

## Features

- ▶ UHV compatible construction
- ▶ Three axis (XYZ)
- ▶  $200\ \mu\text{m} \times 200\ \mu\text{m} \times 200\ \mu\text{m}$  motion
- ▶ Bakeable to  $100^\circ\text{C}$
- ▶ Titanium and 316SS construction
- ▶ **pico** sensor technology
- ▶ Closed loop control

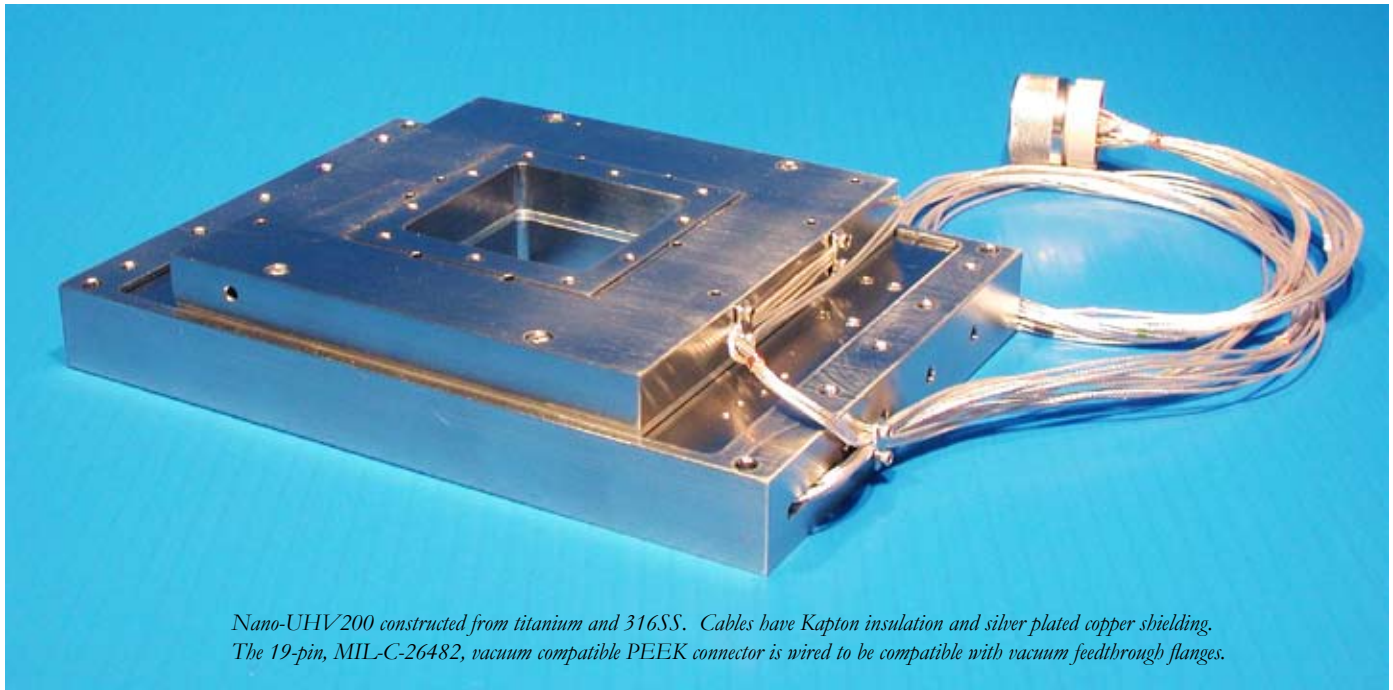
## Typical Applications

- ▶ X-ray, VUV, and optical microscopy
- ▶ Surface metrology
- ▶ UHV atomic scale microscopy
- ▶ Special designs - just contact us with your requirements

### LabVIEW Compatible USB Interfaces



Examples, tutorial, and Nano-Route 3D supplied with Nano-Drive USB interfaces.



*Nano-UHV200 constructed from titanium and 316SS. Cables have Kapton insulation and silver plated copper shielding. The 19-pin, MIL-C-26482, vacuum compatible PEEK connector is wired to be compatible with vacuum feedthrough flanges.*

## Product Description

The Nano-UHV200 is a three axis UHV compatible nanopositioning system constructed from titanium and 316 stainless steel. Made entirely from non-magnetic UHV compatible materials, the Nano-UHV200 is bakeable to  $100^\circ\text{C}$  for vacuum applications in the  $10^{-10}$  Torr range. A 2 inch x 2 inch center aperture provides an optical pathway or access for sample holders. Internal position sensors utilizing proprietary

**pico** technology provide absolute, repeatable position measurement with picometer accuracy. Cable lengths and connectors are customized for the actual installation. Connector wiring is compatible with Accu-Glass Products electrical feedthrough flanges - compatibility with other types of flanges may be requested. Note: Customized UHV stages are always welcome - just email or call to discuss your special requirements.

## Technical Specifications

Range of motion (X) .....	200 $\mu\text{m}$
Range of motion (Y) .....	200 $\mu\text{m}$
Range of motion (Z) .....	200 $\mu\text{m}$
Resolution (XYZ).....	0.4 nm
Resonant Frequency (X) .....	300 Hz $\pm 20\%$
Resonant Frequency (Y) .....	150 Hz $\pm 20\%$
Resonant Frequency (Z) .....	175 Hz $\pm 20\%$
Stiffness.....	2 N/ $\mu\text{m}$
$\theta_{\text{roll}}, \theta_{\text{pitch}}$ (typical).....	$\leq 1 \mu\text{rad}$
$\theta_{\text{yaw}}$ (typical) .....	$\leq 3 \mu\text{rad}$
Recommended max. load (horizontal)* .....	0.5 kg
Recommended max. load (vertical)* .....	0.2 kg
Body Material .....	Titanium and 316 SS
Controller .....	Nano-Drive <sup>®</sup>

\* Larger load requirements should be discussed with our engineering staff.

