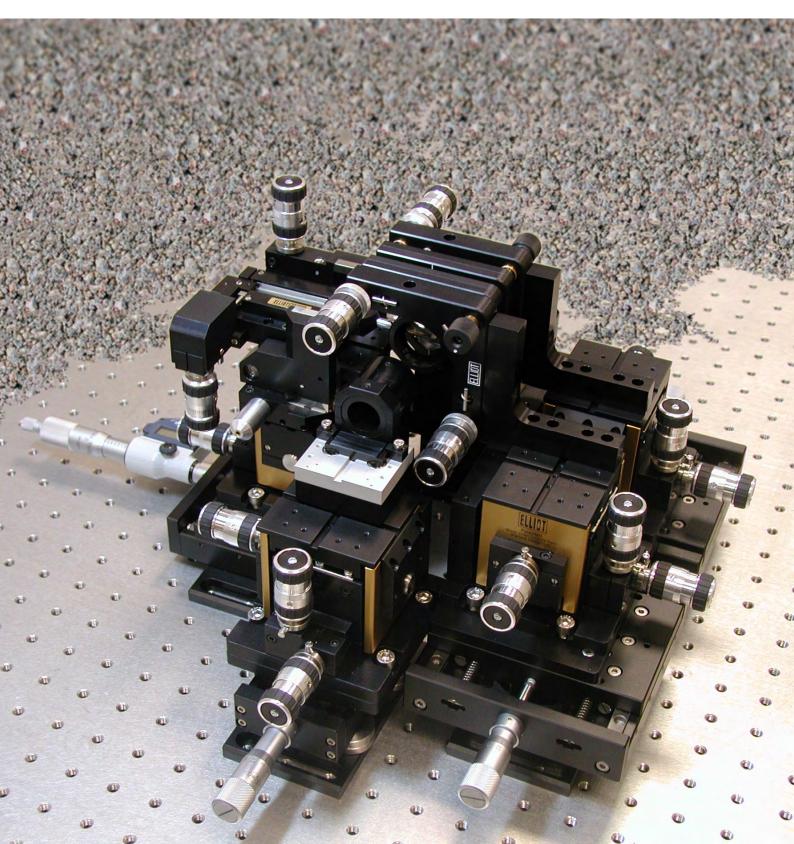
solution science

(Elliot Scientific

for research and industry

Opto-Mechanics 2012



Company Profile

Elliot Scientific is a major supplier of Opto-Mechanic components and systems under the Elliot|Martock and Elliot Scientific brands to the Scientific, Research and Industrial communities. In addition, we supply world-class Laser, Cryogenic, Magnetic, Telecom and Datacom systems sourced from many British, North American, European and Far Eastern companies.

Elliot Scientific is uniquely positioned to assist customers by being able to:

- Supply competitive components and systems
- Source, integrate and manufacture complex systems
- Design and manufacture for Custom or OEM requirements

Elliot|Martock

Martock Design became a wholly owned subsidiary of Elliot Scientific in 2003 following thirty years at the forefront of design, development and manufacture of high quality precision instruments and equipment. That tradition continues today as we continually strive to improve and expand the ranges of Elliot|Martock and Elliot Scientific own brand products.

These include our award winning optical tweezer systems, the lab essentials mirror mount range, fibre positioning components, waveguide manipulators, automated alignment systems, micropositioners and other class-leading products.

All of our customers - from academic institutions and government agencies through to commercial researchers and industry - are provided with the highest levels of service backed up by solid technical support from our team of experienced engineers.

Solution Science for Research and Industry

We pride ourselves in offering Solution Science for Research and Industry. We employ the best-qualified staff and scientists to help you sift through the multitude of options available to get the equipment and systems that match your needs. That's *Solution Science*.

Staff

We employ PhD level physicists, scientists and mechanical design engineers to assist you with your product search or application, and to ensure that our advice is correct and balanced. Many of the team have been with us for over ten years, bringing with them a huge amount of experience for you to tap into.

Quality

We have been BS EN ISO 9002 registered since 1993 and BS EN ISO 9001 registered since 2003. We understand the need for continual improvement in services and traceability, both in distribution and manufacture. Our commitment to this ensures our standards are the highest in our industry.

Catalogue & Custom Manufacturing

This catalogue only gives an overview of our extensive range. If you cannot find what you are looking for here, why not phone, fax or e-mail us. Many products have been supplied that started as ideas and concepts requested by customers requiring tailored manipulation systems. With our innovative design experience, we can offer unique solutions in opto-mechanical positioning and control systems. We are here to help you find the right products to meet your requirements.

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Opto-Mechanics 2012

XYZ Flexure Stages









Elliot Gold™ Series: XYZ Flexure Stages

MDE120 Standard XYZ Flexure Stage



- 200 nm resolution
- 2 mm travel per axis
- 4.5 kg load capacity
- Minimal arcuate displacement
- Orthogonal alignment grooves
- Ultra-stable patented† design XYZ flexure stage



The MDE120 flexure stage is fitted with simple manual adjusters and provides 200 nm of adjustment resolution with 2 mm of travel in each of the three axes.

The Elliot Gold™ series XYZ flexure stage is a development of the immensely popular original stage invented and patented† by Martock Design, now a subsidiary of Elliot Scientific. Flexure stages are ideal for high precision device manipulation.

Applications range from fibre launch systems for single-mode, multimode and polarisation maintaining fibres as well as waveguide alignment, through to the manipulation of microstructures in bioscience. The arcuate displacement (vertical displacement due to longitudinal flexure motion) is up to 4 times better than competing products.

The optical axis height of all accessories is 18 mm above the top plate, placing the optical axis 94 mm above the bottom of the stage.

Specifications

Configuration Right handed version

Adjuster Type Three simple, manual adjusters, 0.25 pitch (Model MDE217)

Stage travel 2 mm in X, Y and Z axes

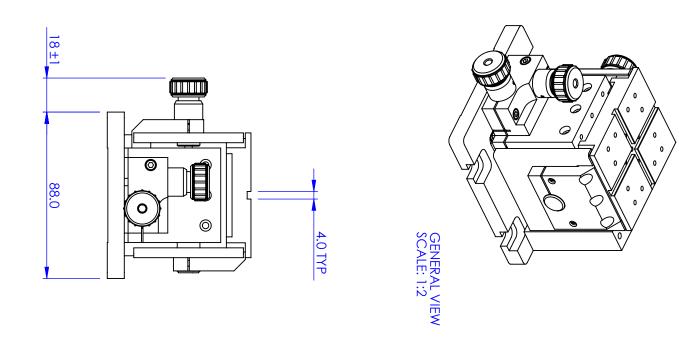
Resolution 200 nm Load capacity 4.5 kg

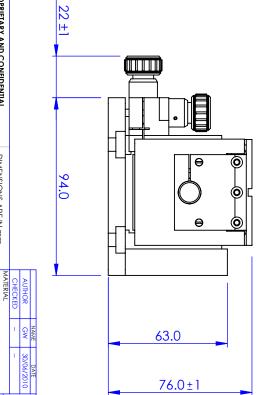
Arcuate Displacement X axis: 20 µm, Y & Z axes: 14 µm (at maximum range of travel)

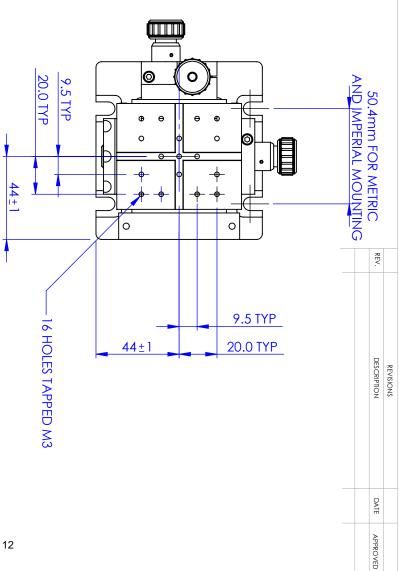
Optical axis 94 mm above the bottom of the stage

Includes Model MDE154 clamp set
Variants Left-handed version available

† Patent Nos. GB 2129955B & USA 4635887







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ALL BURRS, SHARP EDGES
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REMOVED DO NOT SCALE DRAWING

DWG. NO. MDE120 THIRD ANGLE PROJECTION SHEET 1 OF 1

SCALE:1:2

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FLEXURE STAGE

Elliot Scientific



Elliot Gold™ Series: XYZ Flexure Stages

MDE122 High-Precision XYZ Flexure Stage



- 20 nm resolution
- 2 mm travel per axis
- 4.5 kg load capacity
- Minimal arcuate displacement
- · Orthogonal alignment grooves
- Patented† high resolution adjusters
- Ultra-stable patented†† design XYZ flexure stage



The MDE122 flexure stage is fitted with simple manual adjusters and provides 20 nm of adjustment resolution with 2 mm of travel in each of the three axes.

The Elliot Gold™ series XYZ flexure stage is a development of the immensely popular original stage invented and patented† by Martock Design, now a subsidiary of Elliot Scientific. Flexure stages are ideal for high precision device manipulation.

Applications range from fibre launch systems for single-mode, multimode and polarisation maintaining fibres as well as waveguide alignment, through to the manipulation of microstructures in bioscience. The arcuate displacement (vertical displacement due to longitudinal flexure motion) is up to 4 times better than competing products.

The optical axis height of all accessories is 18 mm above the top plate, placing the optical axis 94 mm above the bottom of the stage.

Specifications

Configuration Right handed version

Adjuster Type Three high-precision adjusters (Model MDE216) utilising a patented† lever

system with rotary fine and coarse control

Stage travel 2 mm in X, Y and Z axes

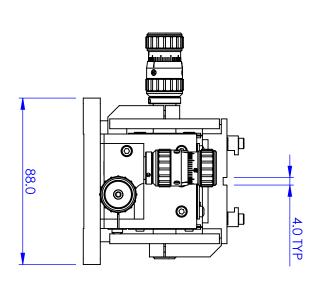
Resolution 20 nm Load capacity 4.5 kg

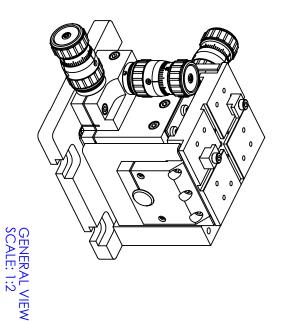
Arcuate Displacement X axis: 20 µm, Y & Z axes 14 µm (at maximum range of travel)

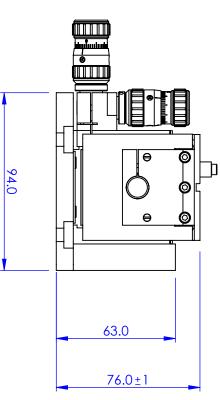
Optical axis 94 mm above the bottom of the stage

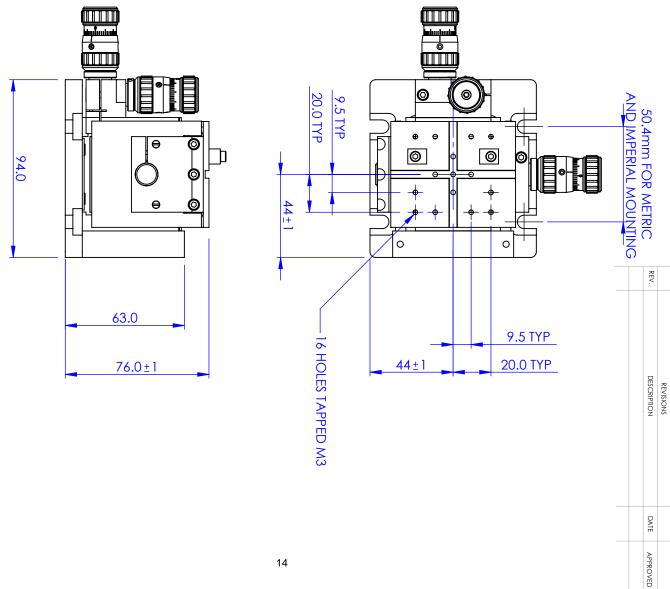
Includes Model MDE154 clamp set
Variants Left-handed version available

† Patent Nos. GB 2152616B & USA 4617833 †† Patent Nos. GB 2129955B & USA 4635887









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ALL BURRS, SHARP EDGES
AND CORNERS TO BE
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SCALE:1:2

THIRD ANGLE PROJECTION

SHEET 1 OF 1

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DWG. NO. MDE122

FLEXURE STAGE

Elliot Scientific

MATERIAL

14



Elliot Gold™ Series: XYZ Flexure Stages

MDE123 XYZ Flexure Stage with 25 µm Piezo Actuators



- 10 nm resolution
- 25 µm Piezo adjustment travel
- 2 mm coarse travel per axis
- 4.5 kg load capacity
- Minimal arcuate displacement
- Orthogonal alignment grooves
- Ultra-stable patented† design XYZ flexure stage



The MDE123 flexure stage is fitted with piezo actuators providing 25 µm of piezo and 2 mm of manual adjustment in each of the three axes. This system can be controlled either via a simple piezo controller or an Elliot Scientific Device Automated Alignment System (DALi2).

The Elliot Gold™ series XYZ flexure stage is a development of the immensely popular original stage invented and patented† by Martock Design, now a subsidiary of Elliot Scientific. Flexure stages are ideal for high precision device manipulation.

Applications range from fibre launch systems for single-mode, multimode and polarisation maintaining fibres as well as waveguide alignment, through to the manipulation of microstructures in bioscience. The arcuate displacement (vertical displacement due to longitudinal flexure motion) is up to 4 times better than competing products.

The optical axis height of all accessories is 18 mm above the top plate, placing the optical axis 94 mm above the bottom of the stage.

Specifications

Configuration Right handed version

Adjuster Type Three 0 ~ 150 V piezo with manual control (model MDE218), piezo travel 25

μm

Stage travel 2 mm coarse manual travel (on 0.25 pitch thread) in X, Y and Z axes

Resolution 10 nm with piezo control (over 25 µm range)

Load capacity 4.5 kg

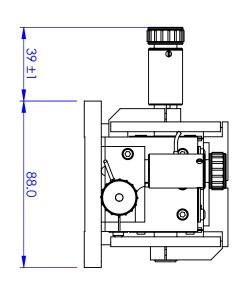
Arcuate Displacement X axis: 20 µm, Y & Z axes: 14 µm (at maximum range of travel)

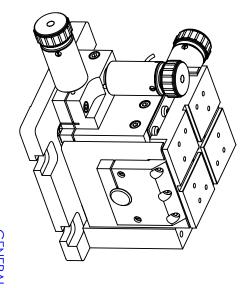
Optical axis 94 mm above the bottom of the stage

Includes Model MDE154 clamp set

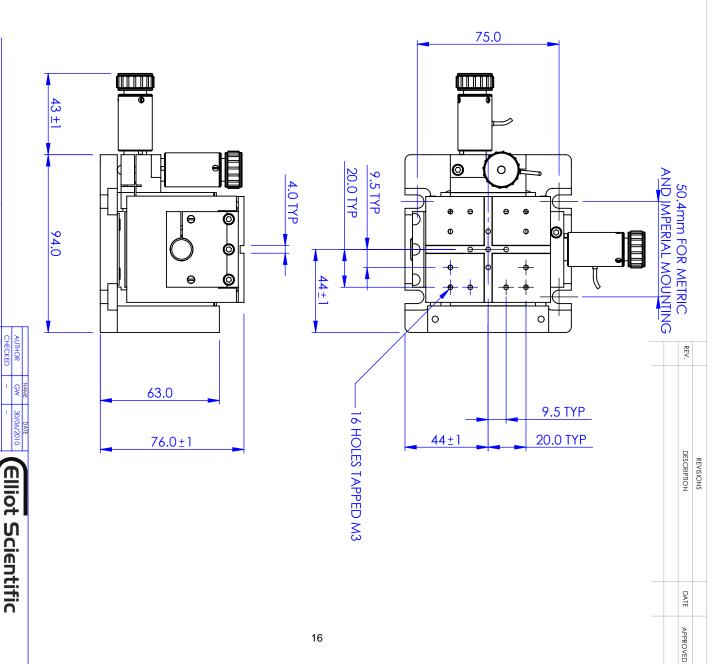
Variants Left-handed version available

† Patent Nos. GB 2129955B & USA 4635887









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MATERIAL

DWG. NO. MDE123 THIRD ANGLE PROJECTION SHEET 1 OF 1

SCALE:1:2

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FLEXURE STAGE



Elliot Gold™ Series: XYZ Flexure Stages

MDE125 XYZ Flexure Stage with 100 µm Piezo Actuators



- 50 nm resolution
- 100 µm Piezo adjustment travel
- 2 mm coarse travel per axis
- 4.5 kg load capacity
- Minimal arcuate displacement
- Orthogonal alignment grooves
- Ultra-stable patented† design XYZ flexure stage



The MDE125 flexure stage is fitted with piezo actuators providing 100 µm of piezo and 2 mm of manual adjustment in each of the three axes. This system can be controlled either via a simple piezo controller or an Elliot Scientific Device Automated Alignment System (DALi2).

The Elliot Gold™ series XYZ flexure stage is a development of the immensely popular original stage invented and patented† by Martock Design, now a subsidiary of Elliot Scientific. Flexure stages are ideal for high precision device manipulation.

Applications range from fibre launch systems for single-mode, multimode and polarisation maintaining fibres as well as waveguide alignment, through to the manipulation of microstructures in bioscience. The arcuate displacement (vertical displacement due to longitudinal flexure motion) is up to 4 times better than competing products.

The optical axis height of all accessories is 18 mm above the top plate, placing the optical axis 94 mm above the bottom of the stage.

Specifications

Configuration Right handed version

Adjuster Type Three 0 ~ 150 V piezo with manual control (model MDE227), piezo travel 100

μm

Stage travel 2 mm coarse manual travel (on 0.25 pitch thread) in X, Y and Z axes

Resolution 50 nm with piezo control (over 100 µm range)

Load capacity 4.5 kg

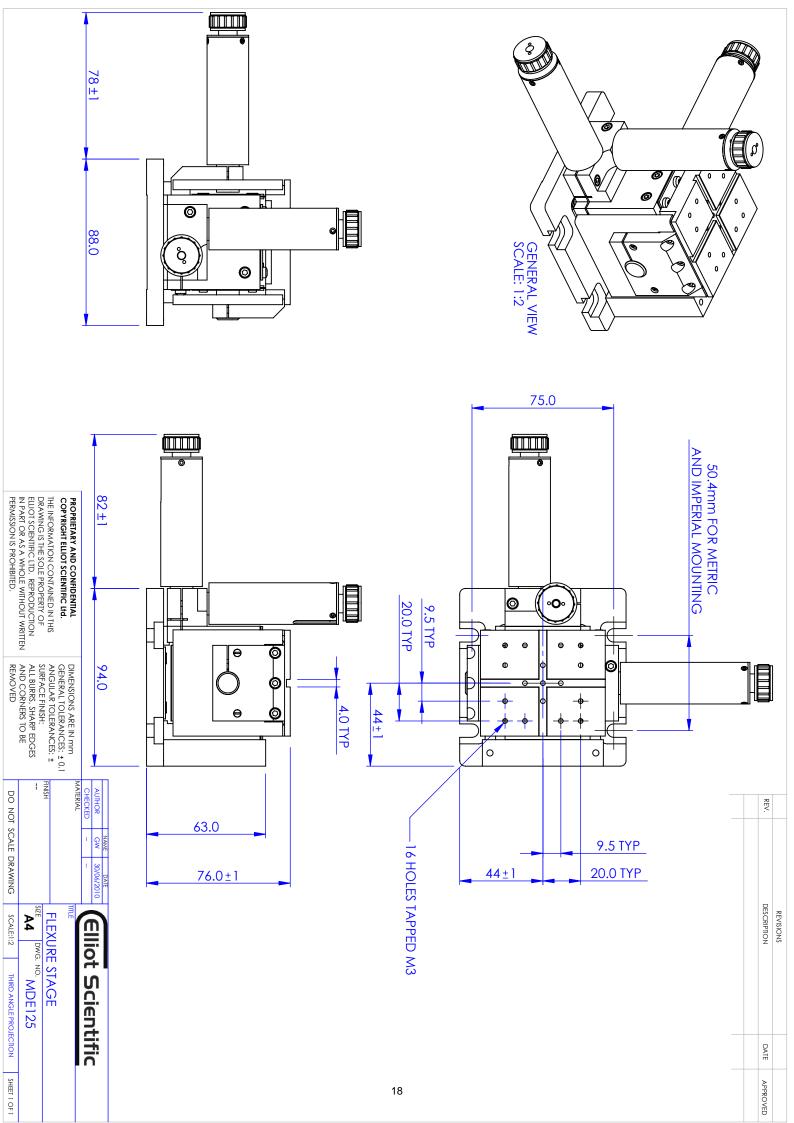
Arcuate Displacement X axis: 20 µm, Y & Z axes: 14 µm (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Includes Model MDE154 clamp set

Variants Left-handed version available

† Patent Nos. GB 2129955B & USA 4635887





Elliot Gold™ Series: XYZ Flexure Stages

MDE330 XYZ Flexure Stage without Adjusters



- 2 mm coarse travel per axis
- 4.5 kg load capacity
- Minimal arcuate displacement
- Orthogonal alignment grooves
- Use any combination of Elliot Scientific adjuster types
- Ultra-stable patented† design XYZ flexure stage



The MDE330 flexure stage is supplied without adjusters, thereby permitting the user to choose and fit a different type of adjuster on each axis to match individual performance and cost requirements. For example, 1 manual and 2 piezo adjusters or 2 high-precision and 1 piezo. The MDE330 is compatible with all Elliot Scientific adjusters.

The Elliot Gold™ series XYZ flexure stage is a development of the immensely popular original stage invented and patented† by Martock Design, now a subsidiary of Elliot Scientific. Flexure stages are ideal for high precision device manipulation.

Applications range from fibre launch systems for single-mode, multimode and polarisation maintaining fibres as well as waveguide alignment, through to the manipulation of microstructures in bioscience. The arcuate displacement (vertical displacement due to longitudinal flexure motion) is up to 4 times better than competing products.

The optical axis height of all accessories is 18 mm above the top plate, placing the optical axis 94 mm above the bottom of the stage.

