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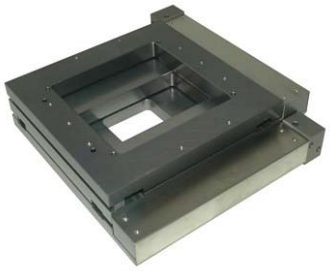
NUTEC COMPONENTS INCORPORATED

METROSTAGE



PRODUCT SUMMARY

METROSTAGE *Series are high precision stages designed as an integral X/Y compound table for precise positioning. METROSTAGE is available with either solid top or in an open frame configuration.*

- Precision X/Y stage, with low-profile 3 tier construction
- Linear Servo, Roller Leadscrew, or Ball Screw Drive System
- Integrated non-contacting position encoders
- Resolution down to 1 nanometer
- Integrally pre-loaded roller guide system
- Available with integrated servo control
- Open frame Z-axis stage with nanometer performance

METROSTAGE Features & Benefits

This stage structure is a three-piece construction, designed for minimum distortion and highest precision stage geometry. Stiffness and stability have been maximized to achieve the highest support and integrity. The backlash-free preloaded guide system achieves smooth, low-friction, precision motion for highly accurate positioning and trouble free long-term performance.

Applications

*The **METROSTAGE** Series has a very wide range of application, because of adaptable and configurations and execution, offering many different motion platforms with different characteristics. Many applications are found in the metrology and fabrication fields, where a precise, compact X/Y motion platform is desirable. Other typical applications are found in semiconductor assembly, testing, and fabrication areas, video inspection, micro-machining, laser machining, high-speed fabrication, laser and inspection work. Many customers utilize the stage with manual turn knobs, because of the insufficient precision performance of conventional microscope stages.*

METROSTAGE Configurations

Travels from 100mm x 100mm to 300 mm x 300mm

Stage height as low as 60 mm

Open Frame or Solid Top

Clean Room Compatible

Vacuum Compatible

Non-Magnetic

	MS-SP
Travel Length (mm)	*100 x 100 150 x 150 200 x200 300 x 300 And Custom*
Drive System	*Step motor Servo motor Linear Servo Motor Ceramic Servo Motor*
Maximum Acceleration	*Payload Dependent*
Maximum Speed	*Linear Motor Drive 500 mm/s Roller lead screw Drive 40 mm/s*
Maximum Continuous Force	*To match application*
Recommended Maximum Load	
L1*Parallel to base*	*15 kg*
L2 *Tension Perpendicular to base*	*15 kg*
L3 *Compression Perpendicular to base*	*15 kg*
Feedback	*Non-Contact Linear Encoder System*
Sinusoidal Output	*1V(P-P) 20 micrometers/cycle 4096x interpolation*
TTL resolution	*100 nm, 50nm, 25nm, 12.5nm, 10nm, 1 nm*
Repeatability	*5x Resolution*
Construction	*Aluminum Alloy Body Hard Coat Gray Anodize*

METROSTAGE Guide Systems

Cross Roller

Quad-Vee Lock Needle

Custom Hybrid Designs

METROSTAGE Drive Systems

Roller Leadscrew

Linear Motor iron core/ironless

Ceramic Servo Motor

METROSTAGE Position Feedback Systems

Rotary Encoders

Linear Encoders

Laser Scale Encoders

METROSTAGE Specifications

	MS-100 ST	***MS150-ST***	***MS200-ST***	***MS300-ST***	***MS-OFT***
Travel Length (mm)	*100x 100*	*150x 150*	*200x200*	*300x300*	*OPEN FRAME*
Trajectory Control					
Accuracy					
Standard Precision SP	*± 7.5µm*	*± 10µm*	*± 15µm*	*± 20µm*	*± 15µ/m*
High Precision HP	*± 5µm*	*± 7.5µm*	*± 10µm*	*± 10µm*	*± 10µ/m*
Extra High Precision XHP	*± 2.5µm*	*± 3µm*	*± 5µm*	*± 5µm*	*± 5µ/m*
Straightness/Flatness					
Standard SP	*± 5 µm*	*± 7.5 µm*	*± 10 µm*	*± 10 µm*	*± 10 µm*
High Precision HP	*± 3µm*	*± 4 µm*	*± 6 µm*	*± 6 µm*	*± 6 µm*
Extra High Precision XHP	*± 2µm*	*± 3 µm*	*± 4 µm*	*± 5 µm*	*± 5 µm*
Yaw/Pitch/Roll					
Standard SP	*10 arc-sec*	*10 arc-sec*	*10 arc-sec*	*10 arc-sec*	*10 arc-sec*
High Precision HP	*5 arc-sec*	*5 arc-sec*	*5 arc-sec*	*5 arc-sec*	*5 arc-sec*
2 axis system all					
Orthogonality					
Standard SP	*10 arc-sec*	*10 arc-sec*	*10 arc-sec*	*10 arc-sec*	*20 arc-sec*
High Precision HP	*5 arc-sec*	*5 arc-sec*	*5 arc-sec*	*5 arc-sec*	*10 arc-sec*
Extra High Precision XHP	*3 arc-sec*	*3 arc-sec*	*3 arc-sec*	*3 arc-sec*	*Na*