



MSTAGE

MANUAL 4 AXIS TRANSLATION STAGE

MSTAGE series

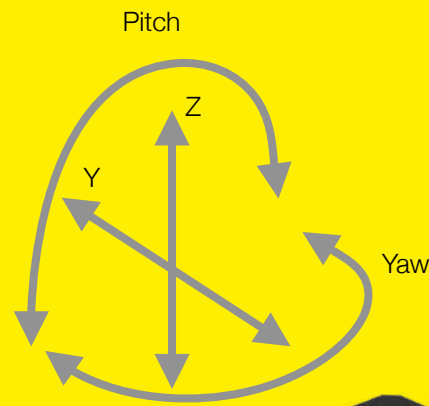


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MSTAGE

MANUAL 4-axis

TRANSLATION STAGE

Congratulations on your purchase of the manual translation stage from Optogama, UAB.

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Claims will not be accepted and warranty repair will not be carried out in case of improper use, incorrect service and maintenance not according to product instructions. Warranty claim shall not be accepted if there are any signs of:

- Non-authorized alteration
- Disassembling of the device
- Mechanical or any external damage
- If warranty term has expired
- Serial number of the product is missing

Symbols

CAUTION!

Sections marked with this symbol indicate dangerous situations that can result in damage to the device, components connected to it or operator.

NOTE:

Sections marked with this symbol indicate important information on manual translation stage or about this manual. Optogama is not liable for damage or injury resulting directly or indirectly from use of this product for anything other than its intended purpose.

1. Safety requirements

- All safety instructions must be followed.
- All rules and regulations concerning the safe operation of lasers must be known and applied while installing and operating manual translation stage.
- Even when wearing safety glasses avoid eye contact with direct or scattered laser light while assembling, installing and operating the device.
- The device should never be exposed to dirt, dust or moisture.

CAUTION! Do not adjust the platform with adjustment microscrews while microscrews are locked. It may damage the adjustment microscrews.

2. Features and advantages

- Sapphire contact pads
- Industrial design
- 4 axis fine adjustment
- Maximum load up to 1.5 kg
- Can be fixed on both Metric and Imperial optical breadboards and tables

3. What's in the box?

Standard kit includes:

1. Manual translation stage
2. 3xM4x0.7 10mm long screws for MEX (motorised beam expander) mounting

NOTE: Other accessories must be purchased separately.

4. Product description

MSTAGE is an industrial 4-axis manual translation stage with locking mechanism. It has sapphire contact pads for prolonged accurate adjustment.

There are four M6x0.25 microscrews for adjusting platform's pitch, yaw, Y and Z axis. Two microscrews control platform's pitch and Z axis, while another two control yaw and Y axis. All of them can be adjusted with 2 mm HEX screwdriver.

4.1. Mechanical specifications

Travel range	
Y axis	8 mm (± 4 mm)
Z axis	4 mm (± 2 mm)
Yaw	± 5.5 deg
Pitch	± 2.5 deg
Resolution*	
Y axis	250 $\mu\text{m}/\text{rev}$
Z axis	175 $\mu\text{m}/\text{rev}$
Yaw	0.175 deg/rev 3.05 mrad/rev
Pitch	0.117 deg/rev 2.04 mrad/rev
Maximum load	
Mounted horizontally	1.5 kg
Mounted vertically	0.5 kg
HEX Screwdriver	
Adjustment microscrew	2 mm HEX
Microscrew lock	1.5 mm HEX
Dimensions	
W x H x L	75 x 28 x 100 mm
Deck height	27 mm (± 2 mm travel)
Weight	500 g

* per microscrew's revolution

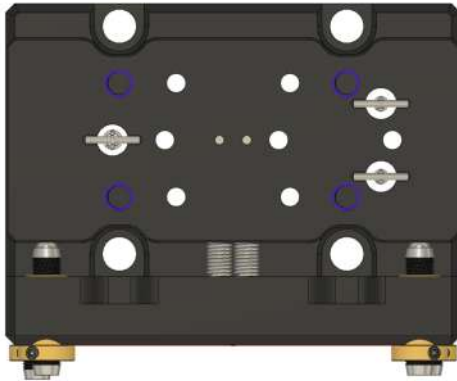
5. Mounting

5.1. Mounting holes

MSTAGE is suitable for mounting any custom unit up to 1.5 kg when the manual stage is fixed horizontally and up to 0.6 kg when vertically.