Specifications

Configuration Right handed version

Adjusters None fitted

Stage travel 2 mm in X, Y and Z axes
Resolution Adjuster dependent

Load capacity 4.5 kg

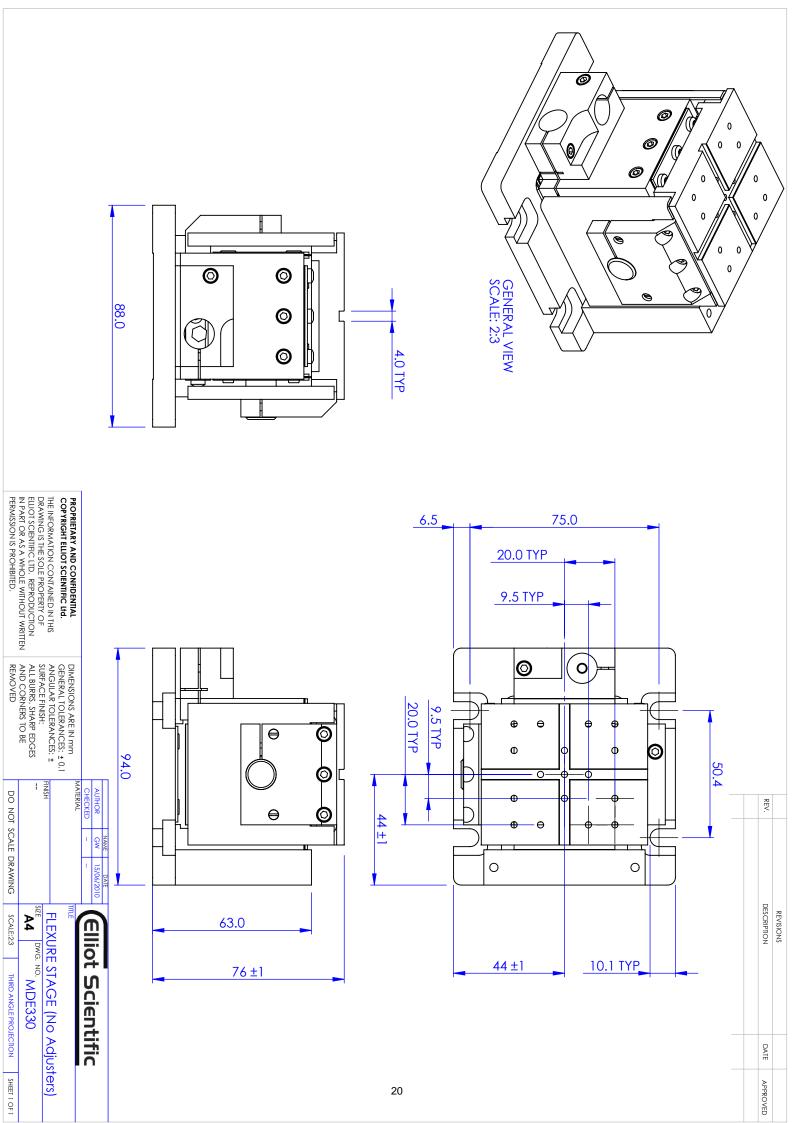
Arcuate Displacement X axis: 20 µm, Y & Z axes: 14 µm (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Includes Model MDE154 clamp set

Options and Accessories

Flexure stage accessories - objective mounts, plates, clamps
Alternative adjusters - simple, high precision, piezo or motorised
Left-handed version (To special order)
Pitch and yaw add-on modules
Fibre launch systems
Fixed brackets





MDE141 Riser Block Set



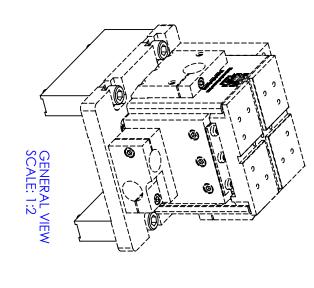


This riser block set is used in conjunction with XYZ Flexure Stages to raise their optical axis height from 94 mm to 125 mm. This is required when using standard stages opposite the MDE183/MDE185 Pitch and Yaw Stages, or XYZ Flexure Stages mounted on an MDE889-60 Rack & Pinion Slide.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Options and Accessories

MDE12x series XYZ Flexure Stages MDE330 XYZ Flexure Stage MDE183 Pitch & Yaw Stage MDE185 Pitch & Yaw Stage MDE889-60 Rack & Pinion Slide



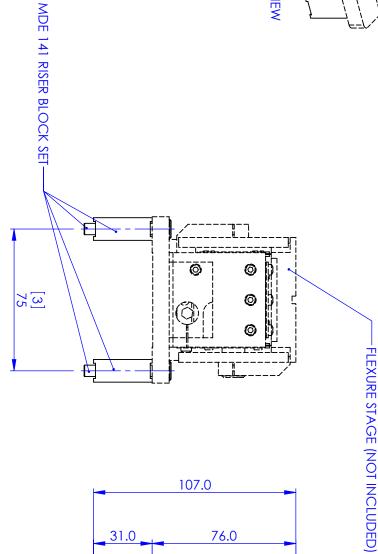
TOP PLATE FROM A STANDARD OPTICAL AXIS HEIGHT OF 94mm TO 125mm (107 + 18) RISER BLOCKS ELEVATE FLEXURE STAGE

REV.

DESCRIPTION REVISIONS

DATE

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THIRD ANGLE PROJECTION

SHEET 1 OF 1

MATERIAL **A** RISER BLOCK SET **Elliot Scientific** DWG. NO. MDE141



MDE147 Large Fixed Bracket with 60 mm Slot

For X-axis use





The MDE147 is for mounting accessories along the X-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 60 mm milled along it, a locating groove and threaded mounting holes. The package includes a model MDE154 clamp set.

Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block

1 LARGE PLATFORM ASSEMBLY	2		MDE147
XYZ FLEXURE STAGE			MDE330
PART NO. ITEM NO. QTY DESCRIPTION	QIY	TEM NO.	PART NO.

REV.

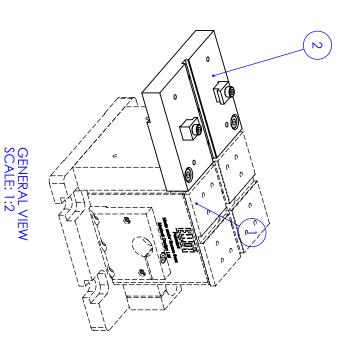
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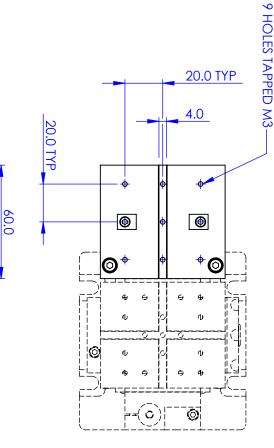
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NB FLEXURE STAGE NOT INCLUDED





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THIRD ANGLE PROJECTION SHEET 1 OF 1

ASIZE A LARGE FIXED PLATFORM DWG. NO. MDE147

MATERIAL

Elliot Scientific

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MDE148 Small Fixed Bracket with 20 mm Slot

For X-axis use





The MDE148 is for mounting accessories along the X-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 20 mm milled along it, a locating groove and threaded mounting holes. The package includes a model MDE154 clamp set.

Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block

1 SMALL PLATFORM ASSEMBLY	_	2	MDE148
1 XYZ FLEXURE STAGE	_	1	MDE330
PART NO. TEM NO. QTY DESCRIPTION	QTY	ITEM NO.	PART NO.

REV.

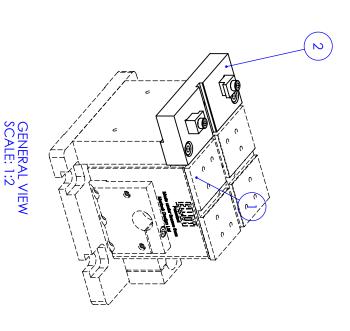
DESCRIPTION

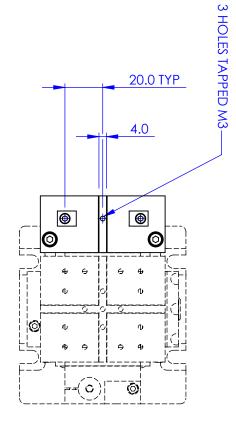
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NB FLEXURE STAGE NOT INCLUDED





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MATERIAL ASIZE A SMALL FIXED PLATFORM **Elliot Scientific** DWG. NO. MDE148

SCALE:1:2

THIRD ANGLE PROJECTION SHEET 1 OF 1

30.0



MDE149 L-Shaped Bracket with 46 mm Slot

For Y-axis use





The MDE149 is for mounting accessories along the Y-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 60 mm milled along it, a locating groove and threaded mounting holes. The package includes a model MDE154 clamp set.

Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block

	MDF149	MDE330	PART NO.	
[2	1	ITEM NO. (
	_	1	ΩTY	
	SIDF PLATFORM ASSEMBLY	XYZ FLEXURE STAGE	PART NO. TEM NO. QTY DESCRIPTION	

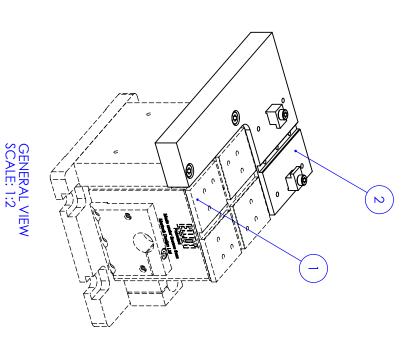
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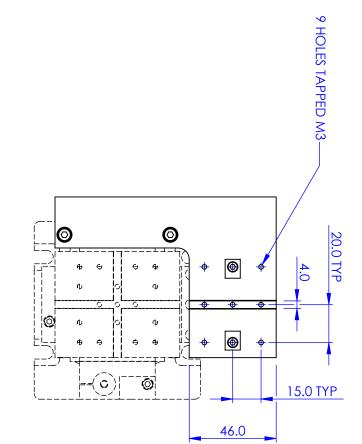
DESCRIPTION REVISIONS

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NB FLEXURE STAGE NOT INCLUDED





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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL SIZE A SIDE PLATFORM DWG. NO. MDE149

Elliot Scientific



MDE147E Large Fixed Bracket with Imperial Tapped Holes & 60 mm Slot

For X-axis use





The MDE147E is for mounting accessories along the X-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 60 mm milled along it, a locating groove and 6-32 threaded mounting holes. The package includes a model MDE154 clamp set.

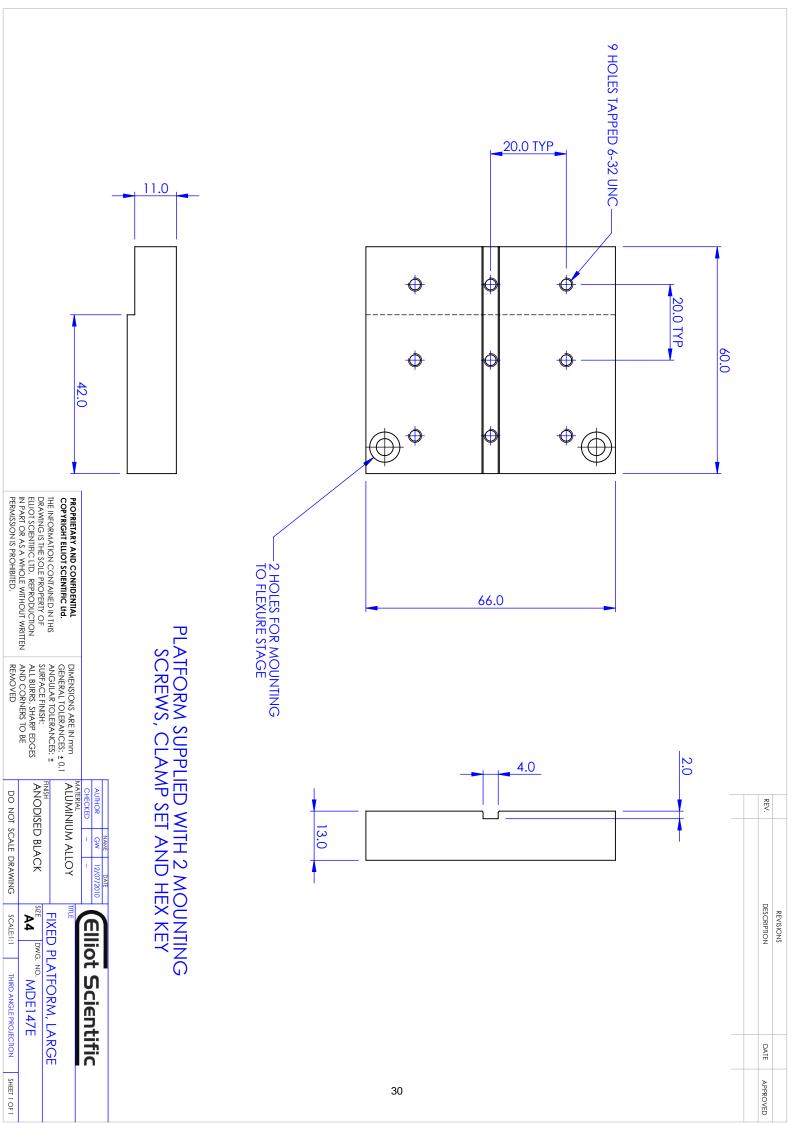
Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block





MDE148E Small Fixed Bracket with Imperial Tapped Holes & 20 mm Slot

For X-axis use





The MDE148E is for mounting accessories along the X-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 20 mm milled along it, a locating groove and 6-32 threaded mounting holes. The package includes a model MDE154 clamp set.

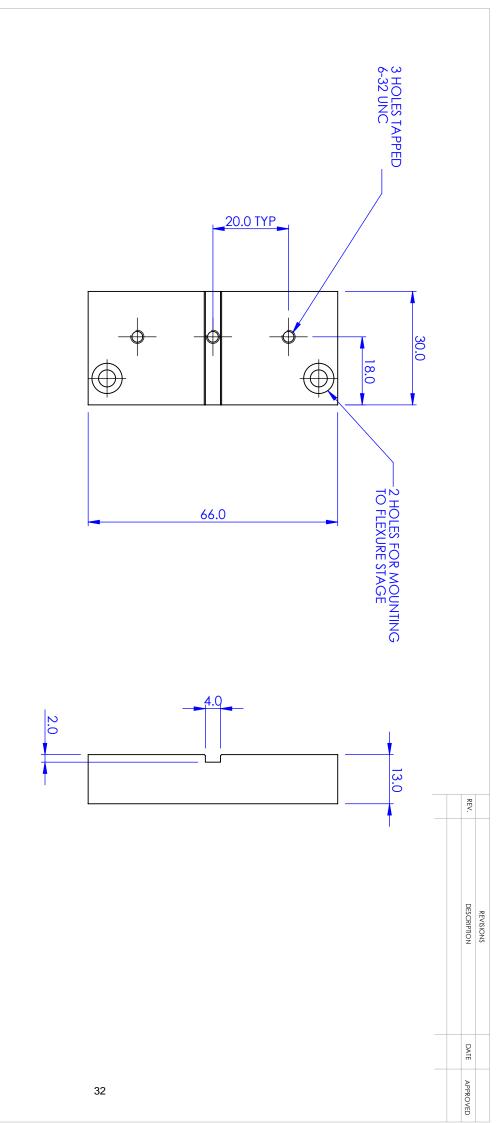
Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

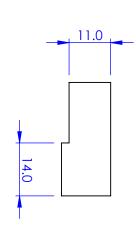
TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block





PLATFORM SUPPLIED WITH 2 MOUNTING SCREWS, CLAMP SET AND HEX KEY

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4 DWG. NO. MDE148E	FIXED PLATFORM, SMALL			Elliot Scientific	

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MDE149E L-Shaped Bracket with Imperial Tapped Holes & 46 mm Slot

For Y-axis use





The MDE149E is for mounting accessories along the Y-axis of flexure stages. It attaches to front vertical pillar on the stage and provides a rigid mounting surface for other accessories. It has a slot of length 60 mm milled along it, a locating groove and 6-32 threaded mounting holes. The package includes a model MDE154 clamp set.

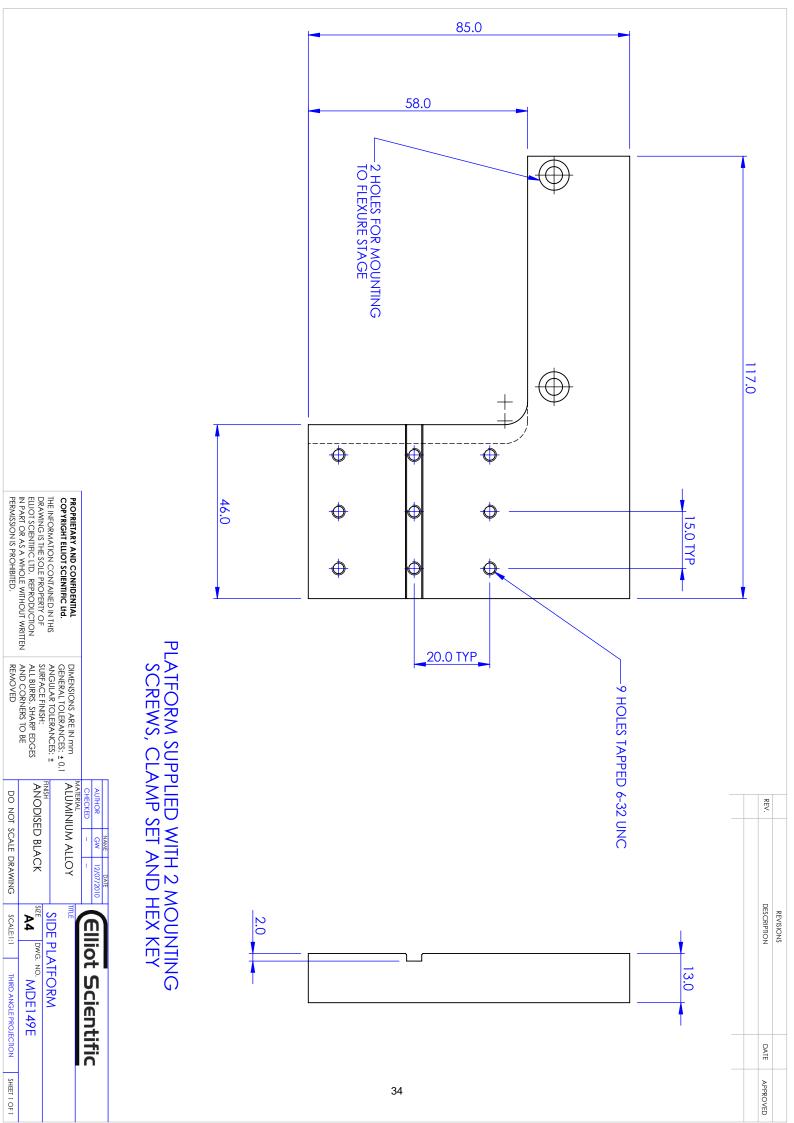
Fixed brackets are attached to the vertical pillar on flexure stages by using two M4 screws. They provide a convenient rigid surface for mounting standard Elliot or Martock accessories for alignment with items on the moving top plate of the flexure stage.

TThe fixed platform is often referred to as the "Fixed World", while the flexure stage top plate can be regarded as the "Moving World".

When mounting these brackets, a steel rule is a useful aid to ensure that they are in-line with the optical axis defined by the XYZ stage.

Options

MDE189 Fixed bracket MDE190 Riser block





MDE189 Fixed Bracket





The MDE189 fixed bracket can be used with the MDE147, MDE148 and MDE149 fixed brackets to provide a simple fixed platform for mounting standard devices and fibre holders.

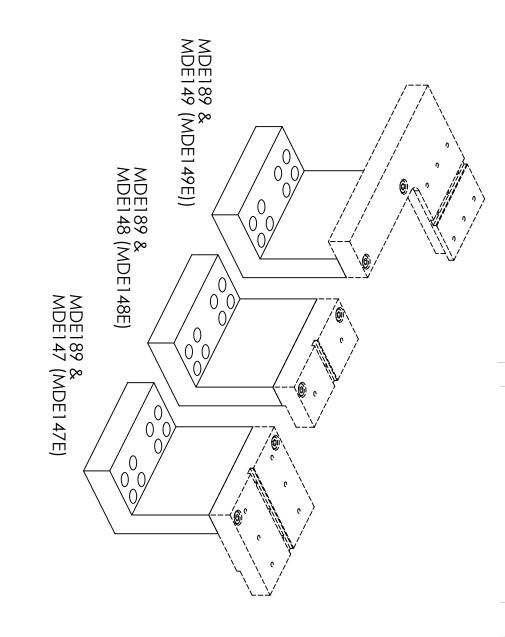
Bolted directly to an optical breadboard, the MDE189 provides an optical height of 94 mm (compatible with the Elliot Gold™ series flexure stages). Add Riser Block MDE190 to raise the axis to 125 mm for use with combinations of stages at 125 mm.

Options

MDE190 Riser block MDE147 Large fixed bracket MDE148 Small fixed bracket MDE149 L-shaped bracket

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MDE189



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DESCRIPTION

DATE

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DWG. NO. THIRD ANGLE PROJECTION

FIXED MOUNTING BRACKET **MDE189**

SHEET 1 OF 1

36



Elliot Gold™ Series: XYZ Flexure Stages: Accessories

MDE190 Riser Block



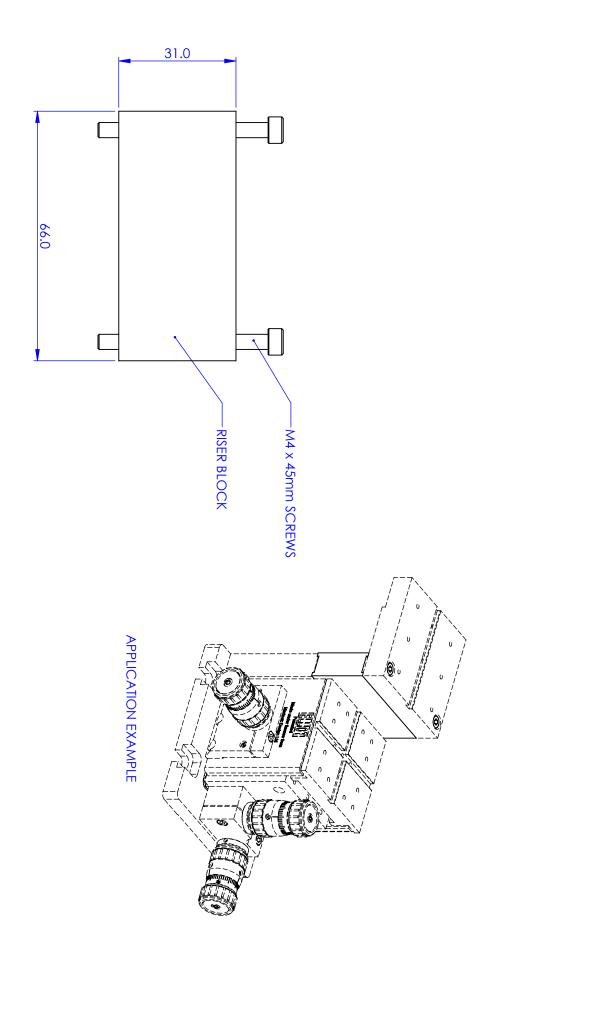


A riser block is used in conjunction with the MDE189 to raise the optical axis to 125 mm. This is needed when configuring a 5 or 6 axis fibre launch with an MDE183 or MDE185 mounted on the "Moving World".

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Options

MDE147 Large fixed bracket MDE148 Small fixed bracket MDE149 L-shaped bracket MDE189 Fixed bracket



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SIZE A

DWG. NO. MDE190

THIRD ANGLE PROJECTION SHEET 1 OF 1

RISER BLOCK ASSEMBLY

Elliot Scientific

MATERIAL

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38



Elliot Gold™ Series: XYZ Flexure Stages: Piezo Systems

MDE623 3-Channel Piezo Controller with MDE123 XYZ Flexure Stage





- RS-232 interface
- Channels: 3 independent
 Output voltage: 0 ~ 150 V
 Output current: 60 mA/channel
- Output noise: 1.5 mVRMS
- LED digital readout on each channel
- Internal/external voltage control
- Ext. input voltage control 0 ~ 10 V
- Output stability: <0.01% over 5 hours
- Power requirements: 115/230 Vac 50 ~ 60 Hz

Complete system comprising the MDT693 3-channel controller together with the MDE123 Elliot Gold™ series XYZ flexure stage fitted with piezo actuators providing 25 µm of piezo travel with 10 nm resolution in each of the three axes.

Specifications

Please refer to the individual data sheets for full specifications:

Flexure Stage MDE123
Piezo Adjusters MDE218
Piezo Controller MDT693

Includes Model MDE154 clamp set

† Patent Nos. GB 2129955B & USA 4635887



Elliot Gold™ Series: XYZ Flexure Stages: Piezo Systems

3-Channel Piezo Controller with MDE125 XYZ Flexure Stage **MDE625**





- RS-232 interface
- Channels: 3 independent • Output voltage: 0 ~ 150 V • Output current: 60 mA/channel
- Output noise: 1.5 mVRMS
- LED digital readout on each channel
- Internal/external voltage control
- Ext. input voltage control 0 ~ 10 V
- Output stability: <0.01% over 5 hours
- Power requirements: 115/230 Vac 50 ~ 60 Hz

Complete system comprising the MDT693 3-channel controller together with the MDE125 Elliot Gold™ series XYZ flexure stage fitted with piezo actuators providing 25 µm of piezo travel with 10 nm resolution in each of the three axes.

