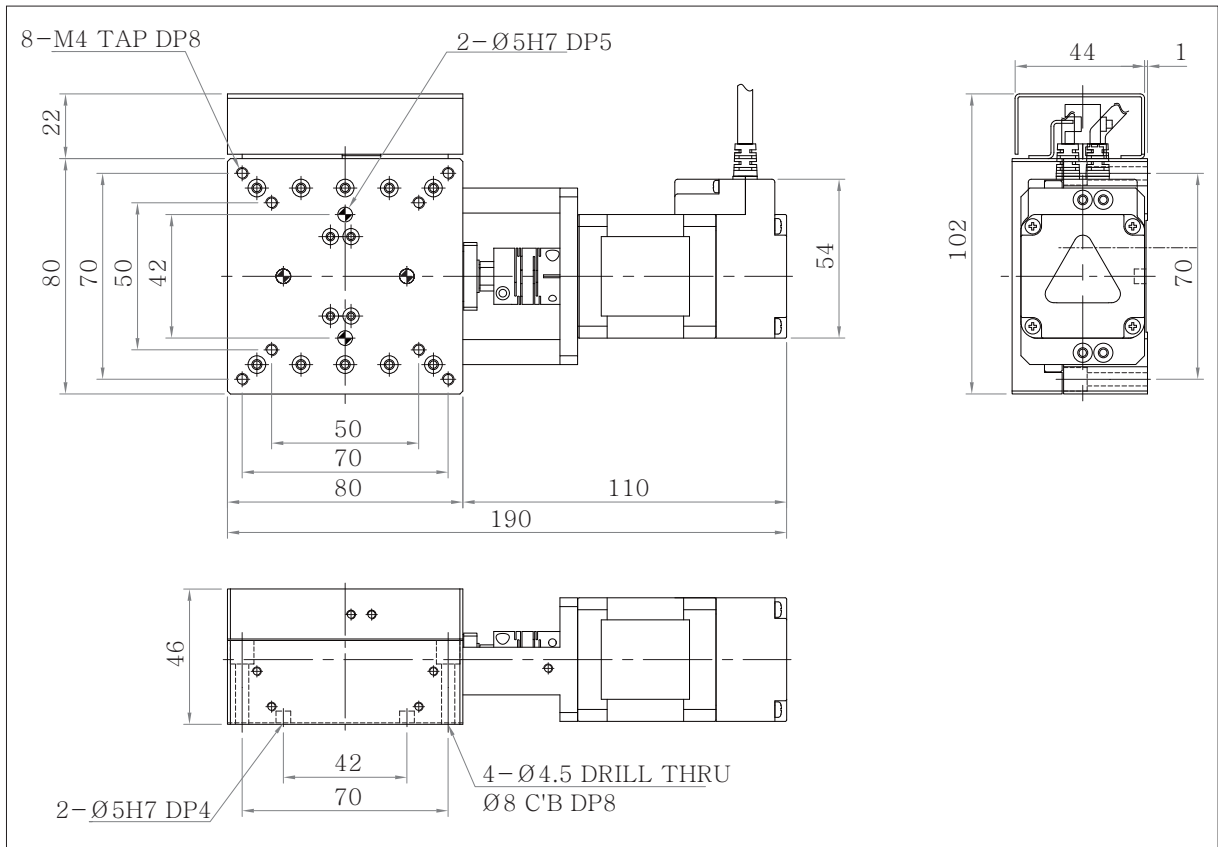
● Standard Linear Stage (MLX-060, MLX-080A, MLX-080B)
 Table Size : 60 x 60, 80 x 80, 80 x 130



