

Nano/Micro Rotation Stage

UP-200R Series

The Nano/Micro Rotation Stage UP-200R Series are small rotation stages developed for applications that require microscopic rotation and position detection in atmospheric and high-vacuum conditions.

Features

- Compact design allows incorporation into a variety of scanning electron microscopes (SEMs) and focused ion beam (FIB) systems. (Contact us for details)
- Models are also available with optional rotational angle detection.
- Installing the Unisoku XYZ Three-axis Nano-manipulator/Prober's Z-stage enables applications that require a XYZ+R (rotation) four-axis stage.
- Simple operation from a PC running Windows.

Primary Applications

- Rotational operation and angle detection under SEM, FIB, and optical microscopy
- Nano/Micro-manipulation and probing combining XYZ operation and rotational operation.

Lineup

• Rotation Stage (R)

Consists of stage unit, controller, and control software (PC optional).

Selectable rotational angle detection function.

Model No.

UP-200R... No rotational angle detection function

UP-200RE... With rotational angle detection function

• XYZ Three-axis + Rotation (R) Stage

Consists of stage unit, controller, and control software (PC optional).

Selectable rotational angle detection function.

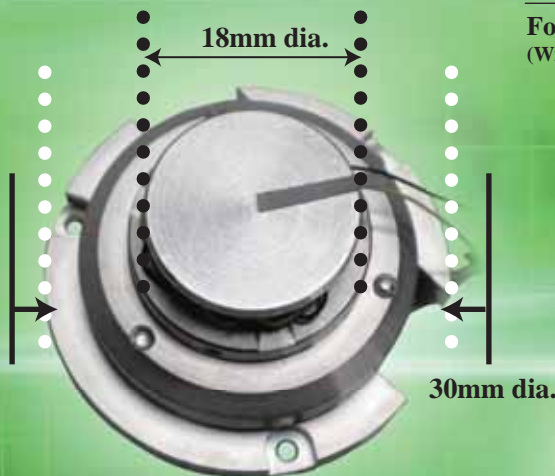
Model No.

UP-200UR... No rotational angle detection function

UP-200URE... With rotational angle detection function

XYZ Three-axis + R (Rotation)

Four-axis Stage UP-200URE
(With rotational angle detection function)



Rotation Stage

UP-200R, UP-200RE

* Rotor shape can be modified



XYZ Three-axis Stage Part



22mm dia.

UP-200UR Rotor

*Shape of rotor at tip can be modified
(No rotational angle detection function)



Controller

Nano/Micro Rotation Stage

UP-200R Series

Specifications

Model No.		UP-200R	UP-200RE	UP-200UR	UP-200URE	
Stage Type		Rotation Stage		XYZ+R (Rotation) Four-axis Stage		
Angle Detection Function		No Angle Detection Function	With Angle Detection Function	No Angle Detection Function	With Angle Detection Function	
Unit (Stage)	Max. Range of Motion	XYZ Coarse (Pulse) Mode	-	-	XY-axis: >5 mm, Z-axis: >3 mm (*Modification possible by special order)	
		XYZ Fine (DC) Mode	-	-	XYZ-axis: >1 μm (*Modification (i.e., changes to piezo element) possible by special order)	
		Rotation (Pulse) Mode	>360°			
	Min. Resolution	XYZ Coarse (Pulse) Mode	-	-	<150 nm (*Modification (changes to piezo element) possible by special order—values may vary)	
		XYZ Fine (DC) Mode	-	-	Variable resolution: Max. Range of Motion in DC Mode/20,000 Guaranteed resolution: Max. Range of Motion in DC Mode/2,000	
		Rotation (Pulse) Mode	<0.05°			
	Rotation Speed		Approximately 30 s – 120s/1 rotation (variable) *Varies with size/shape of rotor			
	Detection Angle Reading Resolution		-	<0.25° (*Higher resolution possible by special order.)	-	<0.25° (*Higher resolution possible by special order.)
	Rotary Shaft Eccentricity		>100 μm (± Stand)			
	Input	Voltage	±150V			
		Extraction Line	2 (Twisted pair wire)			
		Connector	For D-sub terminal			
	Dimensions, Weight	Rotation Stage Dimensions (mm)	Rotor OD: 18 mm dia. Stator OD: 30 mm dia.		Rotor OD: 22 mm dia. Stator OD: 22 mm dia.	Rotor OD: 17 mm dia. Stator OD: 22 mm dia.
		Weight	<100 g (Not including mounting base plate)	<120 g (Not including mounting base plate)	<180 g (Not including mounting base plate)	<200 g (Not including mounting base plate)
	Operating Environment	Vacuum	In air & 10 ⁻² -10 ⁻⁶ Pa	In air & 10 ⁻² -10 ⁻⁴ Pa	In air & 10 ⁻² -10 ⁻⁶ Pa	In air & 10 ⁻² -10 ⁻⁴ Pa
Service Temperature Range		4 degrees C - 40 degrees C				
Service Humidity Range		15%-80% *Cannot be used under condensation conditions due to sudden changes in the service environment				
Controller	Input Voltage		AC100 VAC (50/60 Hz) *(If requested prior to shipping, this can be modified to AC110, 115, 120, 220, or 240 V)			
	Power Consumption		Less than 100 VA			
	Controller Output		±150 V max.			
	Output Terminal		D-sub 9-pin female			
	Input Terminal		USB terminal			
	Dimensions, Weight	Dimensions	213(W)×370(D)×100(H) mm			
		Weight	Approx. 6 kg			
	Operating Environment	Service Temperature Range	5 degrees C - 40 degrees C			
Service Humidity Range		15%-80% *Cannot be used under condensation conditions due to sudden changes in the service environment				
Accessories	Standard Control Software CD-ROM		Windows XP/Vista (32-bit) Single-user license : 1			
	Special Connection Cable (USB)		PC – Controller (3 m) : 1			
	Special Connection Cable (One-side Dsub 15)		1.5 m : 1			
Optional Requested specifications for Notebook PC for Operation (Supplied or purchased separately by customer)	OS (32-bit version)		WindowsXP or Vista			
	USB Port		At least one			
	CD-ROM Drive		Required			
	Memory		At least 512 MB *To allow for optimal OS operation.			
	HDD		At least 10 MB available space			

Specifications and appearance are subject to change without notice.