Specifications

Please refer to the individual data sheets for full specifications:

Flexure Stage MDE125 Piezo Adjusters **MDE218** Piezo Controller **MDT693**

Includes Model MDE154 clamp set

† Patent Nos. GB 2129955B & USA 4635887

Opto-Mechanics 2012

Fibre Launch Systems









MDE510 Fibre Launch System with High-Precision Adjusters



- 20 nm resolution with patented† high resolution adjusters
- Ultra-stable patented†† design XYZ flexure stage
- Suitable for singlemode fibre (125/250 µm cladding/jacket)
- Orthogonal alignment grooves
- 2 mm travel per axis
- 4.5 kg load capacity



Elliot GoldTM series fibre launch system comprising: 3-axis high-precision manual flexure stage with adjustable force fibre holder, objective lens mount with RMS thread, and small fixed bracket. Suitable for launching free space light beams into singlemode fibre.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

System Constituents:

MDE710 Adjustable force fibre holder

MDE330 Elliot Gold™ series XYZ High Precision Flexure Stage

MDE216 High precision manual adjusters (x3)

MDE154 Clamp Set

MDE150 Objective mount (RMS thread)

MDE148 Small fixed bracket

Specifications

Configuration Right handed version

Fibre holder (Standard) Double V-groove & clamp arms for 125/250 µm cladding/jacket fibre. Spring-

loaded clamp arm force adjusts from 25 to 125 g

Fibre holder (Variants) FC mount: Specify MDE510FC SMA mount: Specify MDE510SMA

Adjuster Type Three high precision adjusters (Model MDE216) utilising a patented† lever

system with rotary fine and coarse control

Stage travel 2 mm in X, Y and Z axes

Resolution 20 nm Load capacity 4.5 kg

Arcuate Displacement X axis 20 µm, Y and Z axes 14 µm (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Objective mount Removable stainless steel sleeve with RMS thread (0.800"-36). Allows on-

axis adjustment and exchange of objectives or suitably mounted aspheric or

ball lenses

Options

Left-handed version (to special order)

Custom sized V-grooves

† Patent Nos. GB 2152616B & USA 4617833 †† Patent Nos. GB 2129955B & USA 4635887

PART NO. ITEM NO. QTY. DESCRIPTION MDE122 1 1 XYZ STAGE WITH MDE216 ADJUSTERS MDE148 2 1 SMALL PLATFORM ASSEMBLY MDE150 4 1 OBJECTIVE MOUNT MDE173* 5 1 ES OBJECTIVE	1 FIBRE HOLDER	ω		MDE710
PART NO. ITEM NO. QTY. DESCRIPTION MDE122 1 1 XYZ STAGE WITH MDE216 ADJUSTERS MDE148 2 1 SMALL PLATFORM ASSEMBLY MDE150 4 1 OBJECTIVE MOUNT	1 ES OBJECTIVE	5	*	MDE173
PART NO. ITEM NO. QTY. DESCRIPTION MDE122 1 1 XYZ STAGE WITH MDE216 ADJUSTERS MDE148 2 1 SMALL PLATFORM ASSEMBLY	1 OBJECTIVE MOUNT	4		MDE150
PART NO. ITEM NO. QTY. DESCRIPTION MDE122 1 1 XYZ STAGE WITH MDE216 ADJUSTERS	1 SMALL PLATFORM ASSEMBLY	2		MDE148
PART NO. ITEM NO. QTY. DESCRIPTION	1 XYZ STAGE WITH MDE216 ADJUSTERS			MDE122
	Y. DESCRIPTION	A NO. QT). ITEN	PART NO

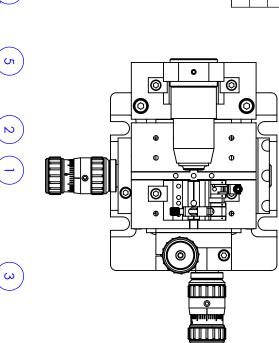
REV.

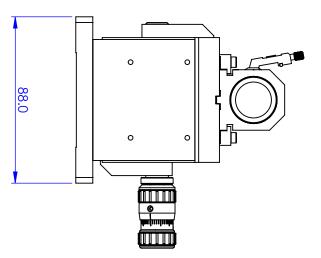
DESCRIPTION REVISIONS

DATE

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* MDE173 not included in MDE510





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- FINISH MATERIAL

AUTHOR

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FIBRE LAUNCH SYSTEM

DWG. NO. MDE510 THIRD ANGLE PROJECTION SHEET 1 OF 1

4



MDE511 Fibre Launch System with Simple Adjusters



- Suitable for multimode fibre (125 μm)
- · Orthogonal alignment grooves
- 200 nm resolution with 2 mm travel per axis
- 4.5 kg load capacity
- Ultra-stable patented† design XYZ flexure stage



Elliot Gold™ series fibre launch system comprising: 3-axis simple manual flexure stage with basic fibre holder, objective lens mount with RMS thread, and small fixed bracket. Suitable for launching free space light beams into multimode fibre.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

System Constituents:

MDE711 Fibre holder

MDE330 Elliot Gold™ series XYZ High Precision Flexure Stage

MDE217 Manual adjusters 0.25 pitch (x3)

MDE154 Clamp Set

MDE150 Objective mount (RMS thread)

MDE148 Small fixed bracket

Specifications

Configuration Right handed version

Fibre holder Single V-groove to suit 125 µm fibre with magnetic clamping arm.

Adjuster Type Three imple manual adjusters, 0.25 pitch (Model MDE217)

Stage travel 2 mm in X, Y and Z axes

Resolution 200 nm Load capacity 4.5 kg

Arcuate Displacement X axis 20 μ m, Y and Z axes 14 μ m (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Objective mount Removable stainless steel sleeve with RMS thread (0.800"-36). Allows on-

axis adjustment and exchange of objectives or suitably mounted aspheric or

ball lenses

Options

Left-handed version (to special order)

Custom sized V-grooves

† Patent Nos. GB 2129955B & USA 4635887





MDE520 High-Precision Polarisation Maintaining Fibre Launch System



- · 5 arc seconds rotational resolution
- Orthogonal alignment grooves
- 2 mm travel per axis
- Suitable for PM fibre (125/250 µm cladding/jacket)
- Ultra-stable patented† design XYZ flexure stage
- 20 nm linear resolution with patented†† high resolution
- adjusters



Elliot Gold™ series polarisation maintaining (PM) fibre launch system comprising: 3-axis high precision flexure stage with high precision fibre rotator, objective lens mount with RMS thread, and large fixed bracket. Suitable for launching free space light beams into PM fibre.

PM fibre requires that the roll axis be adjusted to ensure correct alignment of the laser polarisation and fibre polarisation axes.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

System Constituents:

MDE717 High precision fibre rotator

MDE330 Elliot Gold™ series XYZ High Precision Flexure Stage

MDE216 High precision manual adjusters (x3)

MDE154 Clamp Set x 2

MDE150 Objective mount (RMS thread)

MDE147 Large fixed bracket

Specifications

Configuration Right handed version

Fibre holder Double V-groove & clamp arms for 125/250 µm cladding/jacket fibre. Spring-

loaded clamp arm force adjusts from 25 to 125g

Fibre rotation Full 360° rotation Engraved scale $\pm 90^{\circ}$ Vernier reads to 30 arc minutes Fine

adjustment screw with 5 arc seconds resolution Range ± 5° V-block preset on

axis with < 1 µm concentricity error V-block can be re-centred by user

Adjuster Type Three high precision adjusters (Model MDE216) utilising a patented†† lever

system with rotary fine and coarse control

Resolution 20 nm Load capacity 4.5 kg

Arcuate Displacement X axis 20 µm, Y and Z axes 14 µm (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Objective mount Removable stainless steel sleeve with RMS thread (0.800"-36). Allows on-

axis adjustment and exchange of objectives or suitably mounted aspheric or

ball lenses

Options

Left-handed version (to special order)

Custom sized V-grooves





MDE521 Standard Polarisation Maintaining Fibre Launch System



- ~ 0.1 degrees rotational resolution
- Suitable for PM fibre (125 µm)
- Orthogonal alignment grooves
- 200 nm resolution
- 2 mm travel per axis
- 4.5 kg load capacity
- Ultra-stable patented† design XYZ flexure stage



Elliot Gold™ series polarisation maintaining (PM) fibre launch system comprising: 3-axis simple manual flexure stage with standard fibre rotator, objective lens mount with RMS thread, and small fixed bracket.

PM fibre requires that the roll axis be adjusted to ensure correct alignment of the laser polarisation and fibre polarisation axes.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

System Constituents:

MDE718 Fibre rotator

MDE330 Elliot Gold™ series XYZ High Precision Flexure Stage

MDE217 Manual adjusters 0.25 pitch (x3)

MDE154 Clamp Set

MDE150 Objective mount (RMS thread)

MDE148 Small fixed bracket

Specifications

Configuration Right handed version

Fibre holder V-groove & single clamp arm for 125 μm fibre. Spring-loaded clamp arm force

adjusts from 25 to 125 g

Fibre rotation Full 360° rotation. Resolution approx 0.1 degrees

Adjuster Type Three simple manual adjuster, 0.25 pitch (Model MDE217)

Stage travel 2 mm in X, Y and Z axes

Resolution 200 nm Load capacity 4.5 kg

Arcuate Displacement X axis 20 µm, Y and Z axes 14 µm (at maximum range of travel)

Optical axis 94 mm above the bottom of the stage

Objective mount Removable stainless steel sleeve with RMS thread (0.800"-36). Allows on-

axis adjustment and exchange of objectives or suitably mounted aspheric or

ball lenses

Options

Left-handed version (to special order)

Custom sized V-grooves

† Patent Nos. GB 2129955B & USA 4635887





Elliot Gold™ Series: Fibre Launch Solutions: Accessory

ETB100 Fibre to Fibre Alignment Block



- Can be used with index matching gel to minimise coupling loss
- Quick and easy mechanical coupling of two bare fibres without splicing
- Simple and economical design



Designed to allow two bare fibres to be coupled quickly and easily without the need for splicing in applications such as OTDR testing.





Elliot Gold™ Series: 2 & 3-axis Rotation Modules

MDE183 Pitch and Yaw Stage with Simple Adjusters





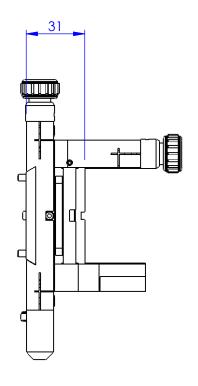
- Pitch and yaw adjustment about a single point in space
- ± 3° range in pitch (θY), ± 5° range in yaw (θZ):
 Resolution 2.0 arc secs
- Rotation in a true arc no cross-talk
- Excellent long-term stability
- Swing-out pointer identifies the centre of rotation
- Fits Elliot Gold™ Series XYZ flexure stage to provide 5 & 6 axis operation
- · Right or left-handed configuration available
- Add optional fibre or fibre array rotation holders to provide roll axis adjustment
- Standard fibre holders fit top plate

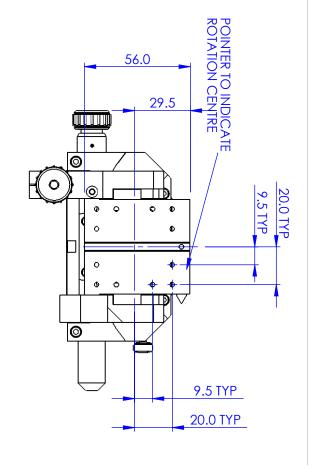
The MDE183 and MDE185 Rotation Stages add pitch and yaw adjustments to the Elliot Gold™ Series XYZ flexure stages. Applicable to a wide range of fibre and device alignment tasks requiring the ultimate in flexibility and precision control.

The MDE183 pitch and yaw module provides a \pm 3° range in pitch and a \pm 5° range in yaw, with a resolution of 2.0 arc secs. The module has a locating slot to accept Elliot/Martock standard top plate accessories such as fibre holders allowing bare fibre, ribbon cable and connectorised fibre to be used with the rotation module. A locating tongue on the base interfaces with the top plate of the flexure stages. When fitted with a fibre rotator and attached to a stage, the module allows 6-axis manipulation of a fibre about a single point in space. A swing-out pointer identifies the rotation centre for ease of use.

The MDE183 and MDE185 can be used with various top plate accessories from the Elliot/Martock range. These stages can also be mounted on riser blocks for 94 mm or 125 mm optical axis height. The MDE190 riser block is used to extend the axis height of an MDE147 or MDE148 bracket to 125 mm for 5 or 6 axis fibre launch applications.

All accessories are compatible with the flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and all accessories requiring attachment in this format are supplied with a clamp set.





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THIRD ANGLE PROJECTION SHEET 1 OF 2

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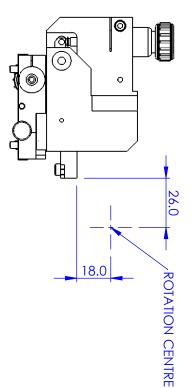
DWG. NO. MDE183

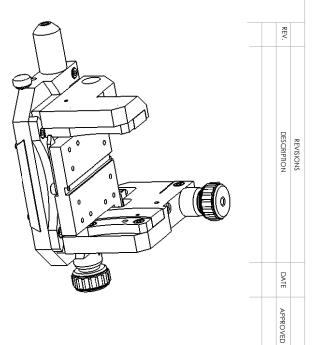
2 AXIS PITCH YAW MODULE

Elliot Scientific

DIMENSIONS ARE IN mm
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Elliot Gold™ Series: 2 & 3-axis Rotation Modules

MDE185 Pitch and Yaw Stage with High Precision Adjusters





- Pitch and yaw adjustment about a single point in space
- $\pm 3^{\circ}$ range in pitch (θY)
- ±5° range in yaw (θZ)
- Resolution < 0.1 arc secs
- · Rotation in a true arc no cross-talk
- Excellent long-term stability
- Swing-out pointer identifies the centre of rotation
- Fits Elliot Gold™ Series XYZ flexure stage to provide 5 & 6 axis operation
- Right or left-handed configuration available
- Add optional fibre or fibre array rotation holders to provide roll axis adjustment

The MDE183 and MDE185 Rotation Stages add pitch and yaw adjustments to the Elliot Gold™ Series XYZ flexure stages. Applicable to a wide range of fibre and device alignment tasks requiring the ultimate in flexibility and precision control.

The MDE185 pitch and yaw module provides a \pm 3° range in pitch and a \pm 5° range in yaw, with a resolution of < 0.1 arc secs. The module has a locating slot to accept Elliot/Martock standard top plate accessories such as fibre holders allowing bare fibre, ribbon cable and connectorised fibre to be used with the rotation module. A locating tongue on the base interfaces with the top plate of the flexure stages. When fitted with a fibre rotator and attached to a stage, the module allows 6-axis manipulation of a fibre about a single point in space. A swing-out pointer identifies the rotation centre for ease of use.

The MDE183 and MDE185 can be used with various top plate accessories from the Elliot/Martock range. These stages can also be mounted on riser blocks for 94 mm or 125 mm optical axis height. The MDE190 riser block is used to extend the axis height of an MDE147 or MDE148 bracket to 125 mm for 5 or 6 axis fibre launch applications.

Specifications

Configuration Right handed version

Adjuster Type 2x High precision adjusters (Model MDE216)

Range

 θ Z (yaw) Coarse adjustment: \pm 5°, Fine adjustment: \pm 0.1° θ Y (pitch) Coarse adjustment: 3°, Fine adjustment \pm 0.1°

Resolution

θZ (yaw)
 θY (pitch)
 Coarse adjustment: 5.5 arc seconds, Fine adjustment: < 0.1 arc seconds
 Optical axis
 Coarse adjustment: 5.5 arc seconds, Fine adjustment < 0.1 arc seconds
 125 mm above the bottom of an Elliot Gold™ Series XYZ flexure stage

Cross-talk - Rotation in a true arc

Options

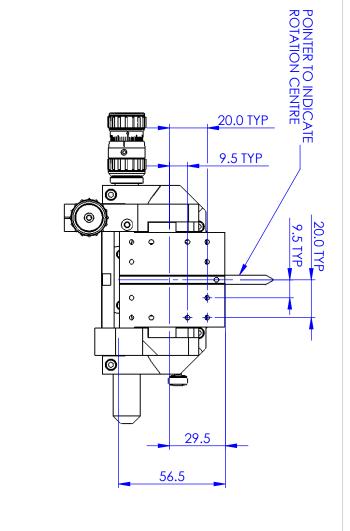
Alternative adjusters (simple, high precision, motorised)

Left-handed version (to special order)

Fibre holders Fibre rotators

Fibre array rotator (MDE884LH) Includes Model MDE154 clamp set

† Patent Nos. GB 2152616B & USA 4617833

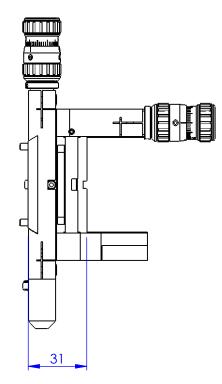


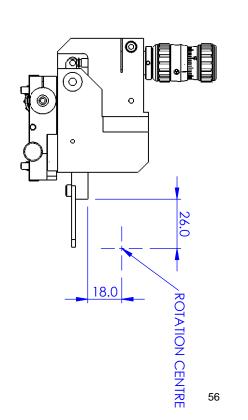
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MATERIAL 2 AXIS PITCH YAW MODULE **₽ Elliot Scientific** DWG. NO. MDE185

SCALE:1:2

THIRD ANGLE PROJECTION

SHEET 1 OF 1



Elliot Gold™ Series: Fibre Rotators

MDE717 High Precision Fibre Rotator



- Slotted design for easy insertion and removal of fibre
- Full 360° rotation
- Fine adjustment screw with 5 arc seconds resolution
- V-block preset on axis with < 1 μm concentricity error
- · V-block can be re-centred by user
- Integrates with Elliot Gold™ series flexure stages



Designed for the most demanding rotation and alignment of angular sensitive components. It can be used anywhere that stable, accurate fibre rotation is needed.

The popular MDE717 fibre rotator is an updated version of the original and now offers the same highly accurate rotation in a more stable package.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Rotation adjustment 360°

Coarse adjustment Engraved scale ± 90°, vernier reads to 30 arc minutes

Fine adjustment Screw with 5 arc seconds resolution

Range ± 5°

Fibre fixturing Fibre held in double V-groove by two clamp arms

Clamp load Adjustable 25 g to 125 g

V-block preset on axis with < 1 µm concentricity error

V-block can be re-centred by user

Standard V-groove for 125/250 µm fitted

Split spring sleeve retains fibre in slot at the control end and prevents fouling during rotation

Options

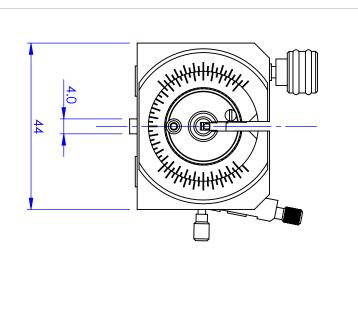
V-groove custom sizes available

OEM upgrade kits for fusion splicers to facilitate splicing of PM fibre

Connectorised fibre version

Custom configuration compatible with fibre chucks

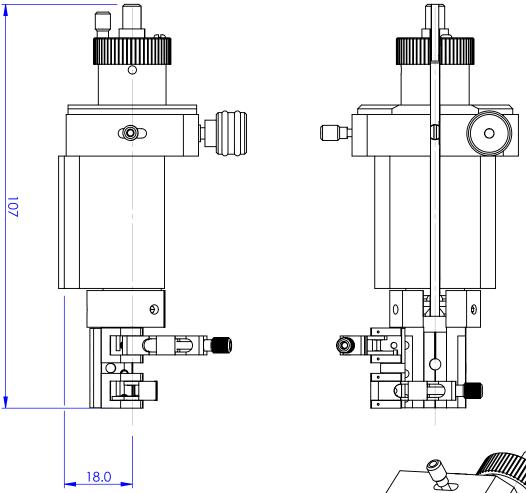
Clamp set (Model MDE154)



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Elliot Scientific

HIGH PRECISION FIBRE ROTATOR DWG. NO. MDE717 THIRD ANGLE PROJECTION SHEET 1 OF 2

58

REV.

DESCRIPTION

DATE

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GENERAL VIEW SCALE: 1:1

REVISIONS



Elliot Gold™ Series: Fibre Rotators

MDE235 Motorised Fibre Rotator





- Slotted design for easy insertion and removal of fibre
- Full 360° rotation
- Integral stepper motor drive
- Resolution < 0.01 degrees
- Fibre held in variable-force V-groove clamps
- Standard V-groove for 125/250 µm fitted
- (Custom sizes available)
- V-block preset on axis with < 1 µm concentricity error
- Stepper drive controllers available with LabVIEW™ drivers
- Integrates with Elliot Gold™ series flexure stages

The MDE235 is a motorised version of the MDE717 fibre rotator. It includes all the features of the original with the addition of a smooth and accurate stepper motor drive. Designed for the demanding rotation and alignment of angular sensitive components. It can be used anywhere that stable, accurate fibre rotation is needed.

Specifications

Actuator Stepper motor
Rotation adjustment Continuous 360°

Resolution < 0.01° with full step controller

Fibre fixturing Fibre held in V-groove by two variable force clamp arms

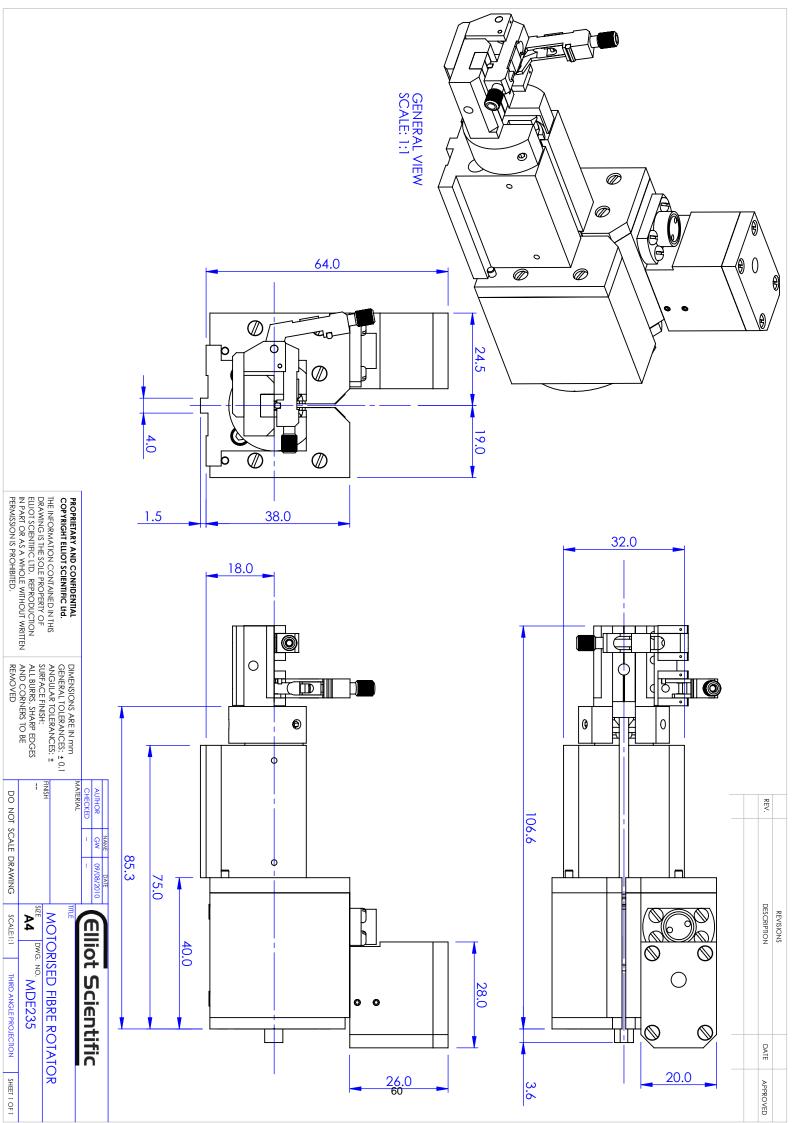
Clamp load Adjustable 25 g to 125 g

V-block preset on axis with < 1 μ m concentricity error Standard V-groove for 125/250 μ m fitted

Split spring sleeve retains fibre in slot at the control end

Options

V-groove custom sizes available OEM upgrade kits for fusion splicers to facilitate splicing of PM fibre Custom versions compatible with fibre chucks





Elliot Gold™ Series: Fibre Rotators

MDE718 Fibre Rotator



- Slotted design for easy insertion and removal of fibre
- Full 360° rotation
- Resolution approximately 0.1 degrees
- Fibre held in V-groove by single clamp arm
- · V-block can be re-centred by user
- Integrates with Elliot Gold™ series flexure stages



An economical fibre rotator designed for less demanding rotation alignment of angular sensitive components. It can be used anywhere that stable, accurate fibre rotation is needed.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms.