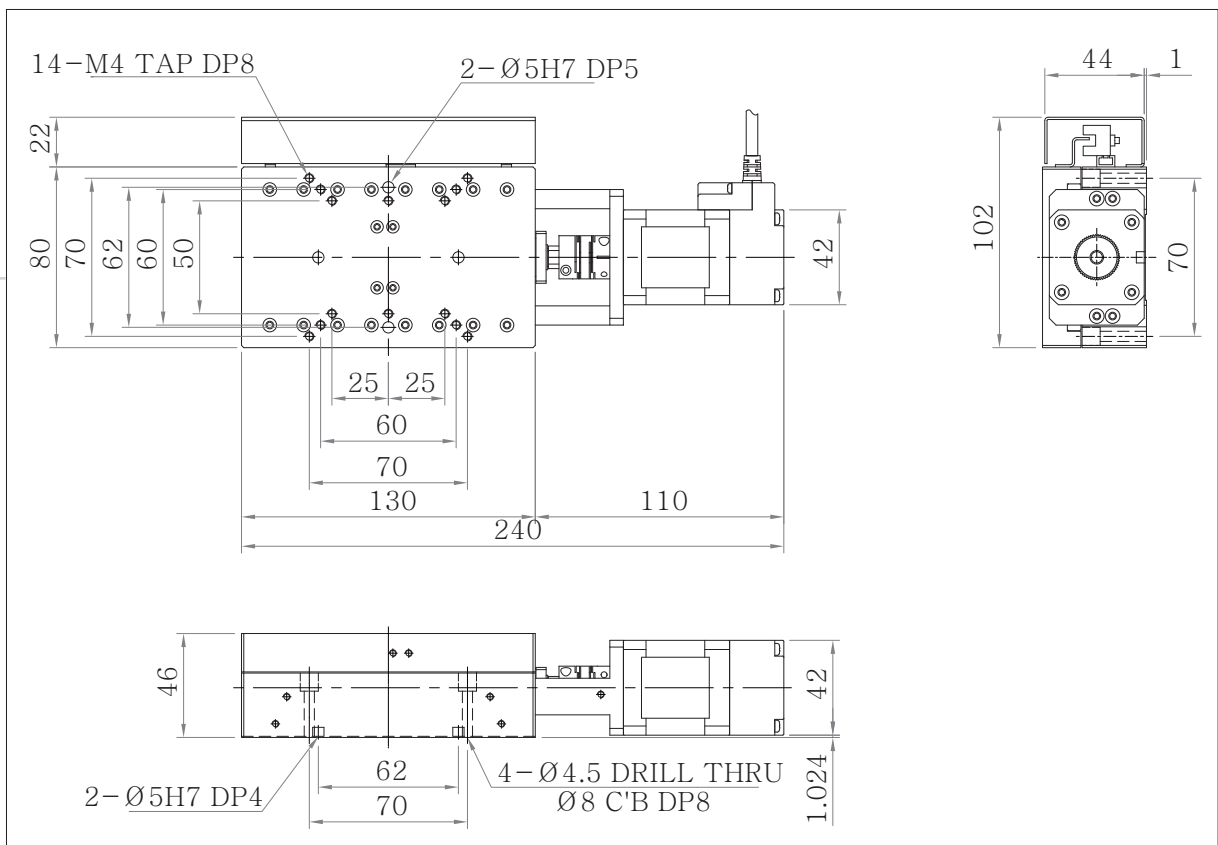
■ Ezi-Robo-MAS-PR-28L-D-MLX-060



■ Ezi-Robo-MAS-PR-42XL-A-MLX-080A



■ Ezi-Robo-MAS-PR-42XL-A-MLX-080B



● Main Features

- Linear Stage
- High precision and high rigidity structure
- Cross-Roller Guide
- Closed Loop Stepping System