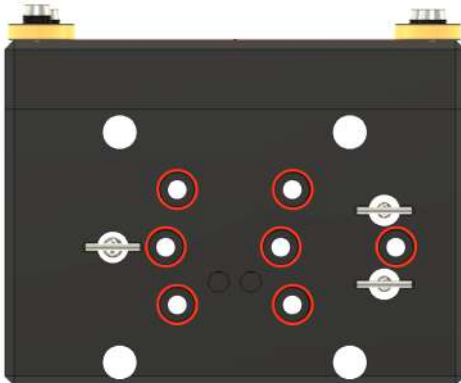
Top platform fixing holes:

- 4 x Tapped M6x1.0 (Depth 10 mm)



Bottom platform fixing holes:

- 7 x Counterbore M4x0.7 (or 4-40)



For more information check MSTAGE technical drawing in pg. 8

5.2. Mounting MEX motorised beam expander

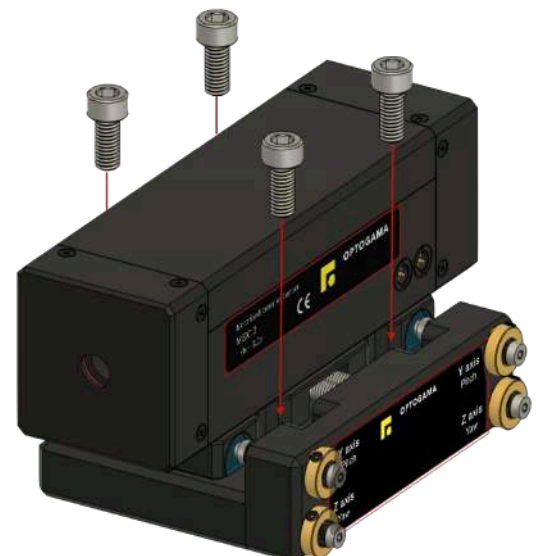
MSTAGE manual stage is suitable for MEX13, MEX18 and MEX18-ACH motorised beam expanders.

For expander mounting these steps must be followed:

1. Fix the motorised beam expander with M4x0.7 8-10mm long screws from the bottom side of the manual stage:



2. When the expander is properly fixed, place the manual stage (with fixed expander) on the bottom side and fix it with Metric M6x1.0 or Imperial 1/4"-20 screws. It can be fixed on both Metric and Imperial optical breadboards and tables:



6. Positioning the stage

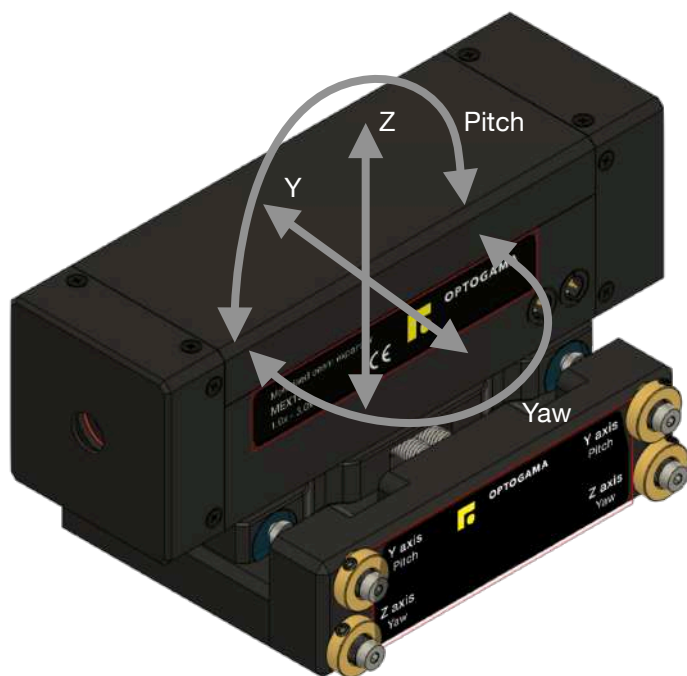
MSTAGE has 4xM6x0.25 microscrews for adjusting platform's pitch, yaw, Y and Z axis. Two microscrews control platform's pitch and Z axis, while another two control yaw and Y axis. All of them can be adjusted with 2 mm HEX screwdriver.

1. Make sure the Microscrew's lock screws are loosen before any adjustment.

NOTE: It is not necessary to unlock all microscrews if only one axis is going to be adjusted.

2. When adjustment is finished lock all four microscrews with 1.5mm HEX screwdriver.

CAUTION! Do not adjust the stage with adjustment microscrews while they are locked. It may damage the locking mechanism, or any other part of the translation stage.



7. Technical drawing