The clamp set (MDE154)is available separately if required.

Specifications

Rotation adjustment 360°

Resolution Approximately 0.1 degrees

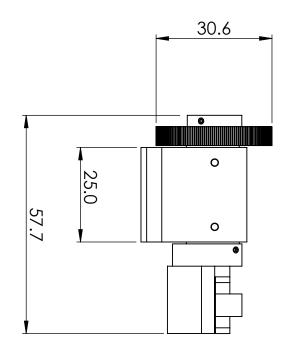
Fibre fixturing Fibre held in V-groove by single clamp arm

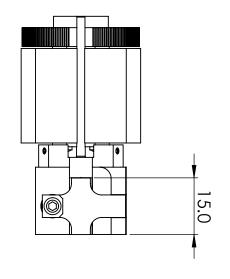
V-block can be re-centred by user

Standard V-groove for 125 µm fibre fitted

Options

V-groove custom sizes available (MDE712/nnn)
OEM upgrade kits for fusion splicers to facilitate splicing of PM fibre
Custom versions compatible with fibre chucks
Clamp set (Model MDE154)





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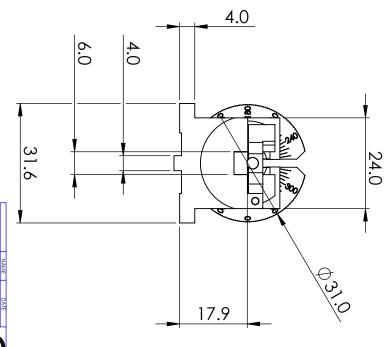
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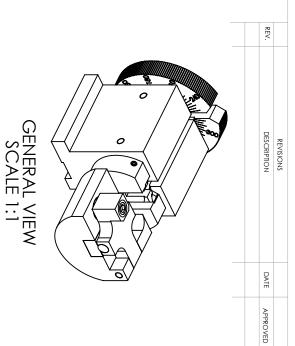
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MDE718

THIRD ANGLE PROJECTION SHEET 1 OF 1

FIBRE ROTATOR **Elliot Scientific**





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Elliot Gold™ Series: Fibre Array Rotators

MDE884LH Fibre Array / Crystal Rotator, Long Reach, Left Hand



- θx fibre array / crystal manipulator
- · Rotates exactly on x-axis
- Maintains 18 mm centre height
- Right handed version available



Unique roll mechanism ensures rotation is exactly about x-axis, and maintains 18 mm centre height. Right and left handed versions available. Can also be supplied with θy and θz adjustments. Front block is machined by Elliot Scientific or Customer to locate silicon V-groove block on the fibre ribbon.

The unique mechanical roll design features a decoupling of the linear adjuster travel from the roll motion, which minimises any radial offset during rotation. This ensures that angular movements are exactly about the x-axis and that no radial offset is introduced. The precision of motion results in a very high level of accuracy of the roll angle.

Specifications

Configuration Left hand

Centre Height Maintained at 18 mm

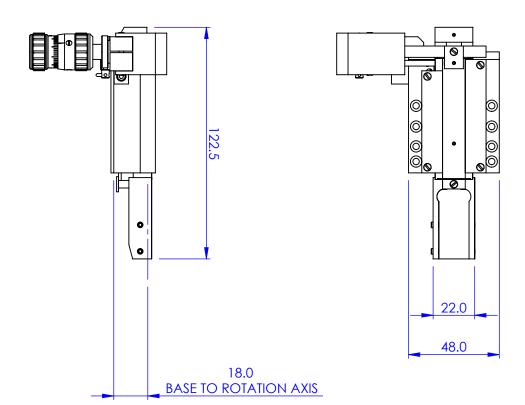
θx Rotation

Coarse range ± 4°

Fine range \pm 10 arc minutes θx Resolution (Coarse adjustment) 8 arc seconds θx Resolution (Fine adjustment) < 0.1 arc seconds

Options

 θy and θz versions Inverted drive version if space is limited



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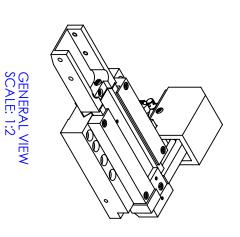
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THIRD ANGLE PROJECTION

SHEET 1 OF 1

RIBBON CABLE ROTATOR **Elliot Scientific** DWG. NO. MDE884LH

6



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DESCRIPTION REVISIONS

DATE

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64



Elliot Gold™ Series: Fibre Array Rotators

MDE884RH Fibre Array / Crystal Rotator, Long Reach, Right Hand



- θx fibre array / crystal manipulator
- · Rotates exactly on x-axis
- Maintains 18 mm centre height
- Left handed version available



Unique roll mechanism ensures rotation is exactly about x-axis, and maintains 18 mm centre height. Right and left handed versions available. Can also be supplied with θy and θz adjustments. Front block is machined by Elliot Scientific or Customer to locate silicon V-groove block on the fibre ribbon.

The unique mechanical roll design features a decoupling of the linear adjuster travel from the roll motion, which minimises any radial offset during rotation. This ensures that angular movements are exactly about the x-axis and that no radial offset is introduced. The precision of motion results in a very high level of accuracy of the roll angle.

Specifications

Configuration Right hand

Centre Height Maintained at 18 mm

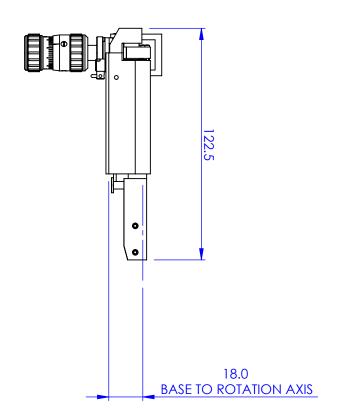
θx Rotation

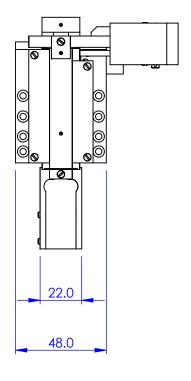
Coarse range $\pm 4^{\circ}$

Fine range \pm 10 arc minutes θ x Resolution (Coarse adjustment) 8 arc seconds θ x Resolution (Fine adjustment) < 0.1 arc seconds

Options

 θy and θz versions Inverted drive version if space is limited





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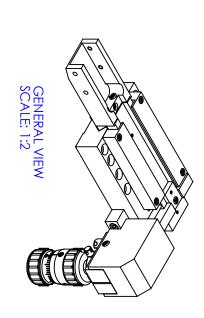
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THIRD ANGLE PROJECTION SHEET 1 OF 1

- FINISH MATERIAL NZE **A Elliot Scientific** DWG. NO. MDE884

RIBBON CABLE ROTATOR

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Elliot Gold™ Series: Six-Axis Positioner

MDE187 Six-Axis Positioner fitted with High Precision Manual Adjusters





- Based on ultra-stable patented† design XYZ flexure stage
- 2 mm linear travel in XYZ axes with 20 nm resolution
- Roll adjustable through full 360° rotation
- Roll resolution 5 arc seconds
- Optical axis height 125 mm
- Slotted design for easy insertion and removal of fibre
- V-block preset on axis with < 1 μm concentricity error
- V-block can be re-centred by user
- Pitch and yaw resolution < 0.1 arc secs
- Pitch and yaw adjustments about a single point in space in a true arc with no cross-talk

The model MDE187, six-axis positioner is built up from the Elliot Gold™ Series of micro-positioning precision components.

It facilitates precise manual adjustment in XYZ linear axes, plus pitch (θY), yaw (θZ) and roll (θX) with excellent accuracy and long term stability.

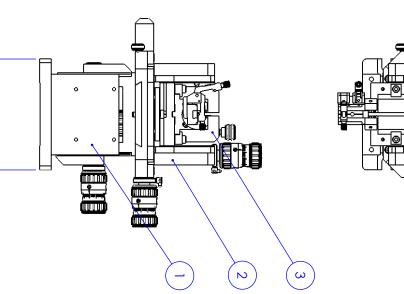
The Six-Axis positioner comprises:

MDE185 Pitch and Yaw Stage with High Precision Adjusters MDE717 High Precision Fibre Rotator

MDE154 Clamp Set

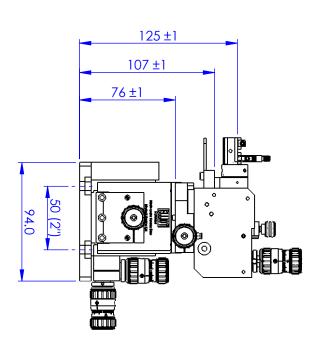
MDE122 Elliot Gold™ Series XYZ flexure stage fitted with high precision manual adjusters

† Patent Nos. GB 2129955B & USA 4635887





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MATERIAL DO NOT SCALE DRAWING SCALE:1:3 **6 AXIS POSITIONER** ₽ **Elliot Scientific** DWG. NO. MDE187 THIRD ANGLE PROJECTION SHEET 1 OF 1

REV. DESCRIPTION REVISIONS DATE APPROVED



Elliot Gold™ Series: Waveguide Alignment System

MDE881 Professional Workstation



- 6-Axis precision manipulation
- All 6 axes are truly independent of each othe
- No cross-talk
- Direct readout of waveguide Y axis position
- Portable & stable no need for an optical table
- Fast rack & pinion drive enables easy access to central
- workstation for simple loading



Optical workstation with six independent axes of manipulation. Designed for precise alignment of both input and output fibres to an optical waveguide device.

Alignment of single mode fibres to photonic devices is a demanding task and the Elliot/Martock range of precision positioners was originally developed to address this application. With dual interface optical waveguide devices however, things become more complicated as it is necessary to align fibres (or fibre arrays) to both the input and output facets of a device.

The MDE881 Workstation has been designed specifically to provide the multiple degrees of motion required for this type of critical alignment and is suitable for use with a wide range of devices and fibre types for both characterisation and pigtailing applications.

For enhanced operator convenience and productivity, each of these XYZ flexure stages can be moved away from the central stage by 40 mm travel on a rack and pinion drive. This allows rapid outward movement of the XYZ stages holding the fibres in order to access the central stage and hence facilitates loading of the workstation.

Specifications

Configuration Dual Elliot Gold™ Series XYZ Flexure Stages (MDE122), each mounted on a

Rack & Pinion Slide

Central 5-axis stage

Integral base plate with carrying handles

Optical Axis Height 125 mm from bottom of base plate, coincident with a point 18 mm above the

middle of the top plate of the θz rotation unit

Flexure Stages See MDE122 Specificiations
Central Workstation See MDE883 Specifications

Rack & Pinion Slides 40 mm coarse travel in X axis. Lockable. Adjustable end-stop defines position

to <1 µm accuracy.

Options

MDE881-60 Workstation with 60 mm travel

MDE747 Waveguide Mount with Pitch, Roll and Height Adjust

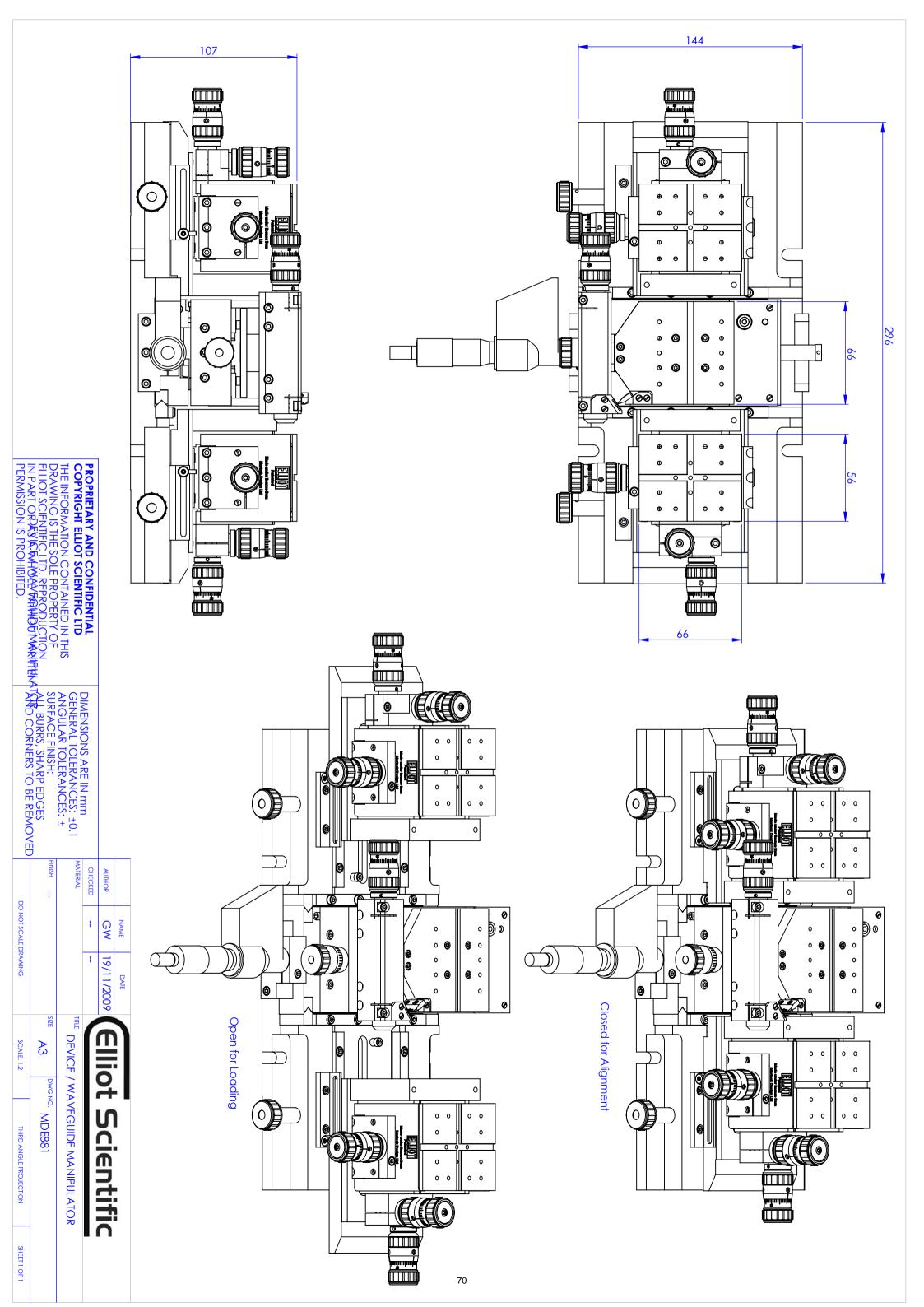
MDE890 Waveguide Mount with θy and X Adjust

MDE891 Waveguide Mount with θy plus X and Z Adjust

Waveguide/Device Holders & Other Accessories

MDE884RH & MDE884LH Fibre Array / Crystal Rotator, Long Reach

More detailed information about this product can be found on our website.





Elliot Gold™ Series: Alignment System

MDE883 Central Workstation with Rotation, Tilt and Transverse Motion



- $\pm 4^{\circ}$ adjustment, 1 arc sec resolution for θx and θz
- \pm 1° for θ y
- 25 mm travel, 0.5 µm resolution for Y axis
- Direct readout of device Y linear travel position
- 6 mm travel, > 2 µm resolution for Z axis
- Mounts directly onto 25 mm or 1" pitch table



The Central Workstation provides roll (θx) and pitch (θy) at a height of 125 mm from the bottom of the base plate and these both coincide with the yaw (θz) axis at a height of 18 mm above the middle of the top plate of the θz rotation unit. Rotation axes are defined by curved bearings hence rotation is always in a true arc. Digital readout of the Y travel is provided to allow the operator to read waveguide positions. Thus stepping the fibre across the substrate to locate individual waveguides becomes a simple task.

The MDE883 Central Workstation was designed to be a key part of the MDE881 6-axes manipulator. However for applications where the geometry of the standard MDE881 is not suitable we offer the system in its key component parts, allowing custom set-ups to be configured on an optical table or breadboard. This approach means that the system can be purchased in parts as required.

Thus the MDE883 can be used in situations where the standard in-line configuration of the MDE881 is not suitable. For example when the waveguide inputs and outputs are angled at 90 degrees. Alternatively, building the system in kit form provides greater flexibility in adapting the modules to a wider range of applications.

Specifications

 θx $\pm 4^{\circ}$ rotation with 1 arc sec resolution θz $\pm 4^{\circ}$ rotation with 1 arc sec resolution

θy ± 1° rotation adjustable by hex key supplied with MDE881. Adjustment is useful for aligning to waveguides mounted on epoxy in packages where

device is not necessarily sitting flat.

Y-travel 25 mm standard (MDE883) with 0.5 µm resolution and direct digital read-out

of position to 1µm (with digital micrometer)

Z-travel 6 mm with 2 μm resolution by means of hex key adjuster

Axis Height 125 mm from bottom of base plate

Includes Model MDE154 clamp set

Options

MDE883-60 with 60 mm of Y-travel

MDE890 and MDE891 can be used to extend the rotation range - useful for holding components such as Fabry-Perot filters

More detailed information about this product can be found on our website.





Elliot Gold™ Series: Slide

MDE889 Rack & Pinion Slide - 60 mm



- 60 mm travel
- Adjustable end-stop defines position to < 1 µm accuracy
- Lockable
- Bolts directly to optical table
- Large thumbwheel for faster positioning



A precision translation unit designed for mounting directly to the optical table. The large mounting area can be quickly moved to and fro via the thumbwheel mechanism.

Specifications

Travel End stop accuracy

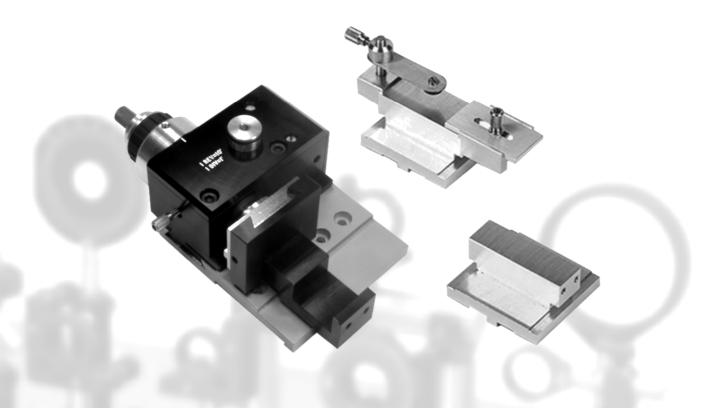
60 mm Lockable

< 1 µm



Opto-Mechanics 2012

Gold Series Accessories









MDE150 Objective Lens Mount. Standard RMS 0.800"-36 Thread



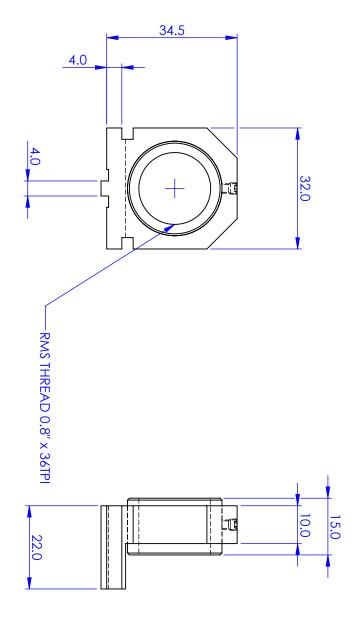


Objective lens mount fitted with a removable stainless steel sleeve cut with the microscope objective thread. Allows easy adjustment and exchange of objectives or other components having the standard RMS 0.800"-36 thread.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Options

Extension tube (MDE156)
Flange insert for machining (MDE152)
Plain mount with 25mm bore (MDE151)
Adaptor plate for post holder (MDE155)
Clamp set (MDE154)



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THIRD ANGLE PROJECTION SHEET 1 OF 1

Elliot Scientific

AUTHOR

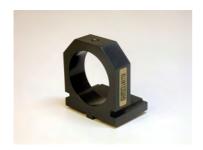
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OBJECTIVE MOUNT MDE150 DWG. NO. MDE150

78



MDE151 Plain Mount



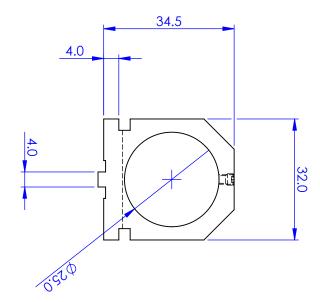


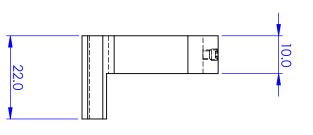
Plain mount fitted with a 25 mm bore that will hold 25 mm components such as Component Flange MDE152.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Options

Extension tube (MDE156)
Flange insert for machining (MDE152)
Clamp set (MDE154)
Adaptor plate for post holder (MDE155)
Extension tube (Model MDE156)





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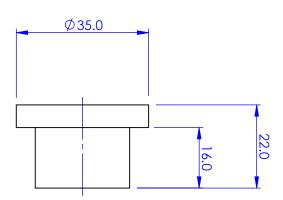


MDE152 Component Flange





Aluminium alloy flange insert which can be machined by Elliot Scientific or customer to hold components such as fibre chucks. For use with Plain Mount MDE151 or Objective/Ball Lens Mount MDE150.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

MDE152 ot Scientific APONENT FLANGE

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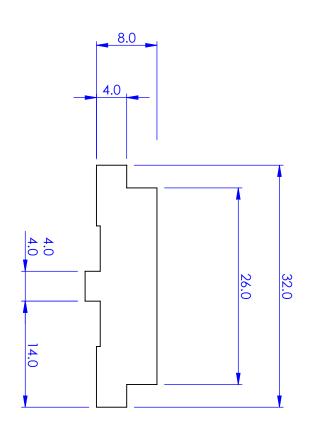
MDE153 Component Plate

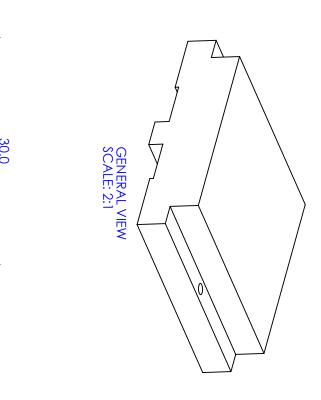




Component plate that clamps to Elliot Gold™ series flexure stages. Provides a basic platform for mounting of non-standard components.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary, a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





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3D MODEL | GW | 11/02/2008

ORIGINAL

AUTHOR NAME

DATE

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SIZE **A4** Ħ

Elliot Scientific COMPONENT PLATE

DWG. NO. MDE153

THIRD ANGLE PROJECTION SHEET 1 OF 1

84

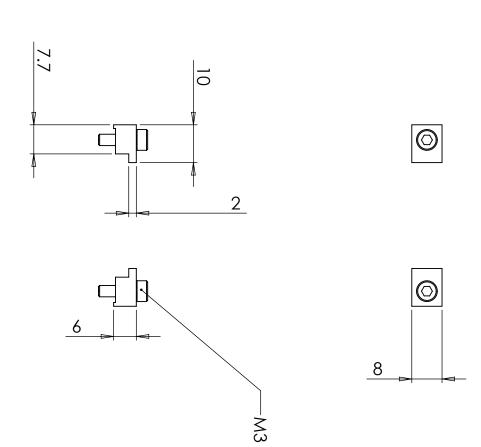


MDE154 Clamp Set





Clamp set for use with XYZ Flexure Stage accessories. Includes two clamps plus screws and a socket key. One clamp set is supplied with each of the flexure stages and accessory platforms.