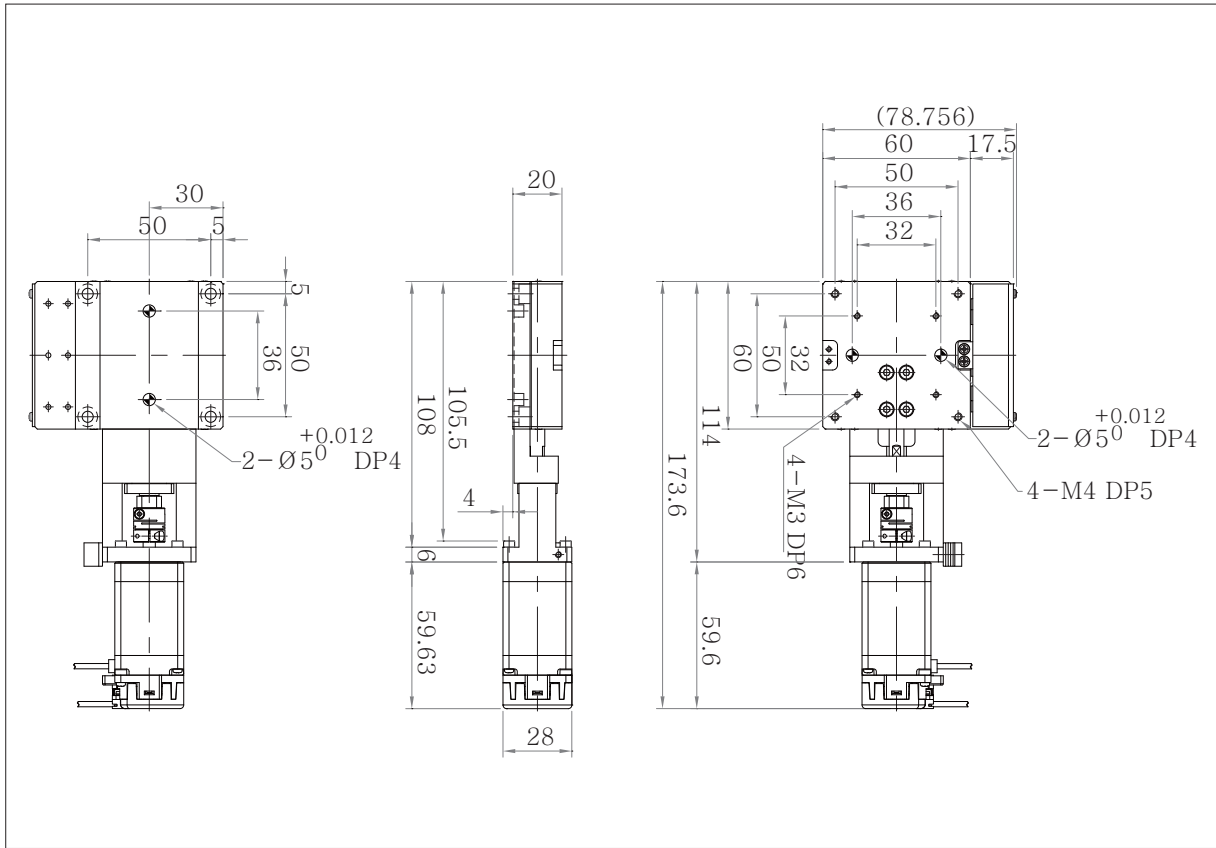
● Specification

Model Number	Ezi-Robo-MAS-PR-28L-D-MLX-060	Ezi-Robo-MAS-PR-42XL-A-MLX-080A	Ezi-Robo-MAS-PR-42XL-A-MLX-080B
Surface Size	60 x 60 [mm]	80 x 80 [mm]	80 x 130 [mm]
Travel Range	20 [mm]	30 [mm]	60 [mm]
Travel Guide	Crossed Roller Guide		
Resolution*1	2 [μ m]		
Applicable Ball Screw	Ball Screw Φ 6 [mm] Lead 1 [mm]	Ball Screw Φ 8 [mm] Lead 1 [mm]	Ball Screw Φ 8 [mm] Lead 1 [mm]
Max. Speed*2	10 [mm/sec]		
Accuracy	5 [μ m]		
Bi-Repeatability	\pm 2 [μ m]		
Load Capacity	5 [Kgf]	10 [Kgf]	15 [Kgf]
Parallelism	20 [μ m]	30 [μ m]	30 [μ m]
Straightness	10 [μ m]	10 [μ m]	10 [μ m]
Weight	0.45 [Kg]	1.4 [kg]	1.8 [kg]
Material	Aluminum		
Motor	EzM-28L-D (Encoder Resolution 16,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])
Cautions	<p>*1 Specification based on EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev].</p> <p>*2 Max. speed is 5[kpps] under EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 5[kpps].</p>		

● Applications

- Imaging Inspection Device (Microscope Up Down Movement)
- Extra fine (Laser diode and etc) Alignment and Inspection
- Viscosity liquid dispensing
- Roll / Laser Cutting
- Fine Laser Machining
- Laser Welding

■ Ezi-Robo-MAS-PR-28L-D-MLS-060



● Main Features

- Slim Type Linear Stage
- High precision and high rigidity structure
- Linear Ball Guide
- Closed Loop Stepping System

● Specification

Model Number	Ezi-Robo-MAS-PR-28L-D-MLS-040	Ezi-Robo-MAS-PR-28L-D-MLS-060
Surface Size	40 x 40 [mm]	60 x 60 [mm]
Travel Range	14 [mm]	20 [mm]
Travel Guide	Linear Ball Guide	
Resolution*1	2 [μ m]	2 [μ m]
Applicable Ball Screw	Cross Roller	
Max. Speed*2	10 [mm/sec]	10 [mm/sec]
Accuracy	8 [μ m]	8 [μ m]
Bi-Repeatability	2 [μ m]	2 [μ m]
Load Capacity	7 [Kgf]	10 [Kgf]
Parallelism	20 [μ m]	20 [μ m]
Straightness	5 [μ m]	5 [μ m]
Weight	0,5 [Kg]	0,7 [Kg]
Material	Aluminum	
Motor	EzM-28L-D (Encoder Resolution 16,000[ppr])	
Cautions	*1 Specification based on EzM-28L-D Motor resolution as 500[Step/rev]. *2 Max. speed is 5[kpps] under EzM-28L-D Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 5[kpps].	

