



## Objective scanning mechanism

### OSM-Z-400A Objective scanning mechanism

Using Queensgate's *Dual Sensor Technology™* the OSM-Z-400A offers sub-nanometre positioning over 400µm of displacement with extremely low settling times.

#### Queensgate's Dual sensor Technology™

Queensgate's *Dual Sensor Technology™* is a unique technology which improves system stability against payload change and allows stages to achieve faster step responses and increased mechanical bandwidth (stable operating frequency).

#### Key features

- 400µm travel range with sub-nanometer positioning resolution
- Direct metrology with capacitive positioning sensor
- Friction-free, high stiffness flexure guided precision system
- Queensgate dual sensor technology

#### Applications

- Surface structure analysis
- Autofocus systems
- Confocal microscopy
- Scanning Interferometry

#### Suggested controller

- NPC-D-5110DS
- NPC-A-1110-DS

#### Thread Size

#### Adaptor

W0.8" x 1/36"	OSM-Z-AW08
M25 x 0.75	OSM-Z-AM25
M26 x 0.75	OSM-Z-AM26
M27 x 0.75	OSM-Z-AM27
M28 x 0.75	OSM-Z-AM28
M29 x 0.5	OSM-Z-AM29





## Objective scanning mechanism OSM-Z-400

### Technical Specification

Parameter	Value	Unit	Tolerance	Note
Material	Titanium alloy	-	-	
Dimension	100 (L) x 49 (H) x 46 (Ø)	mm	±3%	
Mass	200	g	±5%	
Range	400	µm	min	
Resolution	1	nm	typical	With NPC-D-5110DS controller
Linearity	0.02	%	typical	
Rotation error	30	µrad	typical	
Repeatability	±1	nm	typical	
Stiffness	0.5	N·µm <sup>-1</sup>	±20%	
Resonant frequency unloaded	280	Hz	±20%	
Resonant frequency 150g	150	Hz	±20%	
Resonant frequency 500g	94	Hz	±20%	
Max load	500	g	max	
Bandwidth	100	Hz	typical	
Small signal settling time	10	ms	typical	
Cable Length	2	m	±20mm	

