The Nano-SPMZ integrates single axis micropositioning and high resolution nanopositioning into a compact unit which is compatible with optical tables and standard mounting accessories. Stepper motor driven coarse positioning over 25mm can produce a minimum step size of 95nm. An optional high resolution linear encoder incorporated into the coarse positioning stage continuously monitors positions down to 20nm. Nanopositioning over 30 microns provides the ultimate positioning resolution of 60 picometers with the stability of the proprietary position feedback sensors. The USB digital interface provides direct PC control of the micropositioner and nanopositioner as well as access to the linear encoder and position sensor inside the nanopositioner.
Technical Specifications

**Micropositioner**
- Range of motion (micropositioner) ................. 25 mm
- Micropositioning step size ......................... 95 nm
- Maximum speed ....................................... 4 mm/sec

**Motion Profile**
- Motion >500 steps ........... Automatic accel/decel control
- Motion ≤500 steps ......................... Constant 1 step/ms

- Linear encoder resolution ......................... 20 nm
- Body Material ........................................ Aluminum
- Controller .............................................. Micro-Drive™
- Computer interface ............................... Bidirectional USB

**Nanopositioner**
- Range of motion (nanopositioner) ...................... 30 µm
- Maximum resolution (nanopositioner) ................ 0.06 nm
- Resonant frequency (nanopositioner) ........... 4 kHz ±20%
- Resonant Frequency (100g load) .............. 2 kHz ±20%
- Stiffness ................................................. 3.0 N/µm ±20%

- Recommended max. load (horizontal)* .......... 1.0 kg
- Recommended max. load (vertical)* ............. 0.5 kg
- Body Material ........................................ Aluminum
- Controller .............................................. Nano-Drive®
- Computer interface ............................... USB

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

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**Dimensions**

- **Nano-OP30**
  - 4 x Tapped 8-32 0.100 on a 0.875” square
  - 6x Tapped 1/4-20 0.500 for mounting from reverse
  - 8x C-Bored for 1/4-20 SHCS on 1.00” spacing

- **Nano-SPMZ**
  - 0.812

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**Note:** All Dimensions in Inches

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