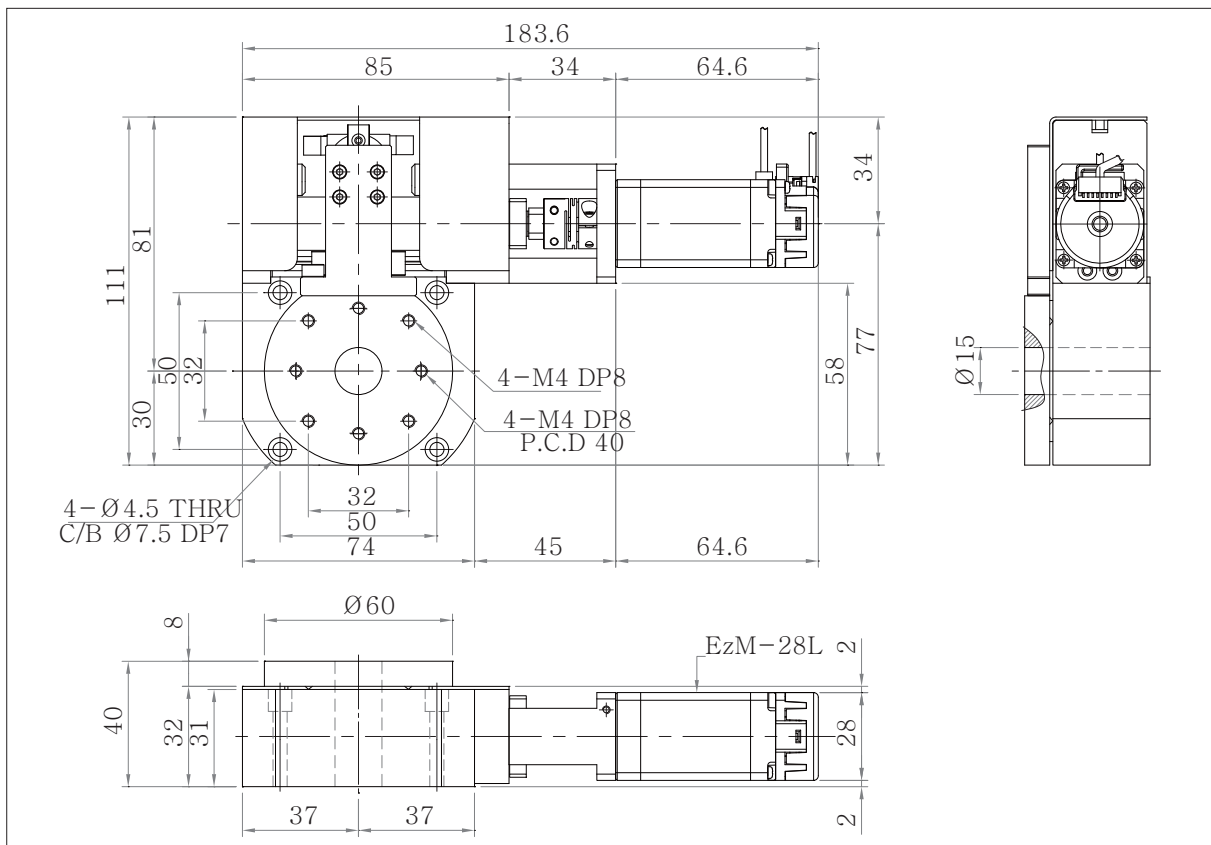
● Applications

- Imaging Inspection Device (Microscope Up Down Movement)
- Extra fine (Laser diode and etc) Alignment and Inspection
- Viscosity liquid dispensing
- Roll / Laser Cutting
- Fine Laser Machining
- Laser Welding

● Standard Rotary Stage (MRS-060, MRS-100, MRS-150)
 Table Size : \varnothing 60, \varnothing 100, \varnothing 150



■ Ezi-Robo-MAS-PR-28L-D-MRS-060



● Main Features

- Rotary Axis Automatic Stage
- Ball Bearing Rotary Stage
- Thrust & Ball Bearing Guide
- Closed Loop Stepping System