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MDE154

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MDE154

CLAMP SET

DWG. NO.

AUTHOR CHECKED MATERIAL

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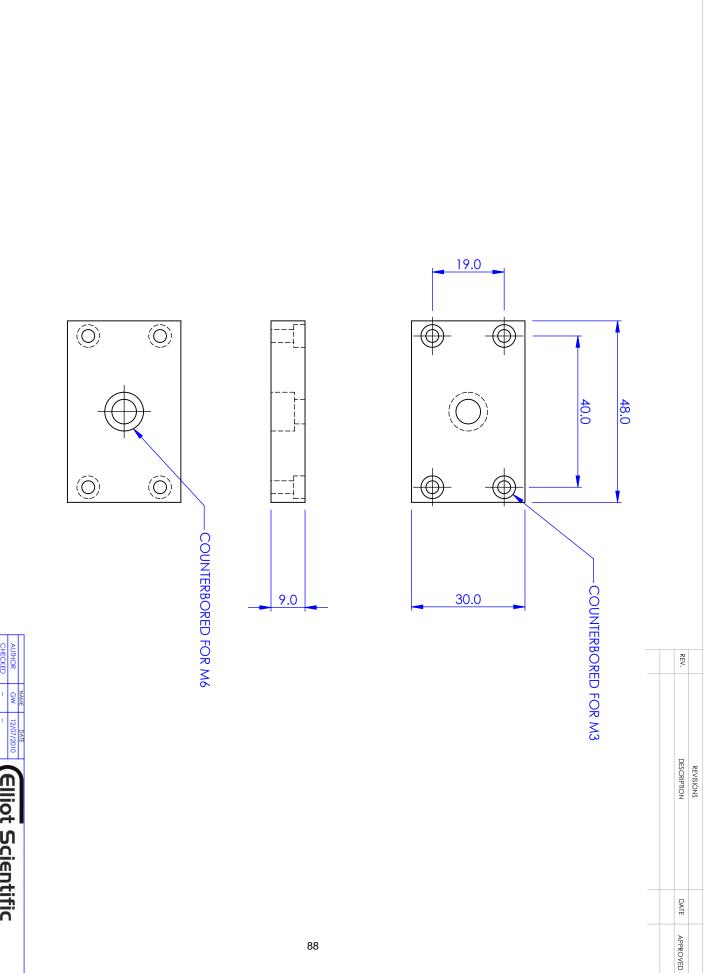


MDE155 Adaptor Plate: M6 Post Holder to Elliot Gold™ Flexure Stage





Adaptor plate that clamps to Elliot Gold™ series flexure stages. Enables M6 table post holders to fit XYZ flexure top. All accessories are compatible with the Elliot Gold™ series flexure stages.



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ASIZE ADAPTER PLATE **Elliot Scientific** DWG. NO. MDE155



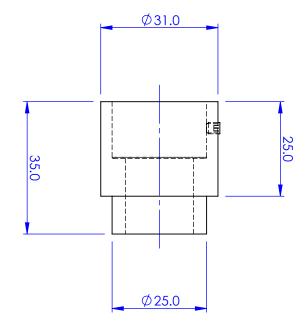
MDE156 Extension Tube

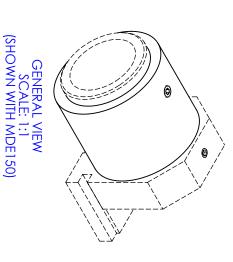




Extension tube for use on MDE150 Objective/Ball Lens mount and MDE151 Plain Mount. Extends reach by 25 mm allowing access to components on wide platforms.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary, a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





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ANODISED BLACK MATERIAL ALUM ALLOY AUTHOR GW NAME SIZE **A EXTENSION TUBE** DWG. NO. MDE156

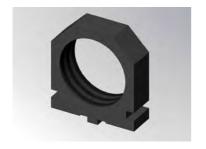
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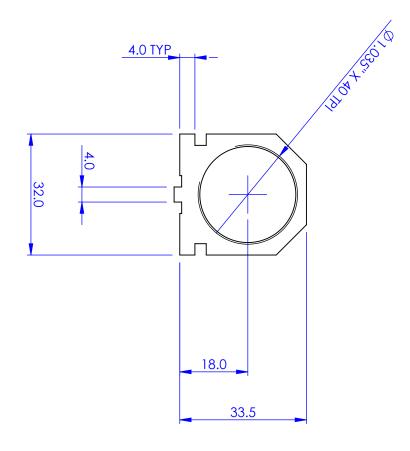
MDE157 Threaded Optic Mount. SM1 Series 1.035"-40 Thread

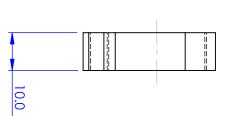


- Designed to interface with Thorlabs SM1 series lens tubes
- and accessories. This mount has a 1.035"-40 thread.



All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





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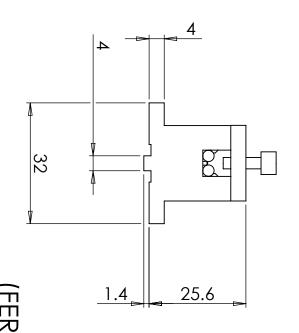
MDE700 2 ~ 4.5 mm diameter Ferrule Holder

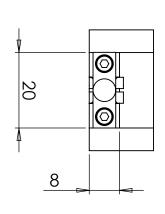


- Can also be used to hold GRIN lenses
- V-groove formed by two 9 mm stainless steel rods
- Nylon clamp screw avoids damage to component being held
- Holds optical fibre terminated with a cylindrical ferrule
- Fibre held in user-replaceable V-groove by spring clamps



All accessories are compatible with the Elliot Gold™ Series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





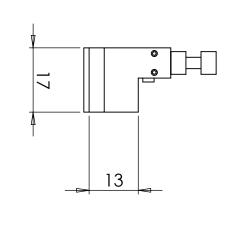
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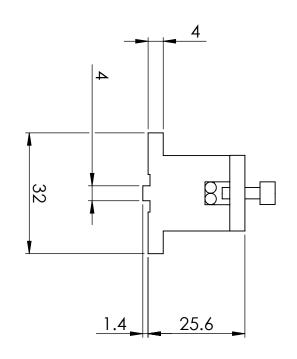
MDE701 1 ~ 2 mm diameter Ferrule Holder

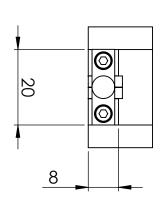


- Can also be used to hold GRIN lenses
- V-groove formed by two 9 mm stainless steel rods
- Nylon clamp screw avoids damage to component being held
- Holds optical fibre terminated with a cylindrical ferrule
- Fibre held in user-replaceable V-groove by spring clamps



All accessories are compatible with the Elliot Gold™ Series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





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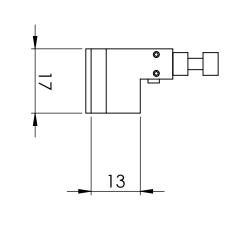
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MDE701

MATERIAL CHECKED AUTHOR G₩ FERRULE HOLDER **Elliot Scientific**



REV. DESCRIPTION REVISIONS DATE APPROVED



MDE705 Fibre Holder (Vacuum & Mechanical)





- Very easy to use
- Very low forces on fibre
- Clamp force adjustable from 25 to 125 g
- Vacuum V-groove can be dismantled for cleaning
- Holds 125/250 µm fibre with a jacket up to 1 mm diameter
- Clamp arm swings clear of V-groove for easy loading of fibre
- · Vacuum is applied through a fine slot for even clamping of
- fibre

The model MDE705 Fibre Holder is designed to cradle 125/250 µm fibre with a jacket up to 1 mm diameter. The unit utilises a slotted vacuum V-groove that holds the 125/250 µm bare fibre evenly, together with a clamp arm that grips the fibre jacket. The clamp force of the arm can be adjusted to relieve the pull of the trailing cable. These features combine to produce very low forces on the fibre.

The fibre holder is designed to complement the Elliot Gold™ series XYZ flexure stages, but can also be mounted on a conventional 25 mm pitch optical table using adaptor plate MDE860, or M4 post using the same adaptor.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Configuration

Vacuum V cladding and clamp arm for jacket
Fibre size

125/250 µm fibre with up to 1 mm jacket

Vacuum V-groove

Double V-groove to suit 125/250 µm fibre

Vacuum slot length

7.5 mm for even clamping of the fibre

Vacuum connection

4 mm bore pipe or M5 port

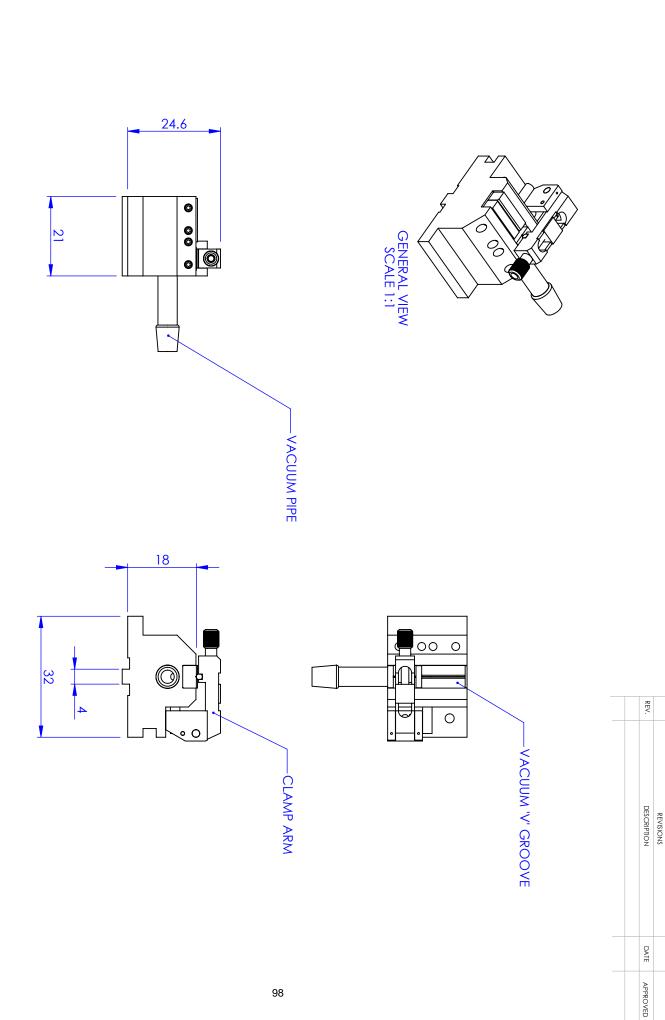
Fibre Clamp Single clamp arm with adjustable force

Clamp force Adjustable from 25 to 125 g

Optical Axis 94 mm when mounted on an Elliot Gold™ series XYZ flexure stage

Options

Custom sized V-grooves



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MATERIAL SIZE **A** VACUUM AND ARM FIBRE CLAMP **Elliot Scientific** DWG. NO. MDE705

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THIRD ANGLE PROJECTION SHEET 1 OF 1

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MDE709 Bare Fibre Holder (Mechanical)



- · Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- Holds 125/250 µm fibre (other sizes to order)
- · Clamp arm swings clear of V-groove for easy loading of
- fibre



The model MDE709 Fibre Holder features a double V-groove and single clamp arm to hold 125 μ m fibre. The clamp arm swings clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use. The single clamp arm holds the 125 μ m stripped section of fibre.

The fibre holder is designed to complement the Elliot Gold™ series XYZ flexure stages, but can also be mounted on a conventional 25 mm pitch optical table using adaptor plate MDE860 or M4 post using the same adaptor.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

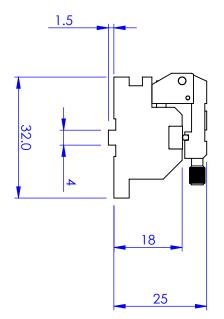
Configuration Double V-groove single clamp arm
Fibre size 125/250 µm fibre (other sizes to order)
Fibre clamp Sinlge clamp arm with adjustable force

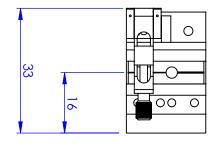
Clamp force Adjustable from 25 to 125 g

Optical Axis 94 mm when mounted on an Elliot Gold™ series XYZ flexure stage

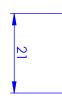
Options

Custom sized V-grooves





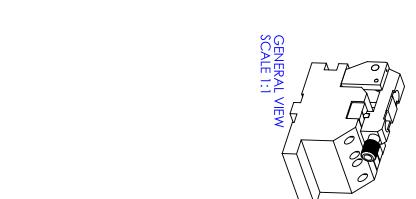




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1	FINISH		MATERIAL	CHECKED	AUTHOR GW 04/06/2007	NAME DATE
A4 DWG. NO. MDE709	SINGLE ARM FIBRE HOLDER	TILE		מווסר מכותותות	תוויין תייהין וייי	

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THIRD ANGLE PROJECTION SHEET 1 OF 1

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MDE710 Jacketed Fibre Holder (Mechanical)



- · Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- 125/250 µm fibre with a jacket up to 1 mm diameter
- Clamp arm swings clear of V-groove for easy loading of
- fibre



The model MDE710 Fibre Holder features a double V-groove and clamp arms to hold $125/250 \,\mu m$ fibre with a jacket up to 1 mm diameter. The clamp arms swing clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use.

The fibre holder is designed to complement the Elliot Gold™ series XYZ flexure stages, but can also be mounted on a conventional 25 mm pitch optical table using adaptor plate MDE860 or M4 post using the same adaptor.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Configuration Double V-groove and clamp arms for cladding and jacket

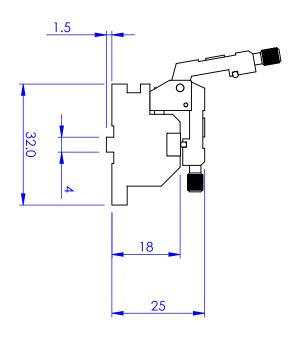
Fibre size 125/250 µm fibre with up to 1 mm jacket Fibre clamp Double clamp arms with adjustable force

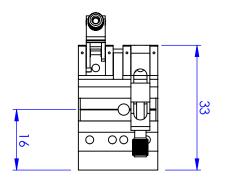
Clamp force Adjustable from 25 to 125 g

Optical Axis 94 mm when mounted on an Elliot Gold™ series XYZ flexure stage

Options

MDE860 Adaptor V-groove custom sizes available Clamp set (Model MDE154)





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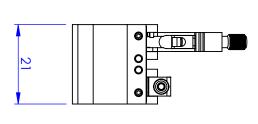
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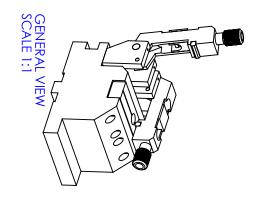
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DOUBLE 'V' FIBRE HOLDER DWG. NO. MDE710

THIRD ANGLE PROJECTION SHEET 1 OF 1

Elliot Scientific





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	DESCRIPTION	REVISIONS	
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MDE711 Fibre Holder



- Simple economical design
- Single fixed size V-groove for 250 µm fibre

ELLIOT MARTOCK

The model MDE711 is an economical fibre holder with a machined 250 µm V-groove and magnetic clamp arm for less critical applications.

The fibre holder is designed to complement the Elliot Gold™ series XYZ flexure stages, but can also be mounted on a conventional 25 mm pitch optical table using adaptor plate MDE860 or M4 post using the same adaptor.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Configuration Single machined V-groove and magnetic clamp arm

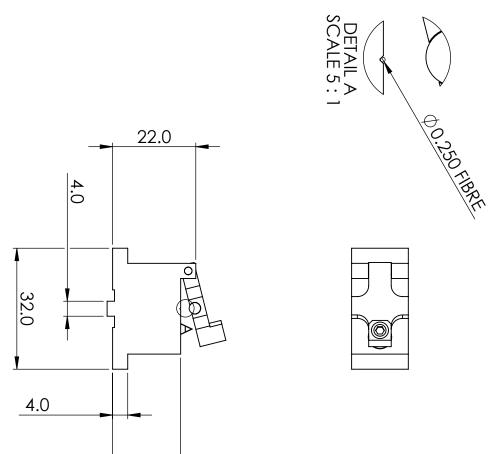
Fibre size 250 µm

Fibre clamp Single magnetic clamp arm

Optical Axis 94 mm when mounted on an Elliot Gold™ series XYZ flexure stage

Options

Custom sized V-grooves



18.0

MDE711

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AUTHOR

DATE 09/08/2010

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FIBRE HOLDER THIRD ANGLE PROJECTION SHEET 1 OF 1 MDE711

Elliot Scientific

104

REV.

DESCRIPTION REVISIONS

DATE

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MDE715 Fibre Holder (Vacuum)



- · Very easy to use
- Very low forces on fibre
- Vacuum V-groove can be dismantled for cleaning
- Holds 125 to 400 µm bare fibre
- · Vacuum is applied through a fine slot for even clamping of
- fibre



The model MDE715 Fibre Holder is designed to cradle bare fibre ranging from 125 to 400 µm diameter. The unit utilises a slotted vacuum V-groove that holds the fibre evenly and with very low force.

The fibre holder is designed to complement the Elliot Gold™ series XYZ flexure stages, but can also be mounted on a conventional 25 mm pitch optical table using adaptor plate MDE860, or M4 post using the same adaptor.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Configuration Vacuum V for cladding only
Fibre size 125 to 400 µm diameter bare fibre

V-groove Vacuum V-groove

Vacuum slot length 7.5 mm for even clamping of the fibre

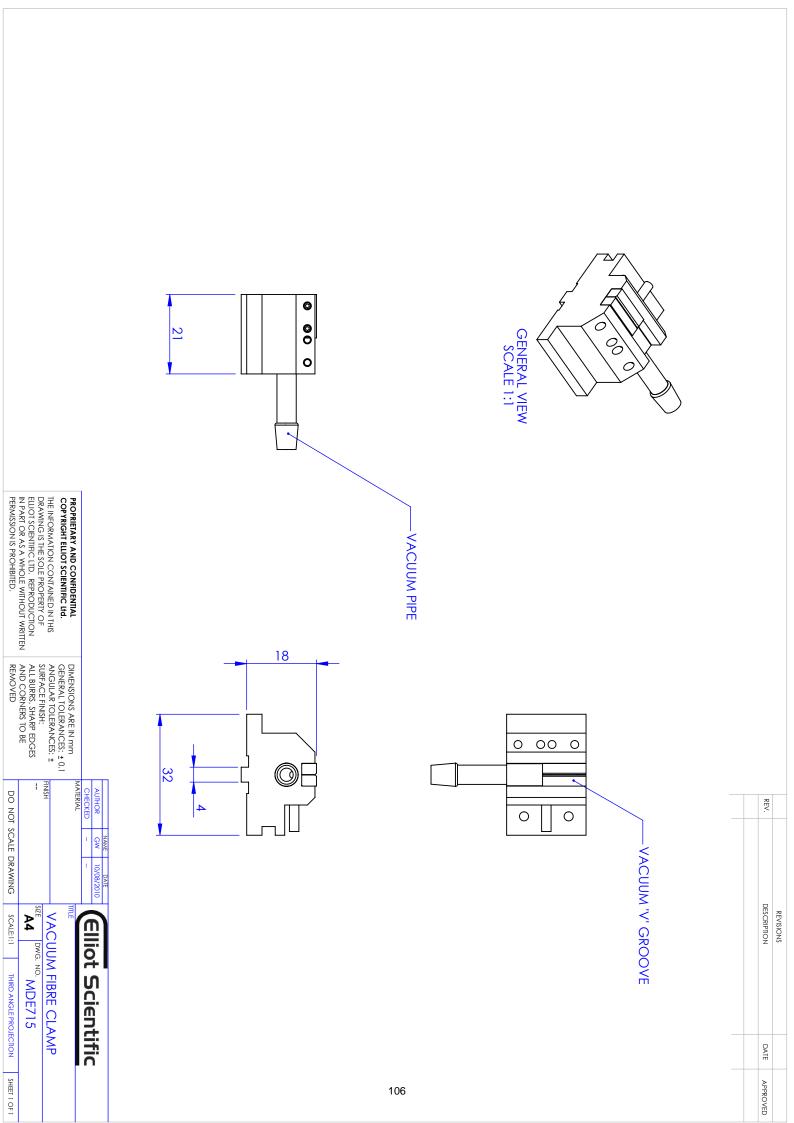
Vacuum connection 4 mm bore pipe or M5 port

Optical Axis 94 mm when mounted on an Elliot Gold™ series XYZ flexure stage

Options

MDE860 Adaptor

V-groove custom sizes available Clamp set (Model MDE154)





MDE724 Fibre Holder (Mechanical) for Melles Griot/Thorlabs Flexure Stages



- · Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- Fits Melles Griot and Thorlabs flexure stages
- 125/250 µm fibre with a jacket up to 1 mm diameter
- · Clamp arm swings clear of V-groove for easy loading of
- fibre



The model MDE724 Fibre Holder is designed to fit the Melles Griot/Thorlabs flexure stages and features a double V-groove and clamp arms to hold $125/250~\mu m$ fibre with a jacket up to 1 mm diameter. The clamp arms swing clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

Specifications

Configuration Double V-groove and clamp arms for cladding and jacket

Fibre size 125/250 µm fibre with up to 1 mm jacket
Fibre clamp Double clamp arms with adjustable force

Clamp force Adjustable from 25 to 125 g
Optical Axis 12.5 mm centre height

Mount Location tongue 3mm wide on base Fits Melles Griot/Thorlabs flexure stages

Options

Custom sized V-grooves





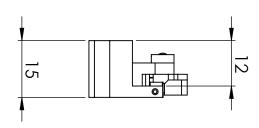
MDE734 Grin Lens Holder



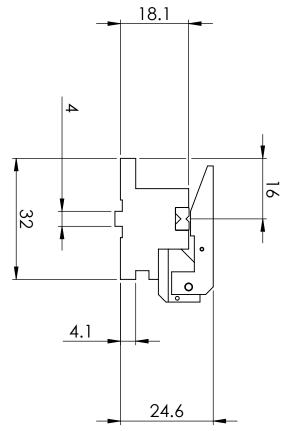
- Optical axis height 18 mm
- Reversible V-block 4 mm long
- To hold GRIN lenses of diameter 1 2 mm & 2 3 mm

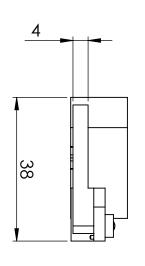


All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.









