

56 Sparta Avenue • Newton, New Jersey 07860
 (973) 300-3000 Sales • (973) 300-3600 Fax
 www.thorlabs.com

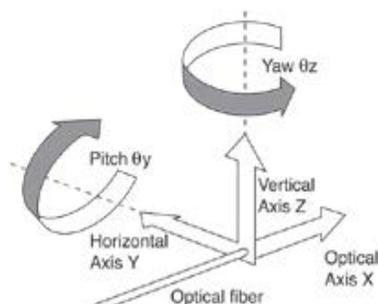
THORLABS

NBM413 - April 18, 2016

Item # NBM413 was discontinued on April 18, 2016. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

4-AXIS NANOBLOCK DEVICE PLATFORM, 112.5 mm DECK HEIGHT

- ▶ Lockable Differential Drives
- ▶ Extended Travel on All Axes for Rough Positioning to an Alignment Stage



NBM413
 Patent 6,186,016

[Hide Overview](#)

OVERVIEW

Features

- 112.5 mm Stage Height
- 13 mm Horizontal and 6 mm Vertical Translation
- 8° Pitch and Yaw Translation

The NBM413 NanoBlock™ platform is offered as a cost-effective, 4-axis positioner designed for the precise pre-alignment orientation of integrated optical or optoelectronic devices and general photonic components. With a 112.5 mm deck height, the NBM413 (/M) is intended to allow advanced optical alignment stations to be built from our high performance NanoMax™ Series 6-Axis Nanopositioning system.

For optical elements that have either multiple single mode ports, or have angled input/output facets, this device platform provides a convenient means to properly position them with respect to our high performance NanoMax 6-Axis stages. Please note that we only recommend this device for the static positioning of an optical element or device. Any optimization of the coupling efficiency should be accomplished using the NanoMax 3-axis or 6-axis system to position the input/output device. The four independent degrees of freedom provide 13 mm of horizontal translation, 6 mm of vertical translation, 8° of pitch, and 8° of yaw. The 13 mm of horizontal travel allows the individual channels of a multichannel waveguide to be readily accessible.

The use of flexure hinges for the rotational degrees of freedom makes this multi-axis positioning device appropriate for the ultra-precise, backlash-free orientation of any integrated optical or optoelectronic device. The linear translations use traditional bearing stages to obtain longer travel. For device characterization or industrial pigtailling applications, we recommend using a NanoTrak™ control unit to control the vertical and horizontal axes of the NanoMax stage that positions the input/output device.

[Hide Specs](#)

S P E C S

NanoBlock" 4-Axis Specifications:

Coarse Travel	
Horizontal Axis (y)	13 mm
Vertical Axis (z)	6 mm
Pitch Axis (θ_y)	8°
Yaw Axis (θ_z)	8°
Differential Travel	
Horizontal Axis (y)	300 μ m
Vertical Axis (z)	300 μ m
Pitch Axis (θ_y)	30 arc min
Yaw Axis (θ_z)	10 arc min.
Coarse Resolution (Theoretical)	
Horizontal Axis (y)	1 μ m
Vertical Axis (z)	1 μ m
Pitch Axis (θ_y)	10 arcsec
Yaw Axis (θ_z)	10 arcsec
Differential Resolution (Theoretical)	
Horizontal Axis (y)	50 nm
Vertical Axis (z)	50 nm
Pitch Axis (θ_y)	1 arcsec
Yaw Axis (θ_z)	1 arcsec
General Specifications	
Deck Height	112.5 mm to the mounting surface of the moving platform. The accessory beam height is 125 mm measured from the bottom surface of the stage.
Load Capacity	500 g (1.1 lbs)

[Hide Part Numbers](#)

Part Number	Description	Price	Availability
NBM413/M	NanoBlock 4-Axis Waveguide Manipulator with Differential Drive Actuators, Metric	\$3,750.00	Lead Time
NBM413	NanoBlock 4-Axis Waveguide Manipulator with Differential Drive Actuators	\$3,750.00	Lead Time

Visit the *4-Axis NanoBlock Device Platform, 112.5 mm Deck Height* page for pricing and availability information:

http://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=1056