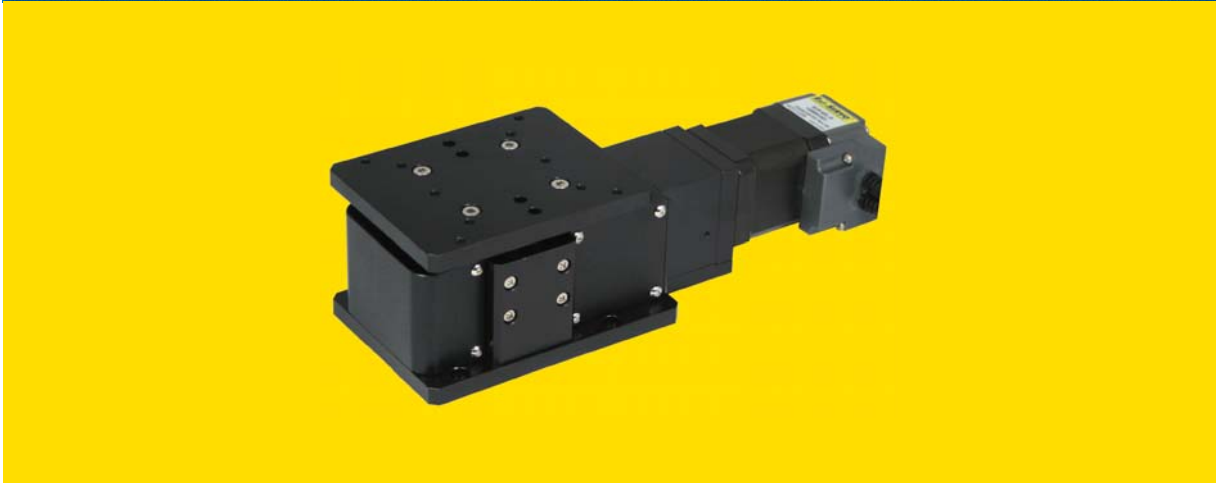
● Specification

Model Number	Ezi-Robo-MAS-PR-28L-D-MRS-060	Ezi-Robo-MAS-PR-42XL-A-MRS-100	Ezi-Robo-MAS-PR-42XL-A-MRS-150
Surface Size	Φ60 [mm]	Φ90 [mm]	Φ140 [mm]
Travel Range	±3 [°]	±6 [°]	±15 [°]
Travel Guide	Thrust & Ball Bearing, Linear Guide		
Applicable Ball Screw	Ball Screw Φ8 [mm] Lead 1 [mm]		
Moving Distance / Rotation	0.87 [°]	0.68 [°]	0.53 [°]
Resolution*1	0,00162 [°]	0,00136 [°]	0,00106 [°]
Max. Speed*2	8.2 [°/sec]	6.3 [°/sec]	4.8 [°/sec]
Accuracy	0,005 [°]		
Bi-Repeatability	0,003 [°]		
Load capacity	8,0 [°/sec]	6,3 [°/sec]	4,8 [°/sec]
Load capacity	5 [Kgf]	10 [Kgf]	20 [Kgf]
Parallelism	30 [μm]	50 [μm]	50 [μm]
Weight	1,6 [Kg]	2,2 [Kg]	3 [Kg]
Material	Aluminum		
Motor	EzM-28L-D (Encoder Resolution 16,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])
Cautions	<p>*1 Specification based on EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev].</p> <p>*2 Max. speed is 5,061[pps] under EzM-28L-D Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 5,061[pps].</p> <p>Max. speed is 4,528[pps] under EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 4,528[pps].</p>		

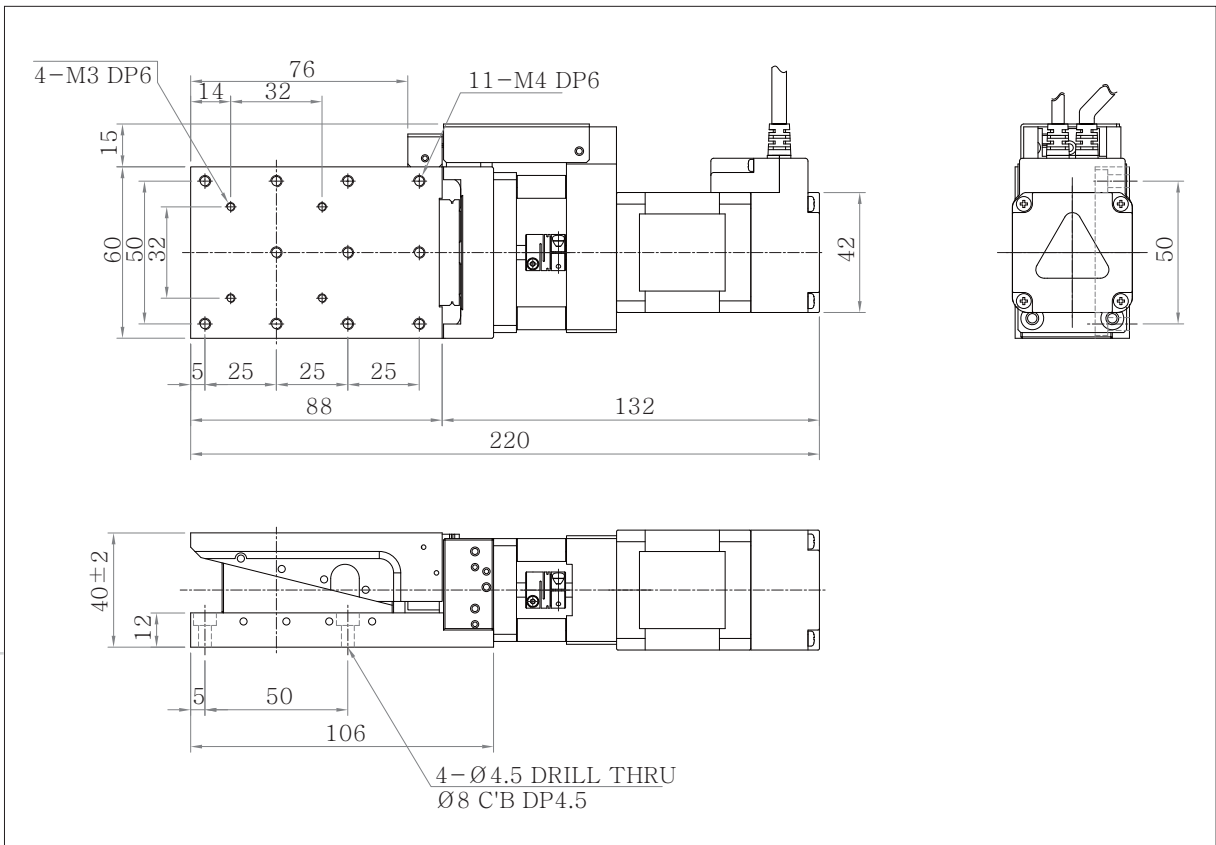
● Applications

- Polarization Filter
- Laser spectrum Mirror angle control
- Pan Tilt Camera Mount
- Bio slice cutting
- Wafer Inspection
- Wafer Inspection
- Laser Welding