SHEET 1 O	THIRD ANGLE PROJECTION	SCALE:1:1	DO NOT SCALE DRAWING	SCALE	DO NOT	REMOVED	
	MDE734	A			1	ALL BURRS, SHARP EDGES AND CORNERS TO BE	
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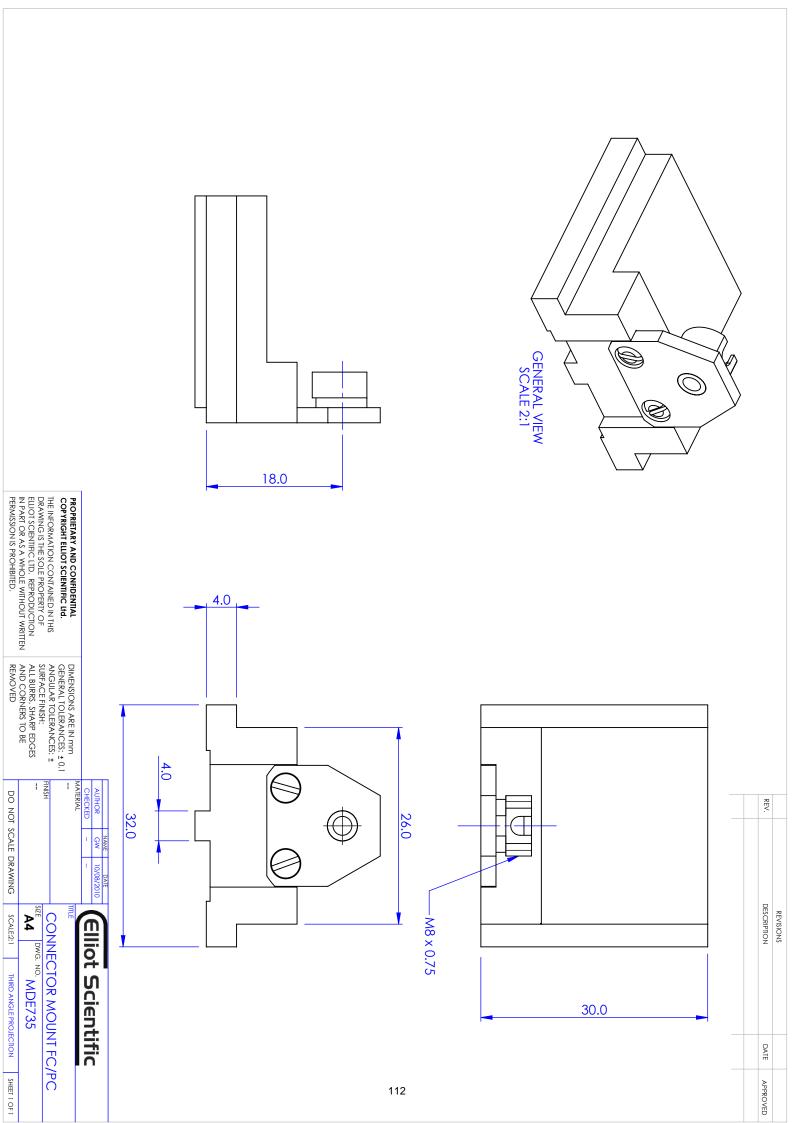
MDE735 Connectorised Fibre Holder FC/PC





All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms.

The clamp set (MDE154) is available separately if required.



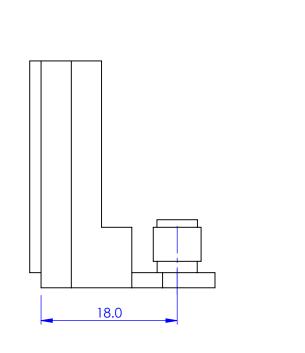


MDE736 Connectorised Fibre Holder SMA

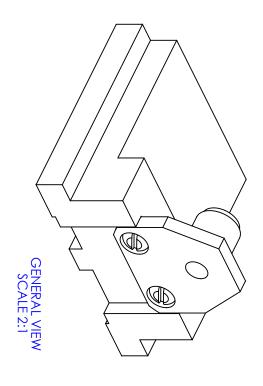


All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms.

The clamp set (MDE154) is available separately if required.



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DWG. NO. MDE736

CONNECTOR MOUNT SMA **Elliot Scientific**

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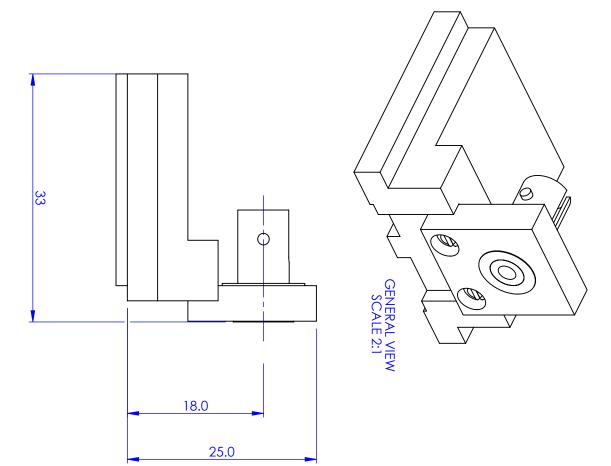
MDE737 Connectorised Fibre Holder ST





All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms.

The clamp set (MDE154) is available separately if required.



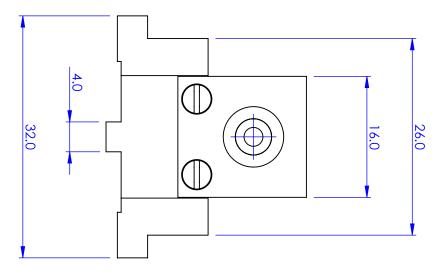
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MDE750 Bare Fibre Holder (Mechanical), Long Reach



- Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- 125/250 µm fibre with a jacket up to 1 mm diameter
- Fibre held in user-replaceable V-groove by spring clamps
- Clamp arm swings clear of V-groove for easy loading of
- fibre



Long reach fibre holder for bare fibre. Fibre held in user-replaceable V-groove by spring clamps (as on MDE710. Includes Universal Base MDE752 which allows fibres to be located offset from central axis.

The model MDE750 Fibre Holder features a double V-groove and clamp arms to hold $125/250 \,\mu m$ fibre with a jacket up to 1 mm diameter. The clamp arms swing clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ Series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

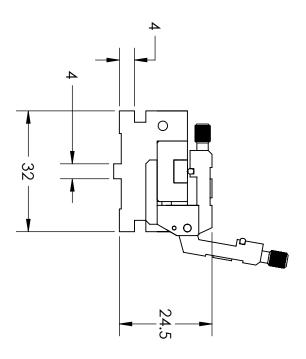
Configuration Double V-groove and clamp arms for cladding and jacket

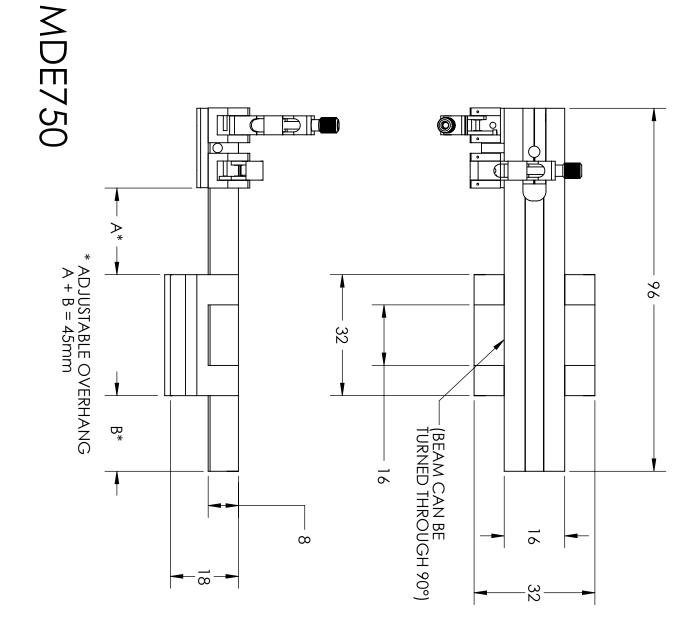
Fibre size 125/250 µm fibre with up to 1mm jacket Fibre clamp Double clamp arms with adjustable force

Clamp force Adjustable from 25 to 125 g

Options

Universal Base MDE752 (included







MDE751 FC/PC Connector Fibre Holder (Mechanical), Long Reach



- · Very easy to use
- Holds standard FC/PC Patchcords
- Other connector types available
- · Custom grooves available
- Fibre held in user-replaceable V-groove by spring clamps



Long reach fibre holder for FC/PC connectorised patchcords. Holds standard patchcords. Other connector types available on request. Includes Universal Base MDE752 which allows fibres to be located offset from central axis.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ Series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.

Specifications

Configuration Fibre size Fibre clamp Clamp force Long reach fibre holder for FC/PC Patchcords 125/250 μm fibre with up to 1mm jacket Double clamp arms with adjustable force Adjustable from 25 to 125 g

Options

Universal Base MDE752 (included) Alternative connector versions Clamp set (Model MDE154)





MDE752 Universal Base





Universal base for holding components on top of flexure stages. Locates in either of the two orthogonal slots on flexure stage top plate for offset component mounting.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





MDE753 Long Reach Microscope Objective Holder



- Facilitates offset mounting of objectives
- Ideal for DWDM component inspection



The Long Reach Microscope Objective Holder fits onto an MDE752 as shown, allowing the objective to be placed in positions offset to the optical axis. An internal RMS thread is machined for easy mounting of objectives. Recommended for DWDM component inspection.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory.

A standard clamp system is used and is supplied with the flexure stages and accessory platforms. The clamp set (MDE154) is available separately if required.





E770 Fibre Gripper





- Compact design with rapid loading and unloading feature
- Repeatable gripping force
- · Minimal gripped length to maximise package accessibility
- Integrates with Elliot Gold™ series flexure stages
- Gripping arms contoured to allow a clear view and/or tool access
- Extended reach for restricted access laser diode alignment tasks
- Grips a wide range of fibre configurations from clad fibres to ferrules
- Interchangeable grips accommodate all sizes of fibre &
- ferrules

The E770 Fibre Gripper is designed to fit on Elliot Gold™ series flexure stages for demanding fibre alignment tasks.

Interchangeable grips accommodate a wide variety of fibre configurations ranging from clad fibres, to ferrules in excess of 3 mm diameter.

Specifications

Standard Grip Size To fit 125 µm fibre

Max Jaw Opening 10 mm
Grip Length 3.5 mm

Options and Accessories Fibre Grips (E781-nnnn, please specify fibre diameter)

Ferrule Grips (E782-nnnn, please specify ferrule diameter)





MDE741-10 Basic Waveguide/Device Holder - 10 x 15 mm



- 10 mm waveguide length
- 15 mm nominal height
- Adhesive or tape mounting



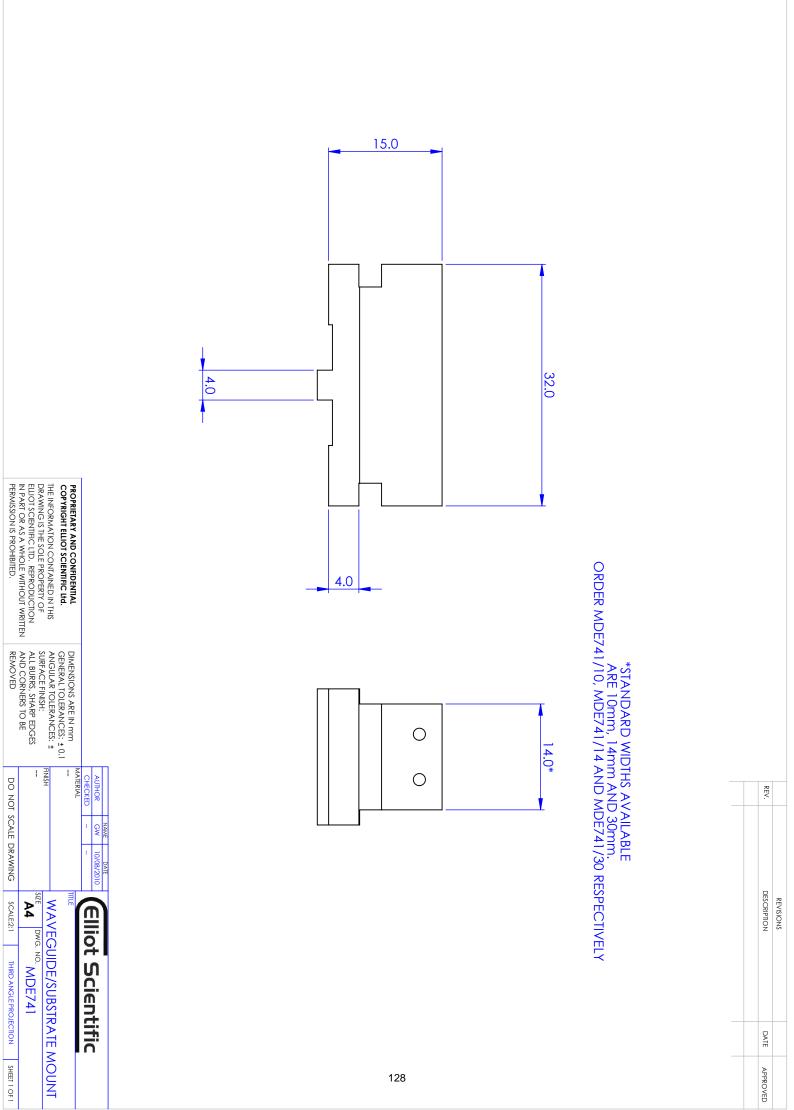
The model MDE741 series is a basic waveguide/substrate mount for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Affix device with tape or bond with adhesive.

Specifications

Length 10 mm Height 15 mm

Options

Other waveguide lengths: 14 mm and 30 mm Alternative mounting: vacuum or mechanical clamp





MDE741-14 Basic Waveguide/Device Holder - 14 x 15 mm



- 14 mm waveguide length
- 15 mm nominal height
- Adhesive or tape mounting



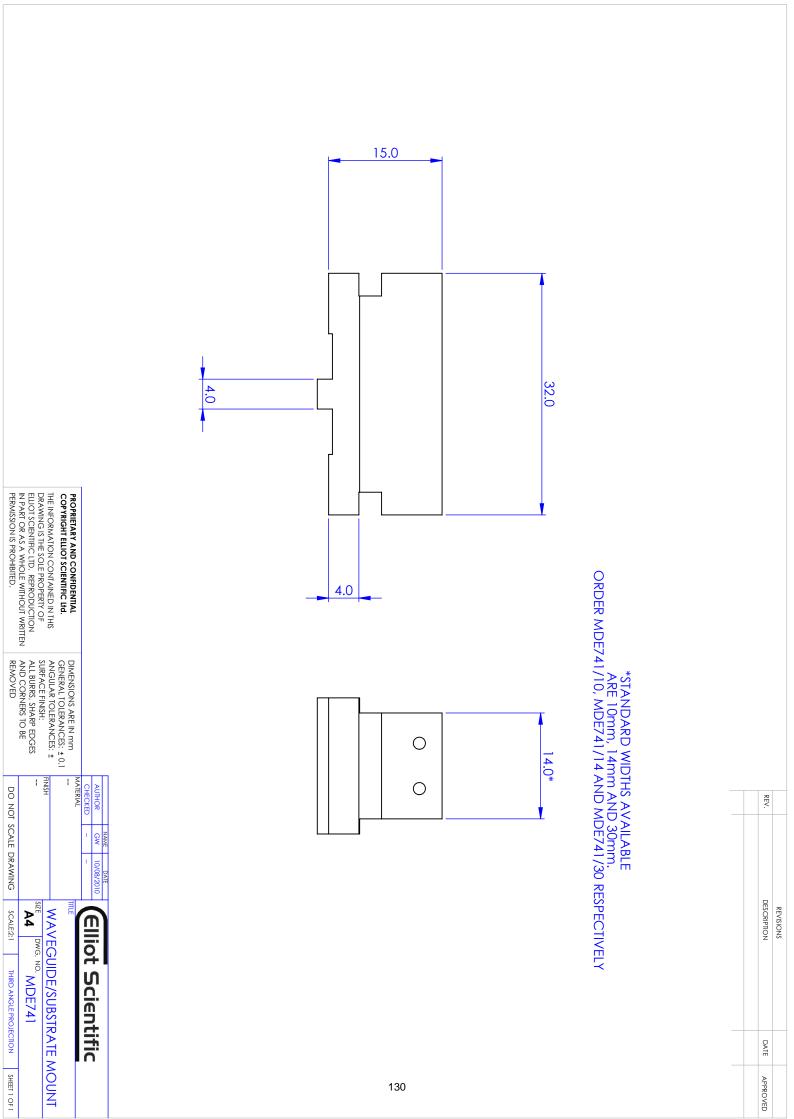
The model MDE741 series is a basic waveguide/substrate mount for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Affix device with tape or bond with adhesive.

Specifications

Length 14 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 30 mm Alternative mounting: vacuum or mechanical clamp





MDE741-30 Basic Waveguide/Device Holder - 30 x 15 mm



- 30 mm waveguide length
- 15 mm nominal height
- Adhesive or tape mounting



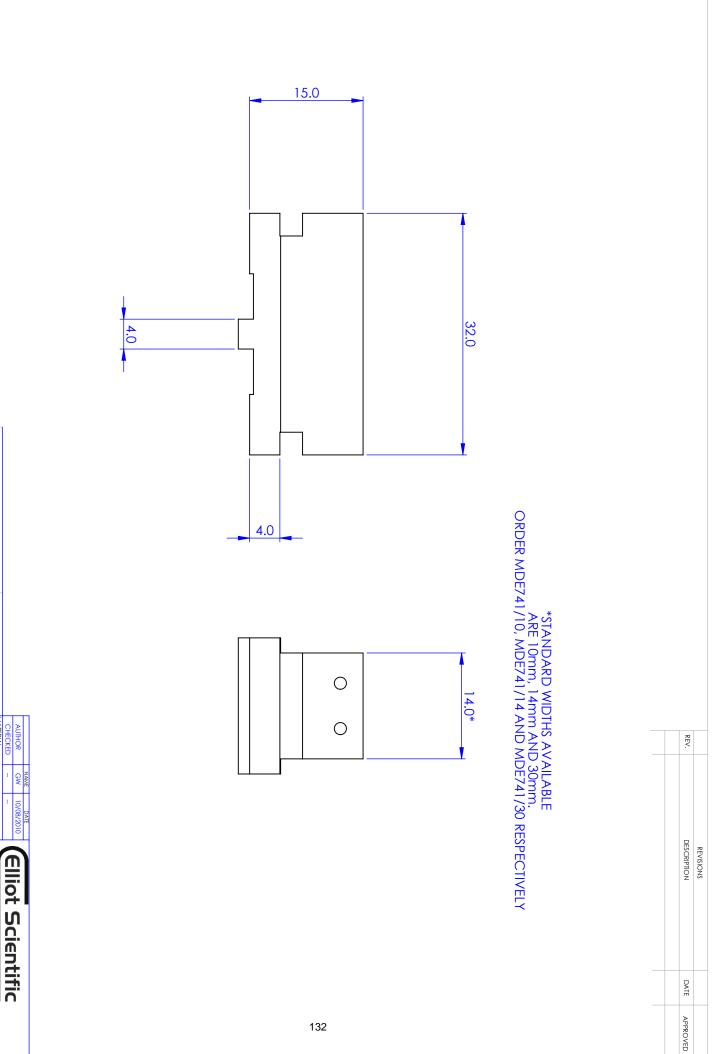
The model MDE741 series is a basic waveguide/substrate mount for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Affix device with tape or bond with adhesive.

Specifications

Length 30 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 14 mm
Alternative mounting: vacuum or mechanical clamp



DWG. NO. MDE741

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SIZE **A**

MATERIAL

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WAVEGUIDE/SUBSTRATE MOUNT

132



MDE742-10 Vacuum Waveguide/Device Holder - 10 x 15 mm



- 10 mm waveguide length
- 15 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application



The model MDE742 series is a vacuum waveguide mount for central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Vacuum hold-down groove cut to suit application.

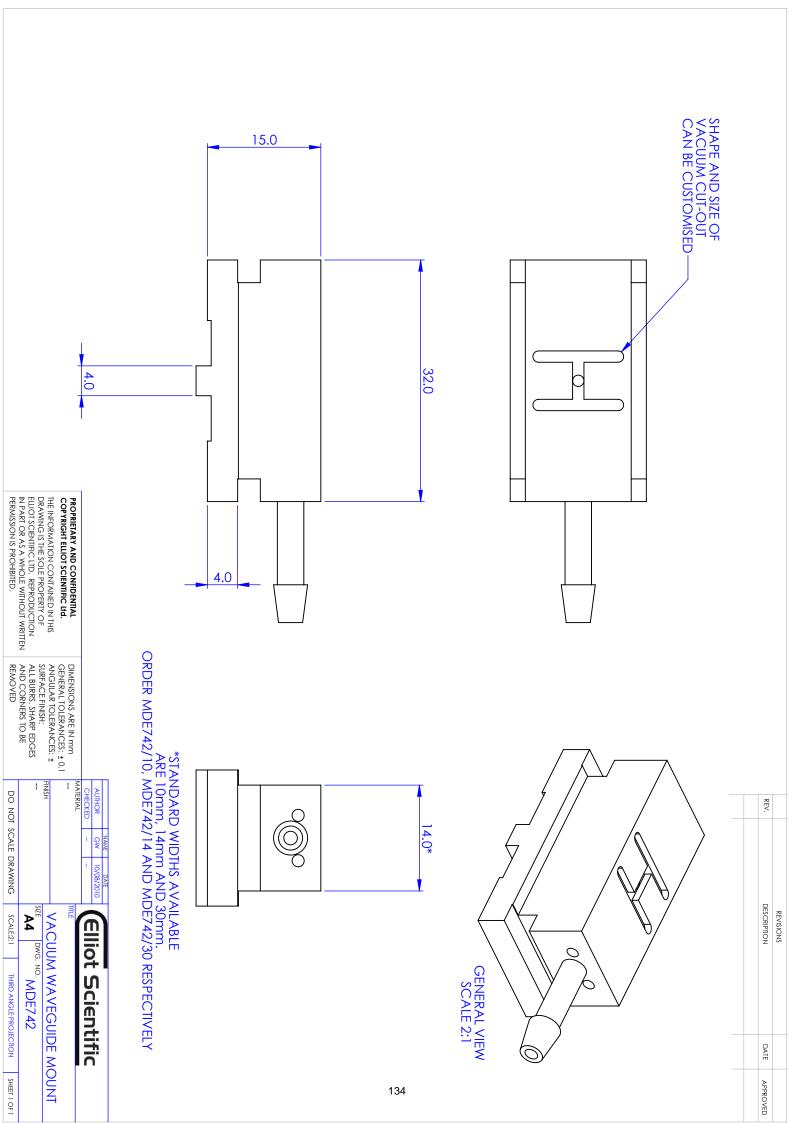
Specifications

Length 10 mm Height 15 mm

Options

Other waveguide lengths: 14 mm and 30 mm

Alternative mounting: adhesive/tape or mechanical clamp





MDE742-14 Vacuum Waveguide/Device Holder - 14 x 15 mm



- 14 mm waveguide length
- 15 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application



The model MDE742 series is a vacuum waveguide mount for central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Vacuum hold-down groove cut to suit application.

