

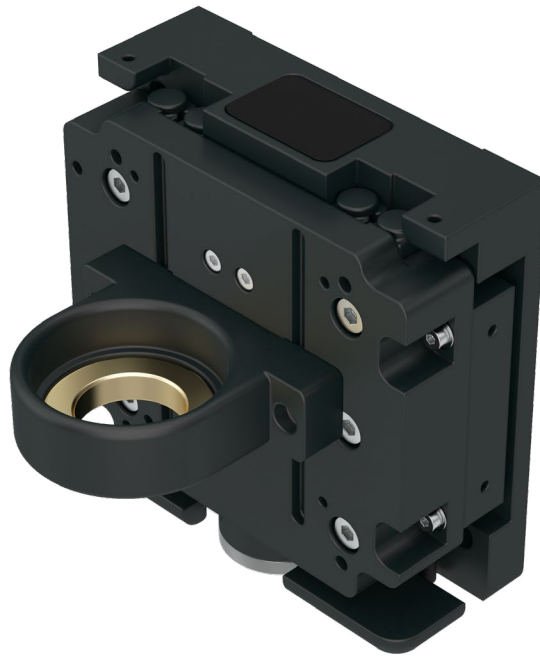
Parker ZFA

Optomechanical Focusing Nano Positioner

General Information

For machinery or instrument builders who require nanometer level stability and ultra low settling times for dynamic focusing applications.

The Parker ZFA is a precision machined, crossed roller guided, voice coil driven positioner utilizing the latest in linear encoder technology, with selectable integration features to match the application need.



Key Features

- **95 x 90 x 36 form factor**
- **Up to 9 mm of usable travel**
- **Up to 1 kg objective mass**
- **Internal configurable magnetic counterbalance**
- **Up to 2 kg objective mass with optional external counterbalance**
- **Included encoder reference mark**
- **Adjustable hard stops**
- **Fixed cable design**
- **CE and RoHS Compliance**

Nanometer Level Performance

With industry leading natural frequencies, the ZFA provides stabilities on the nanometer scale. These, combined with single digit nanometer resolutions, allow for rapid step and settle moves, increasing image quality and throughput.

Precision Objective Bracket Alignment

Integral carriage datum features allow factory alignment of objective bracket to travel path. Base datum features allow for easy integration of the ZFA into instruments. Datum features are present with or without an included objective bracket for alignment in the field.



ENGINEERING YOUR SUCCESS.

Parker ZFA

General Specifications

	Units	Parker ZFA
Travel Range	mm	9
Travel (Hard Stop to Hard Stop)	mm	9.5
Resolution (Digital Encoder)	nm	2.5
Positional Accuracy over full travel^{1,2}	μm	+/- 4
Positional Accuracy over 1mm travel^{1,2}	μm	1
Positional Repeatability over full travel^{1,2}	nm	+/- 250
Standstill Stability^{1,2,3,4}	nm (rms)	5
Step and Settle Capability^{1, 2, 3, 4}	nm	100nm step and settle within +/- 15nm < 15ms
Max Velocity (2.5nm digital encoder) Requires minimum of 20 Mhz encoder input	mm/sec	32
Continuous Motor Force	N	4
Peak Motor Force	N	10
Stage Mass (No bracket)	kg	0.96
Overall Dimension (excluding bracket)	L x W x H (mm)	95 x 90 x 36 101 x 90 x 36 (Includes cable clearance)

1 Stage mounted to granite surface, 2.5 micron optical encoder.

2 Measurements taken at 35 mm above the center of the carriage.

3 Please see tables in ZFA catalog on pages 7-11 for more details.

4 Possible performance highly dependent on other system design factors, including drive and control. Contact factory for details.

Selectable Levels of Integration

Included Objective Mounting Bracket

- M25-M32, SM1, and RMS mounting
- Custom brackets available

Configurable Internal Magnetic Counterbalance

- Objective masses up to 1 kg
- Non-contact design
- Internal mounting

Optional Additional External Magnetic Counterbalance

- Objective masses from 1 to 2 kg
- External mounting