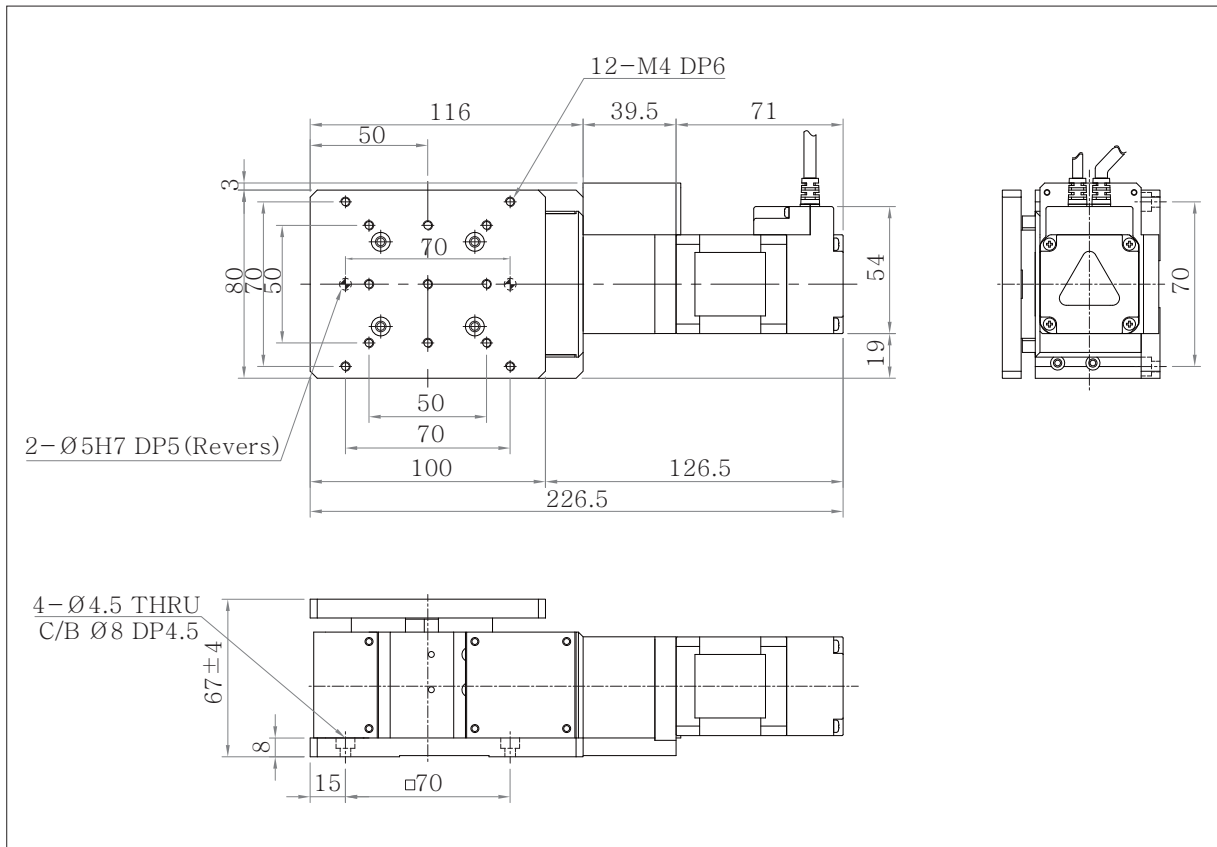
● Vertical Linear Stage (MVH-060, MVH-080, MVH-120, MVH-200)
 Table Size : 60 x 88, 80 x 100, 120 x 120, 200 x 200