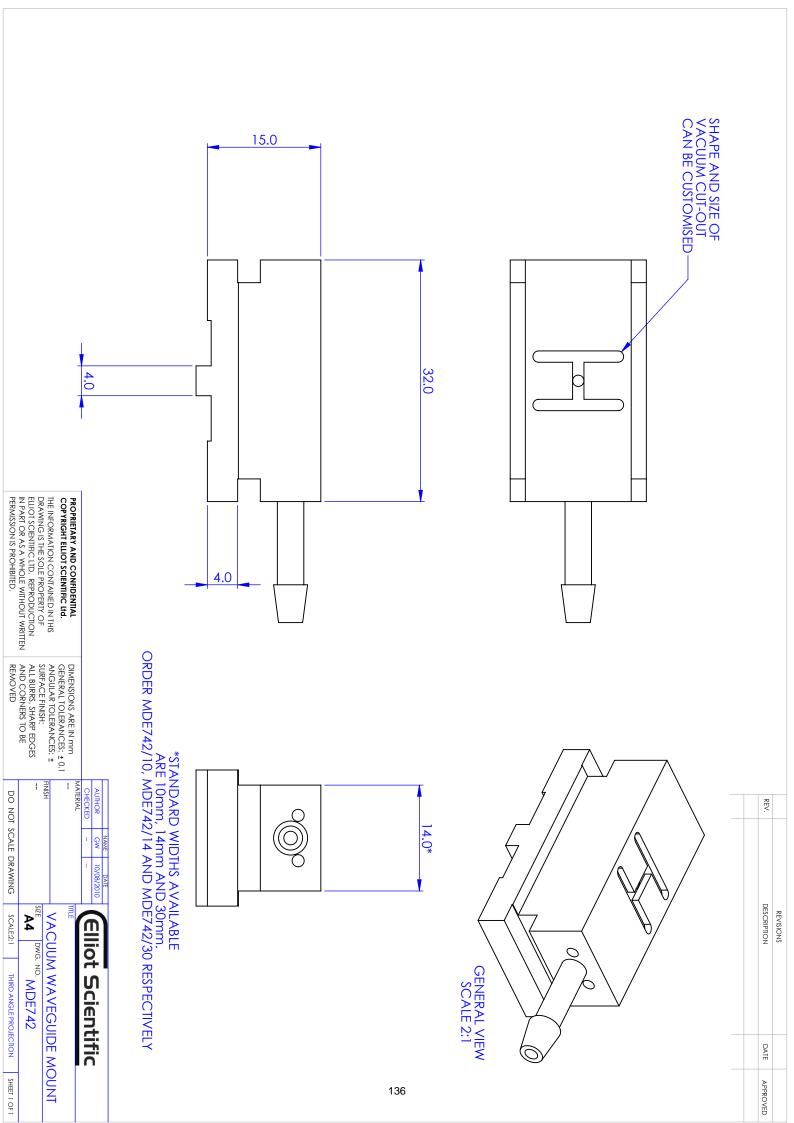
Specifications

Length 14 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 30 mm

Alternative mounting: adhesive/tape or mechanical clamp





MDE742-30 Vacuum Waveguide/Device Holder - 30 x 15 mm



- 30 mm waveguide length
- 15 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application



The model MDE742 series is a vacuum waveguide mount for central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets. Vacuum hold-down groove cut to suit application.

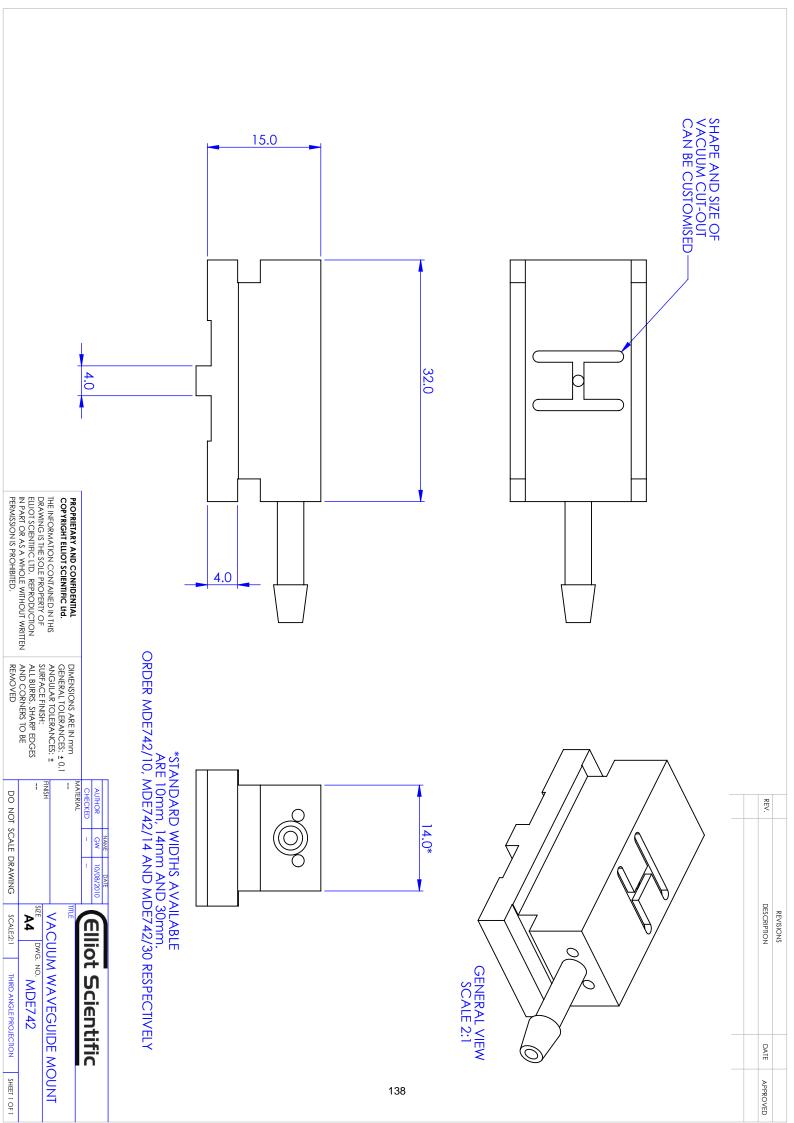
Specifications

Length 30 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 14 mm

Alternative mounting: adhesive/tape or mechanical clamp





MDE743-10 Mechanical Waveguide/Device Holder - 10 x 15 mm



- 10 mm waveguide length
- 15 mm nominal height
- · Mechanical clamp mounting
- Adjustable end stop



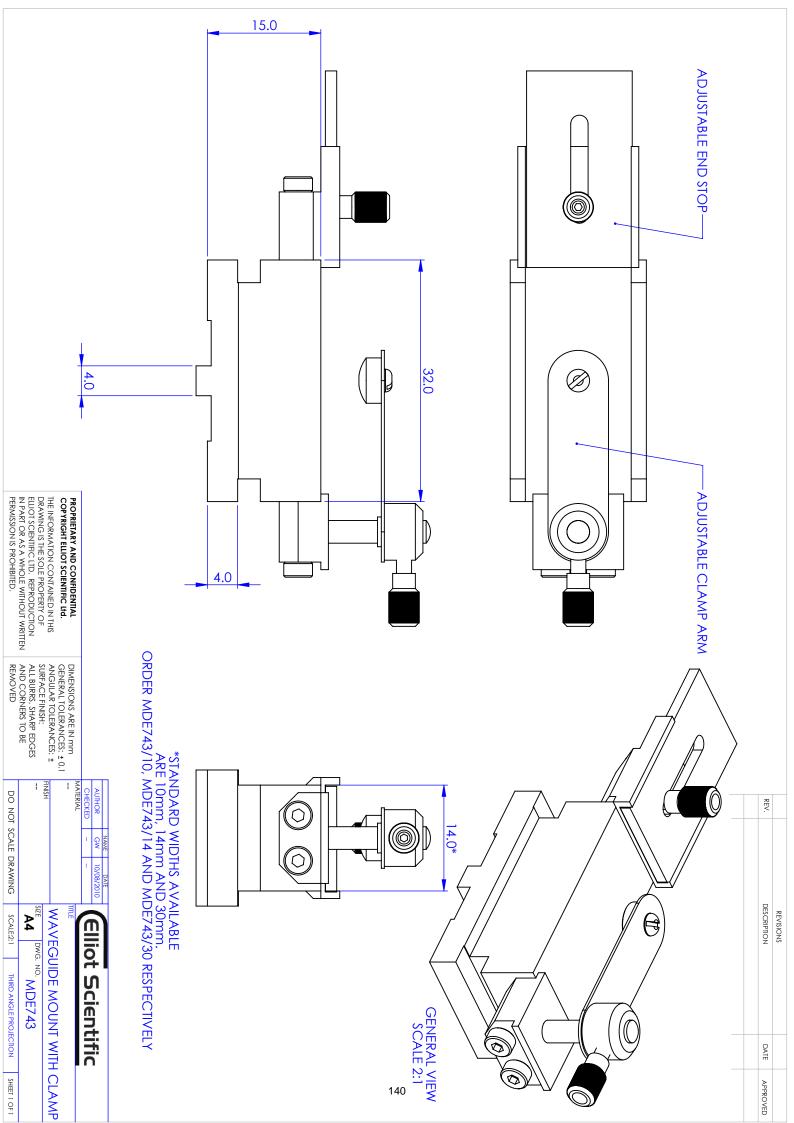
The model MDE743 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets.

Specifications

Length 10 mm Height 15 mm

Options

Other waveguide lengths: 14 mm and 30 mm Alternative mounting: adhesive/tape or vacuum





MDE743-14 Mechanical Waveguide/Device Holder - 14 x 15 mm



- 14 mm waveguide length
- 15 mm nominal height
- · Mechanical clamp mounting
- Adjustable end stop



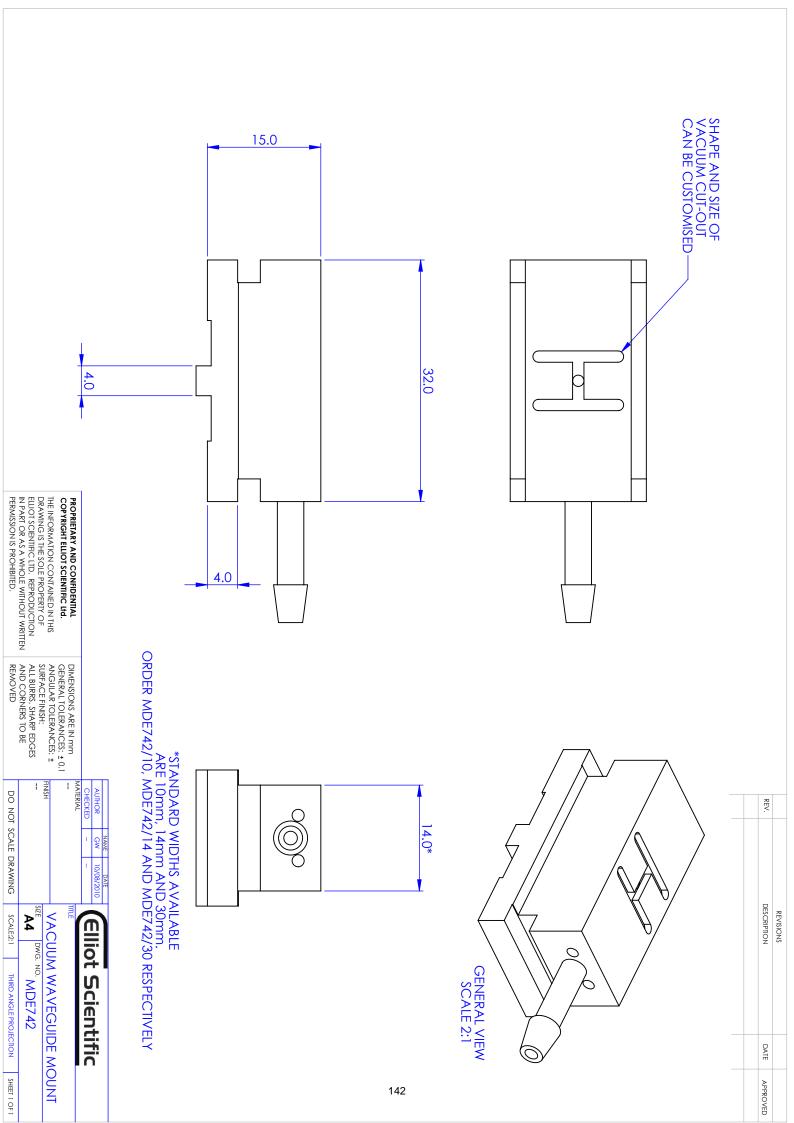
The model MDE743 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets.

Specifications

Length 14 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 30 mm Alternative mounting: adhesive/tape or vacuum





MDE743-30 Mechanical Waveguide/Device Holder - 30 x 15 mm



- 30 mm waveguide length
- 15 mm nominal height
- Mechanical clamp mounting
- Adjustable end stop



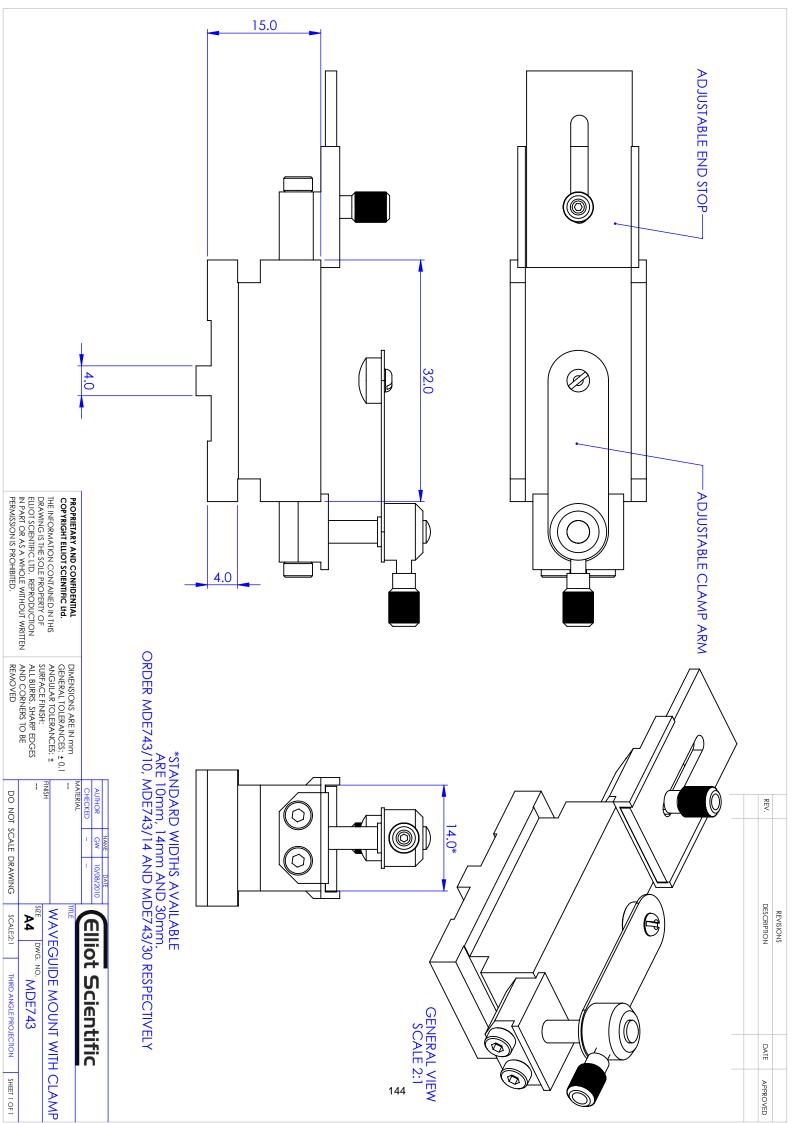
The model MDE743 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with the central workstations MDE881 and MDE883, and for Elliot Gold™ series flexure stages. Also fits MDE147, MDE148 and MDE149 brackets.

Specifications

Length 30 mm Height 15 mm

Options

Other waveguide lengths: 10 mm and 14 mm Alternative mounting: adhesive/tape or vacuum





MDE744-10 Basic Waveguide/Device Holder - 10 x 18 mm



- 10 mm waveguide length
- 18 mm nominal height
- Adhesive or tape mounting



The model MDE744 series is a basic waveguide/substrate mount for use with MDE717 and MDE718 fibre rotators. These models feature an increased mounting height of 18 mm which matches the working height of the rotators. Affix device with tape or bond with adhesive.

Specifications

Length 10 mm Height 18 mm

Options

Other waveguide lengths: 14 mm and 30 mm Alternative mounting: vacuum or mechanical clamp



MDE744-14 Basic Waveguide/Device Holder - 14 x 18 mm



- 14 mm waveguide length
- 18 mm nominal height
- Adhesive or tape mounting



The model MDE744 series is a basic waveguide/substrate mount for use with MDE717 and MDE718 fibre rotators. These models feature an increased mounting height of 18 mm which matches the working height of the rotators. Affix device with tape or bond with adhesive.

Specifications

Length 14 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 30 mm Alternative mounting: vacuum or mechanical clamp



MDE744-30 Basic Waveguide/Device Holder - 30 x 18 mm



- 30 mm waveguide length
- 18 mm nominal height
- Adhesive or tape mounting



The model MDE744 series is a basic waveguide/substrate mount for use with MDE717 and MDE718 fibre rotators. These models feature an increased mounting height of 18 mm which matches the working height of the rotators. Affix device with tape or bond with adhesive.

Specifications

Length 30 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 14 mm
Alternative mounting: vacuum or mechanical clamp



MDE745-10 Vacuum Waveguide/Device Holder - 10 x 18 mm



- 10 mm waveguide length
- 18 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application

ELLIOT MARTOCK

Specifications

Length 10 mm Height 18 mm

Options

Other waveguide lengths: 14 mm and 30 mm

Alternative mounting: adhesive/tape or mechanical clamp



MDE745-14 Vacuum Waveguide/Device Holder - 14 x 18 mm



- 14 mm waveguide length
- 18 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application

ELLIOT MARTOCK

Specifications

Length 14 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 30 mm

Alternative mounting: adhesive/tape or mechanical clamp



MDE745-30 Vacuum Waveguide/Device Holder - 30 x 18 mm



- 30 mm waveguide length
- 18 mm nominal height
- Vacuum mounting
- Hold-down groove custom cut for application



Specifications

Length 30 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 14 mm

Alternative mounting: adhesive/tape or mechanical clamp



MDE746-10 Mechanical Waveguide/Device Holder - 10 x 18 mm



- 10 mm waveguide length
- 18 mm nominal height
- Mechanical clamp mounting
- Adjustable end stop



The model MDE746 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with MDE717 and MDE718 fibre rotators. The model MDE746 features an increased mounting height of 18 mm which matches the working height of the rotators.

Specifications

Length 10 mm Height 18 mm

Options

Other waveguide lengths: 14 mm and 30 mm Alternative mounting: adhesive/tape or vacuum



MDE746-14 Mechanical Waveguide/Device Holder - 14 x 18 mm



- 14 mm waveguide length
- 18 mm nominal height
- · Mechanical clamp mounting
- Adjustable end stop



The model MDE746 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with MDE717 and MDE718 fibre rotators. The model MDE746 features an increased mounting height of 18 mm which matches the working height of the rotators.

Specifications

Length 14 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 30 mm Alternative mounting: adhesive/tape or vacuum



MDE746-30 Mechanical Waveguide/Device Holder - 30 x 18 mm



- 30 mm waveguide length
- 18 mm nominal height
- Mechanical clamp mounting
- Adjustable end stop



The model MDE746 series is a waveguide/substrate mount with mechanical clamp arm and adjustable end-stop for use with MDE717 and MDE718 fibre rotators. The model MDE746 features an increased mounting height of 18 mm which matches the working height of the rotators.

Specifications

Length 30 mm Height 18 mm

Options

Other waveguide lengths: 10 mm and 14 mm Alternative mounting: adhesive/tape or vacuum





MDE747 Waveguide Mount with Pitch, Roll & Height Adjust



- Angular travel ± 3°
- Optical axis height 15 mm ± 3 mm
- Waveguide mount slides & clamps in Y direction 12 mm
- Mechanical clamp arm from MDE743 may be fitted to stage
- Fits on flexure stages and MDE147, MDE148, and MDE149
- brackets



Waveguide mount with kinematic adjustment of pitch and roll, plus height. Short length allows access with microscope objectives for free space coupling. Adjustable location ridge allows substrate to be placed parallel along optical axis.

Specifications

Y-Travel of waveguide mount 12 mm Optical Axis Height 15 mm \pm 3 mm Angular Adjustment Pitch \pm 3° Roll \pm 3°

Options

Mechanical clamp arm from MDE743





MDE890 Waveguide Mount with θy and X Adjust



- X-axis travel 16 mm
- Angular resolution 1 arc second
- Attaches to MDE881 and MDE883 Central Workstation
- θy has 360° coarse rotation with ± 1° fine adjustment



Attaches to central platform of MDE881 or any Elliot/Martock flexure stage. θ y has 360° of coarse adjustment, with \pm 1° rotation to 1 arc second resolution. The spindle assembly can slide in the X-direction by 16 mm along a precision dovetail and is locked in place with two screws. Customer or Elliot to machine mounting block supplied to suit requirements.

Specifications

θy Rotation 360° coarse adjustment, ± 1° fine adjustment

Angular resolution 1 arc second

X-Adjustment 16 mm on precision dovetail with locking screws

Options

Machining of mounting block to suit requirements



MDE891 Waveguide Mount with θy plus X & Y Adjust



- X-axis travel: 16 mm
- Z-axis travel: +8/-2 mm relative to spindle
- · Angular resolution 1 arc second
- Attaches to MDE881 and MDE883 Central Workstation
- θy has 10° coarse rotation with ± 1° fine adjustment



Attaches to central platform of MDE881 or any Elliot/Martock flexure stage. θ y has 10° of coarse adjustment, with \pm 1° rotation to 1 arc second resolution. The spindle assembly can slide in the X-direction by 16 mm along a precision dovetail and is locked in place with two screws. The Y-adjustment is limited to \pm 8/- 2 mm travel relative to spindle. Customer or Elliot to machine mounting block supplied to suit requirements.