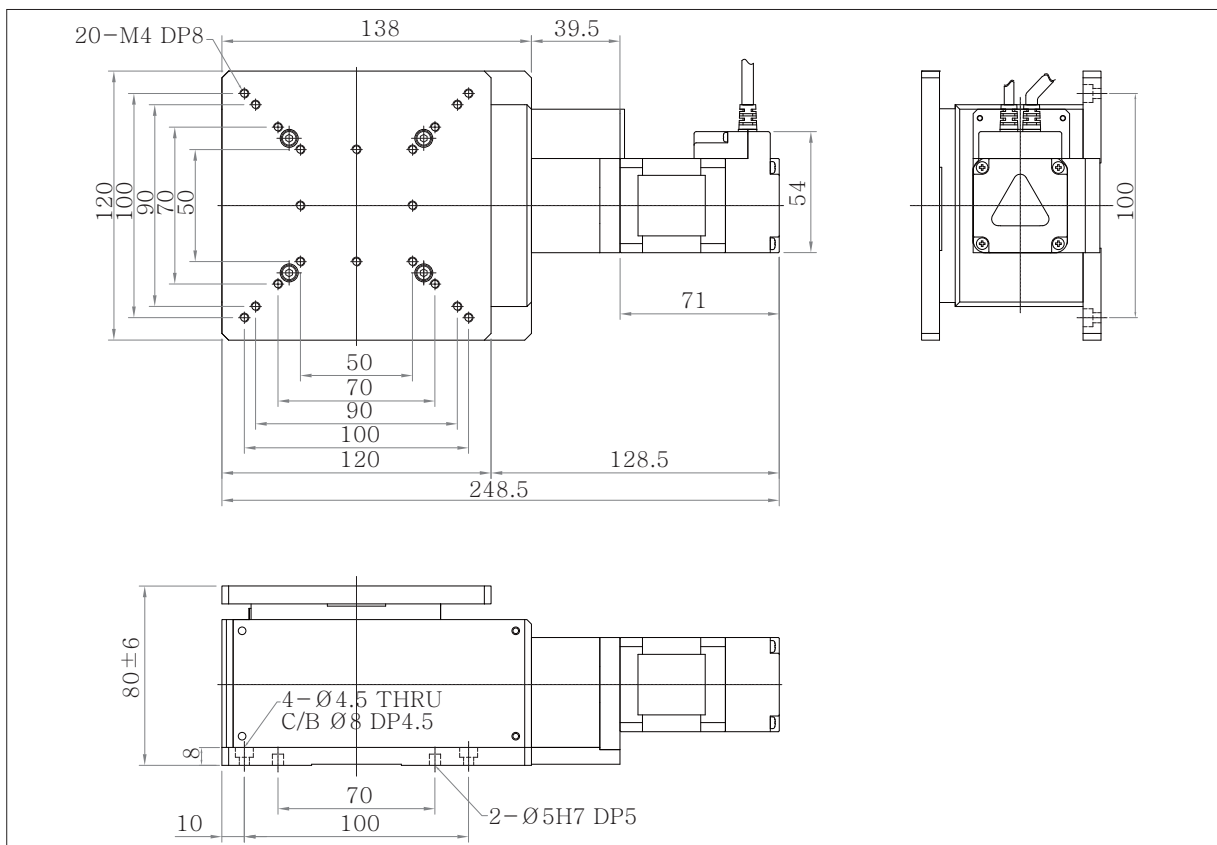
■ Ezi-Robo-MAS-PR-42XL-A-MVH-060



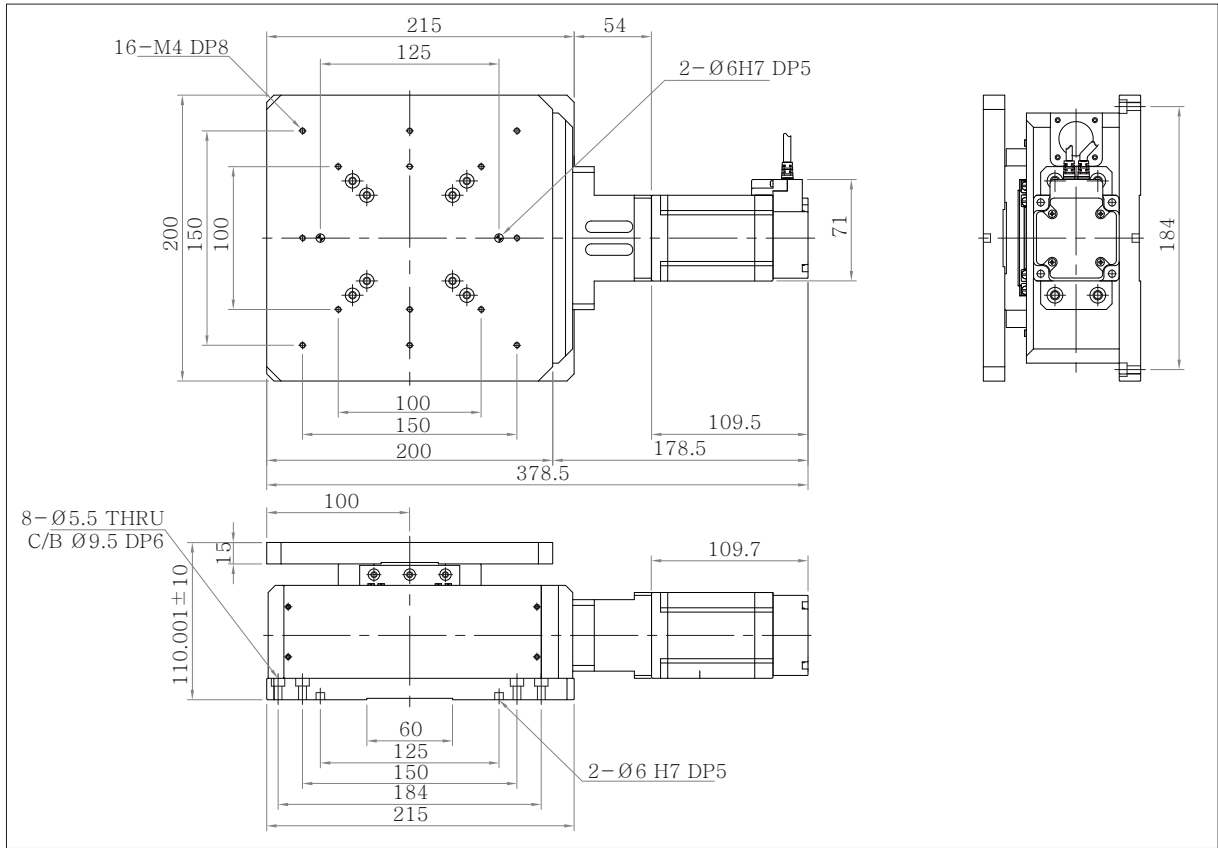
■ Ezi-Robo-MAS-PR-42XL-A-MVH-080



■ Ezi-Robo-MAS-PR-42XL-A-MVH-120



■ Ezi-Robo-MAS-PR-60L-A-M200-MVH-200



● Main Features

- Z Axis Horizontal Automatic Stage
- Cross-Roller Guide
- Compatible with XYθ Alignment Stage
- Closed Loop Stepping System

● Specification

Model Number	Ezi-Robo-MAS-PR-42XL-A-MVH-060	Ezi-Robo-MAS-PR-42XL-A-MVH-080	Ezi-Robo-MAS-PR-42XL-A-MVH-120	Ezi-Robo-MAS-PR-60L-A-MVH-200
Surface Size	60 x 88 [mm]	80 x 100 [mm]	120 x 120 [mm]	200 x 200 [mm]
Travel Range	4 [mm]	8 [mm]	12 [mm]	20 [mm]
Travel Guide	Crossed Roller Guide			
Resolution*1	0,25 [μ m/step]	0,72 [μ m/step]	0,72 [μ m/step]	3,6 [μ m/step]
Applicable Ball Screw	Ball Screw Φ 6 [mm] Lead 1 [mm]	Ball Screw Φ 6 [mm] Lead 1 [mm]	Ball Screw Φ 8 [mm] Lead 1 [mm]	Ball Screw Φ 12 [mm] Lead 5 [mm]
Max. Speed*2	2,5 [mm/sec]	7,2 [mm/sec]	7,2 [mm/sec]	36 [mm/sec]
Accuracy	5 [μ m]			
Bi-Repeatability	2 [μ m]			
Load capacity	5 [Kgf]	10 [Kgf]	15 [Kgf]	25 [Kgf]
Parallelism	30 [μ m]	30 [μ m]	40 [μ m]	50 [μ m]
Straightness	10 [μ m]	10 [μ m]	20 [μ m]	25 [μ m]
Weight	1,2 [kg]	2 [kg]	3,6 [kg]	5,2 [kg]
Material	Aluminum			
Motor	EzM-42XL-A (Encoder Resolution 10,000[ppr])			
Cautions	*1 Specification based on EzM-42XL-A Motor resolution as 500[Step/rev]. *2 Max. speed is 10[kpps] under EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 10[pps].			

● Applications

- Roll Cutting / Laser Cutting
- Viscosity liquid dispensing
- Bio slice cutting
- Film Punching Unit
- Imaging Inspection Device (Microscope Up Down Movement)
- Laser Welding
- Focusing

● Optimized Ezi-SERVO Plus R series for PC based Alignment System Structure



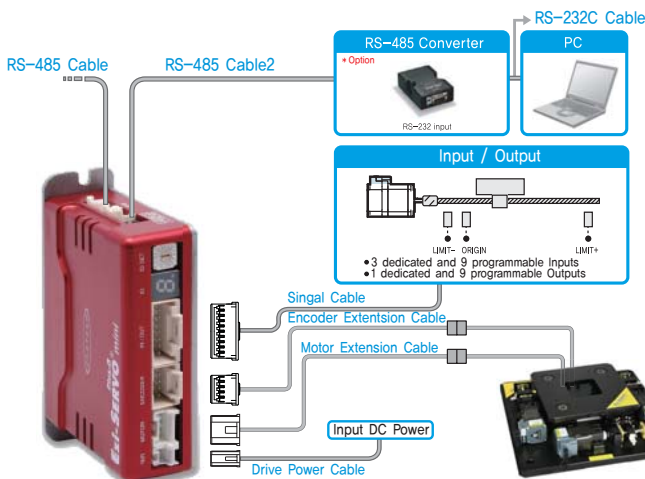
- Provide DLL Library for PC (Windows) Interface
- Positioning Control by RS-485 Network (Controller Embedded)
- PR-MI Type (controller embedded, Mini type) and ST-MI Type (Pulse input type, Mini type) is selectable
- Non-use of Motion Board simplify operation, reduce cost and wiring

● Maximize convenience for Multi-axes stage structure, S-SERVO-2X/3X Series



- S-SERVO-2X, 3X Series provides convenience of control for multi-axes structure as 2 Axes, 3 Axes, 4 Axes etc.
- Cost Reduction Effect by multi axes control system
- Perfect replacement of 5 phase step motor using as standard motor for conventional stage
- Load dependant current control function enables to minimize motor temperature and cope with external sudden load variation onto upper plate of stage
- Boost current (Max. 150%) enables improvement of Acceleration and Decelarion characteristic and generation of high torque

● System Configuration



● Applicable Product Line-up

Products	Specifications
Ezi-SERVO-PR-MI	Controller Embedded, Mini Type
Ezi-SERVO-ST-MI	Pulse Input Type, Mini Type
S-SERVO ST	Pulse Input Type
S-SERVO 2X, 3X	Pulse Input Type, Multi Axes Type

● Parts

- Power Connector
- Signal Connector
- Encoer Connector
- Motor Connector

MEMO



Fast, Accurate, Smooth Motion

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