Specifications

θy Rotation 10° coarse adjustment, ± 1° fine adjustment

Angular resolution 1 arc second

X-Adjustment 16 mm on precision dovetail with locking screws

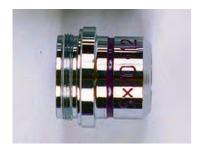
Z-Adjustment + 8/- 2 mm relative to spindle

Options

Machining of mounting block to suit requirements



MDE170 Microscope Achromatic Objective x4



- x4 Magnification
- BBAR Coated
- RMS 0.800"-36 Mounting Thread

ELLIOT MARTOCK

Specifications

Magnification
Numerical Aperture
Working Distance
Anti-reflection coating
Mounting Thread

x4 0.12 22 mm

Broadband AR coated for visible wavelength range

RMS 0.800"-36



MDE172 Microscope Achromatic Objective x10



- x10 Magnification
- BBAR Coated
- RMS 0.800"-36 Mounting Thread



Specifications

Magnification
Numerical Aperture
Working Distance
Anti-reflection coating
Mounting Thread

x10 0.25 6.5 mm

Broadband AR coated for visible wavelength range

RMS 0.800"-36



MDE173 Microscope Achromatic Objective x20



- x20 Magnification
- BBAR Coated
- RMS 0.800"-36 Mounting Thread



Specifications

Magnification
Numerical Aperture
Working Distance
Anti-reflection coating
Mounting Thread

x20 0.40 1.3 mm

Broadband AR coated for visible wavelength range

RMS 0.800"-36



MDE174 Microscope Achromatic Objective x40



- x40 Magnification
- BBAR Coated
- RMS 0.800"-36 Mounting Thread



Specifications

Magnification
Numerical Aperture
Working Distance
Anti-reflection coating
Mounting Thread

x40 0.65 0.6 mm

Broadband AR coated for visible wavelength range

RMS 0.800"-36



MDE176 Microscope Achromatic Objective x60



- x60 Magnification
- BBAR Coated
- RMS 0.800"-36 Mounting Thread

ELLIOT MARTOCK

Specifications

Magnification
Numerical Aperture
Working Distance
Anti-reflection coating
Mounting Thread

x60 0.85 0.18 mm

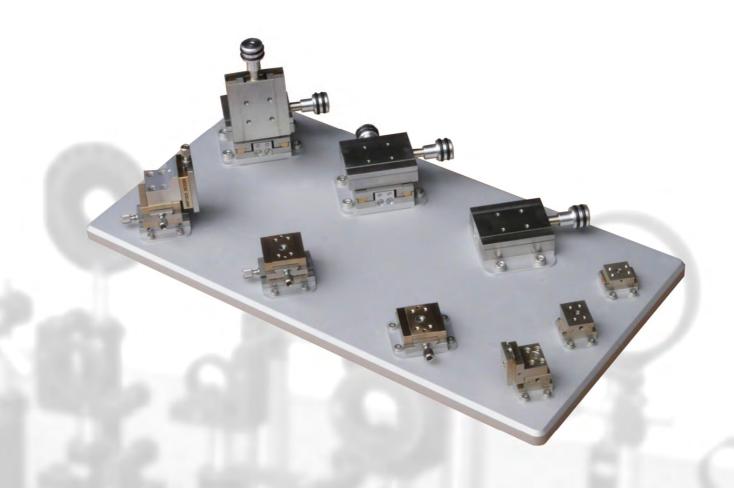
Broadband AR coated for visible wavelength range

RMS 0.800"-36



Opto-Mechanics 2012

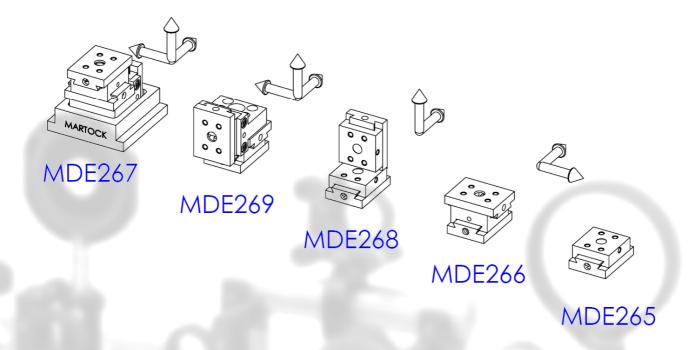
Manual Positioners





Opto-Mechanics 2012

Ultra Small Linear Stages







Manual Positioners: Ultra Small Linear Stages: 3 mm Travel

MDE265 Single Axis Ultra-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Very Small dovetail slide series
- One of the smallest micropositioners available



Specifications

Travel 3 mm Sensitivity $< 0.5 \, \mu m$

Adjuster 0.25 pitch with 1.27 mm hex socket

Top plate 12 x 12 mm

Mounting holes Four M1.6 x 2 mm deep on both sides

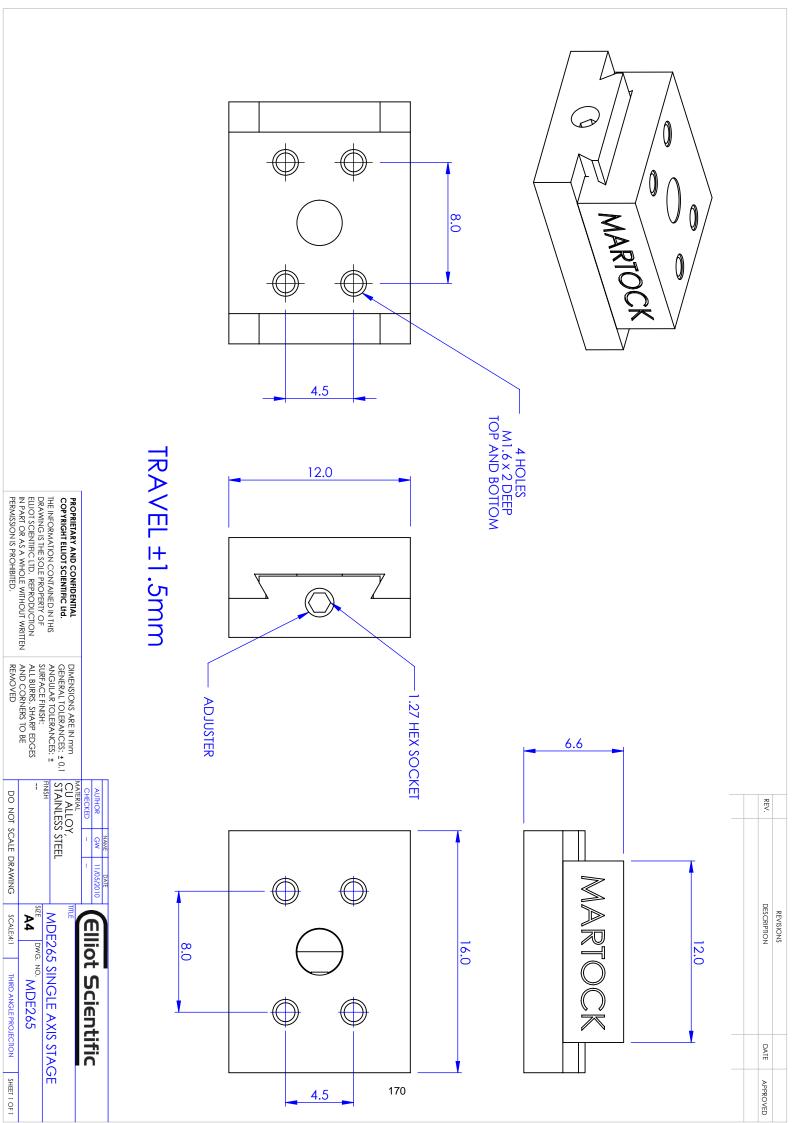
Options

Knurled knob adjuster (Sold separately as P/No. MD-054115) Post mounting using MDE857 (and MDE858 if required) Fibre holders available: MDE719 and MDE730 Non-magnetic versions available

Vacuum compatible versions available

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





Manual Positioners: Ultra Small Linear Stages: 3 mm Travel

MDE266 Dual Axis XY Ultra-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Very Small dovetail slide series
- One of the smallest micropositioners available



Specifications

Travel 3 mm Sensitivity $< 0.5 \, \mu m$

Adjusters 0.25 pitch with 1.27 mm hex socket

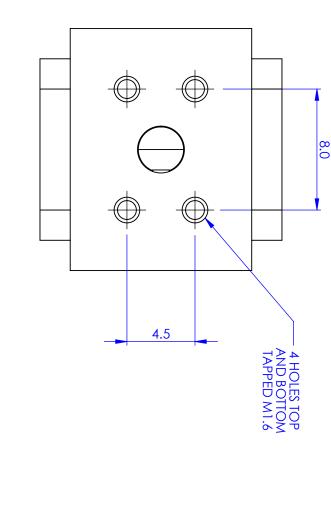
Ball hex driver supplied

Top plate 12 x 12 mm
Thickness 11 mm

Mounting holes Four M1.6 x 2 mm deep on both sides

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



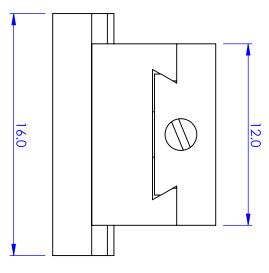
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BOTH AXES ±3mm OF TRAVEL



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2 AXIS DOVETAIL SLIDE

Elliot Scientific

DWG. NO. MDE266

THIRD ANGLE PROJECTION SHEET 1 OF 1

172

GENERAL VIEW SCALE: 4:1

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Manual Positioners: Ultra Small Linear Stages: 3 mm Travel

MDE267 Three-Axis XYZ Ultra-Small Micropositioner on M4 Tapped Base



- Wide range of configurations
- Very smooth backlash-free motion
- · Based on the Very Small dovetail slide series
- One of the smallest micropositioners available



Specifications

Travel 3 mm Sensitivity $< 0.5 \, \mu m$

Adjusters 0.25 pitch with 1.27 mm hex socket

Ball hex driver supplied

Top plate 12 x 12 mm
Base M4 tapped

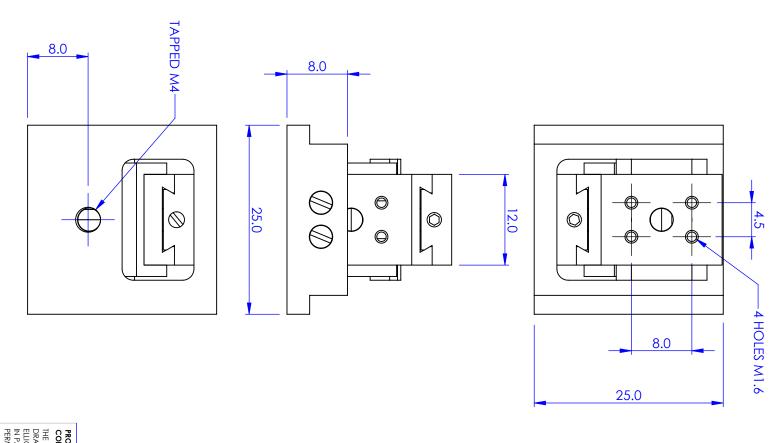
Options

Knurled knob adjuster (Sold separately as P/No. MD-054115)
Post mounting using MDE857 (and MDE858 if required)
Fibre holders available: MDE719 and MDE730
Non-magnetic versions available

Vacuum compatible versions available

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

A SIZE

MARTOCK

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MATERIAL CU ALLOY, AL ALLOY STAINLESS STEEL NAME DATE GW 13/05/20 MDE267 3-Axis Micropositioner Elliot Scientific DWG. NO. MDE267

AUTHOR



Manual Positioners: Ultra Small Linear Stages: 3 mm Travel

MDE268 Dual Axis XZ Micropositioner



- Wide range of configurations
- · Very smooth backlash-free motion
- · Based on the Very Small dovetail slide series
- One of the smallest micropositioners available



Specifications

Travel 3 mm Sensitivity $< 0.5 \, \mu m$

Adjusters 0.25 pitch with 1.27 mm hex socket

Top plate 12 x 12 mm

Mounting holes Four M1.6 x 2 mm deep on both sides

Options

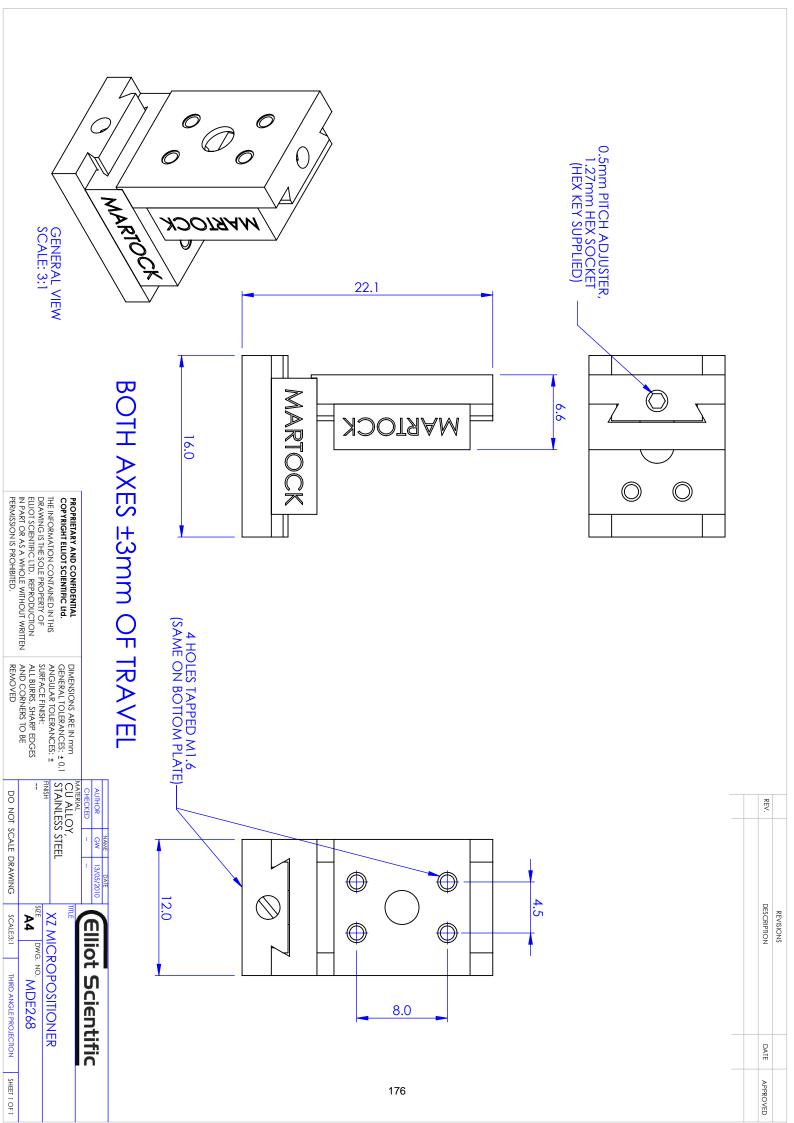
Knurled knob adjuster (Sold separately as P/No. MD-054115) Post mounting using MDE857 (and MDE858 if required) Fibre holders available: MDE719 and MDE730 Non-magnetic versions available

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.

For the latest price, contact us today.

Vacuum compatible versions available





Manual Positioners: Ultra Small Linear Stages: 3 mm Travel

MDE269 Three Axis XZ Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Very Small dovetail slide series
- One of the smallest micropositioners available

ELLIOT MARTOCK

Specifications

Travel 3 mm Sensitivity $< 0.5 \, \mu m$

Adjusters 0.25 pitch with 1.27 mm hex socket

Top plate 12 x 12 mm

Mounting holes Four M1.6 x 2 mm deep on both sides

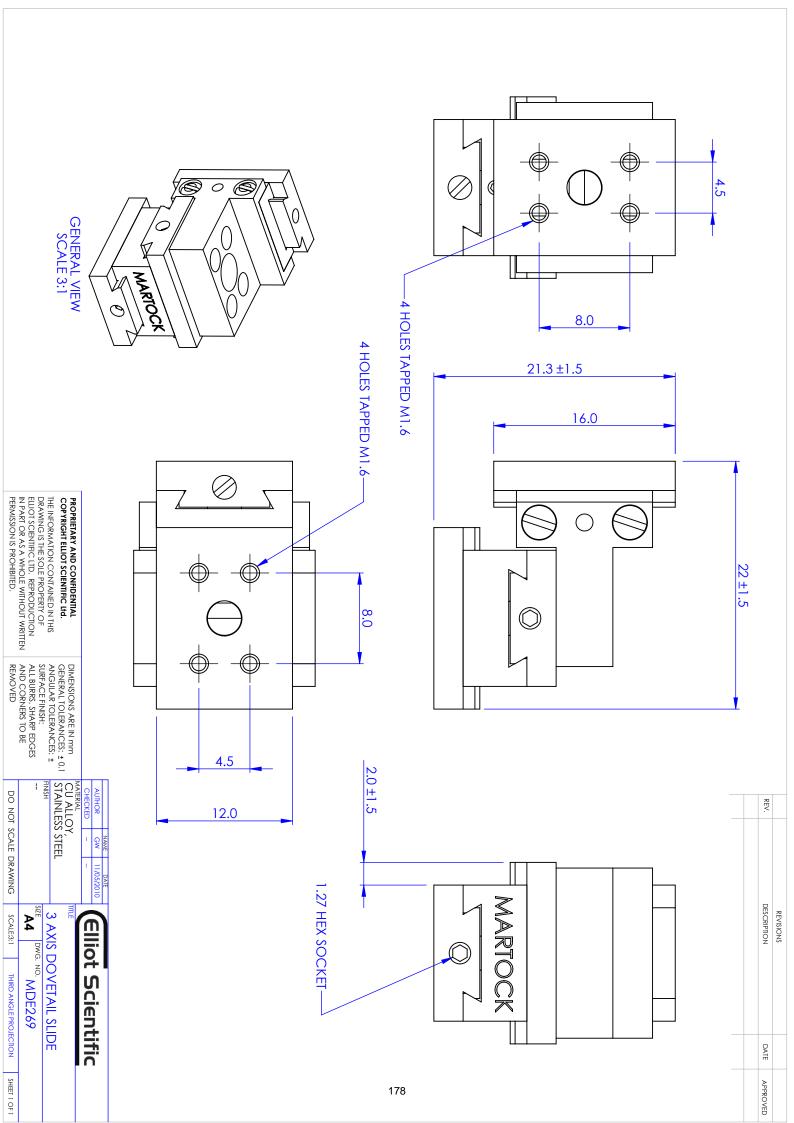
Options

Knurled knob adjuster (Sold separately as P/No. MD-054115)
Post mounting using MDE857 (and MDE858 if required)
Fibre holders available: MDE719 and MDE730
Non-magnetic versions available

Vacuum compatible versions available

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





Manual Positioners: Ultra Small Linear Stages: Fibre Accessories

MDE719 Fibre Rotator



- Spindle rotates 360°
- Resolution 30 arc secs
- Holds fibre ferrules only
- Fine adjustment: ± 5° range
- Fits MDE265 Series Positioners
- Works with any ferrule up to 4.5 mm diameter



The model MDE719 is a simple fibre rotator that integrates with MDE265 series positioners. It is designed to be used with fibre ferrules up to 4.5 mm in diameter (customer must specify actual ferrule size). It incorporates a spindle that rotates through 360°. Fine adjustment is \pm 5° with a resolution of 30 arc secs.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. The user replaceable V-grooves enable the you to work with different fibre sizes economically. Remember, custom grooves are our speciality.

All accessories are compatible with the Elliot Gold™ series flexure stages. The optical axis height is 18 mm above the platform surface and on the centre line of the location slot. Where necessary a locating tongue forms part of the accessory. A standard clamp system is used and is supplied with the flexure stages and accessory platforms.

The clamp set (MDE154) is available separately if required.

Specifications

Ferrule Size
Rotation
Resolution
Mount Fits MDE265 Series Positioners

Up to 4.5 mm diameter. Customer specified 360° coarse rotation ±5° fine adjustment 30 arc secs

Options

MDE265 series micropositioners Clamp set (Model MDE154)

Supplied with mounting screws





Manual Positioners: Ultra Small Linear Stages: Fibre Accessories

MDE730 Fibre Holder (Magnetic)



- V-groove for 125 µm fibre
- V-groove for 125 µm fibre
- Fits MDE 265 Series Positioners
- Fibre retained by magnet (supplied)



The model MDE730 is a simple fibre holder utilising a magnetic clamp. The standard V-groove accepts 125 μ m fibre, although other sizes are available on request. The fibre holder fits the MDE265 series positioners.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. The user replaceable V-grooves enable the you to work with different fibre sizes economically. Remember, custom grooves are our speciality.

Specifications

Fibre size
Fibre clamp
Optical axis
Mount Fits MDE265 Series Positioners
Supplied with mounting screws

125 µm fibre Magnetic

5.0 mm centre height

Options

MDE265 series micropositioners





Manual Positioners: Ultra Small Linear Stages: Adaptors

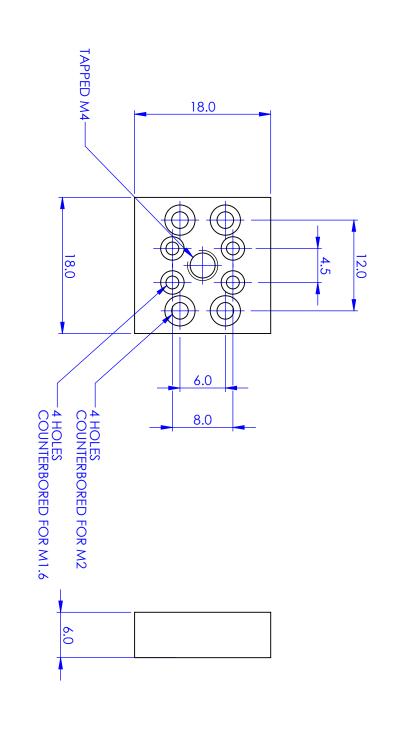
MDE857 MDE260 & MDE265 Post Adaptor

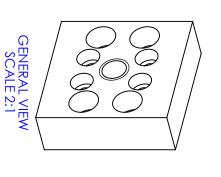


- Mount slide horizontal on post
- Mount MDE260 and MDE265 series to any M4 stud post
- Use with Elliot/Martock MDE260 and MDE265 series Ultra
- Small Micropositioners



MDE857 adaptor fits MDE260 and MDE265 series slides.





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ANODISED CLEAR ALUMINIUM ALLOY A SIZE **HORIZONTAL POST MOUNT Elliot Scientific** DWG. NO. MDE857

THIRD ANGLE PROJECTION SHEET 1 OF 1

184



Manual Positioners: Ultra Small Linear Stages: Adaptors

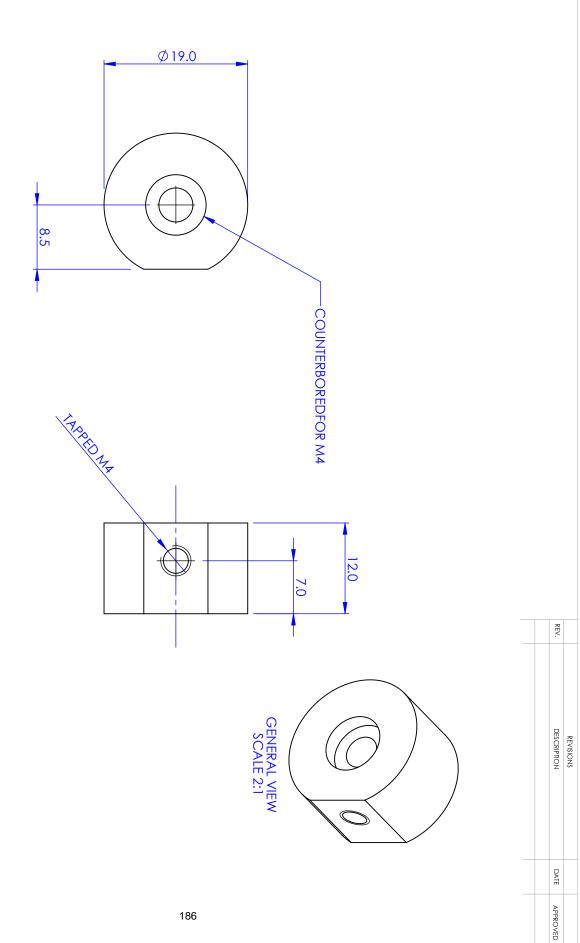
MDE858 MDE260 & MDE265 Post Adaptor for MDE857



- Requires MDE857 adaptor
- Mount MDE260/MDE265 series micropositioners vertically
- or rotationally on an M4 stud



The MDE858 adaptor is used in conjunction with an MDE857 to allow vertical or rotational mounting of MDE260 and MDE265 series Ultra Small Micropositioners.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

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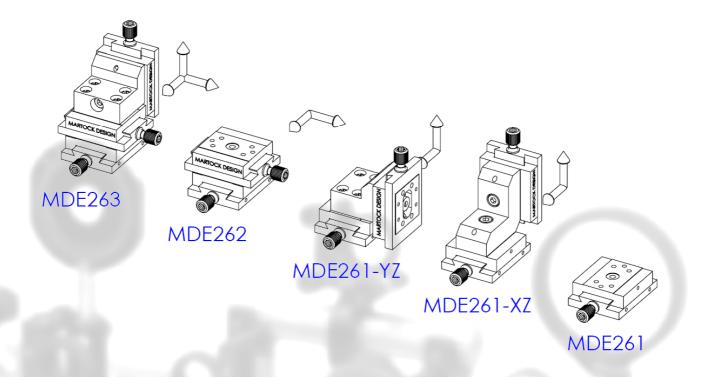
ADAPTER MOUNT

DWG. NO. MDE858

186

Opto-Mechanics 2012

Very Small Linear Stages







MDE261 Single Axis Very-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjuster 0.25 pitch with knurled knob and 2.5 mm hex socket

Ball hex driver supplied

Top plate 26 x 20 mm Thickness 8 mm

Mounting holes Four M2 x 2 mm deep on both sides

Options

Post mounting using MDE857 (and MDE858 if required)

Fibre holder available: MDE72 Tilting option: MDE270 and MDE273

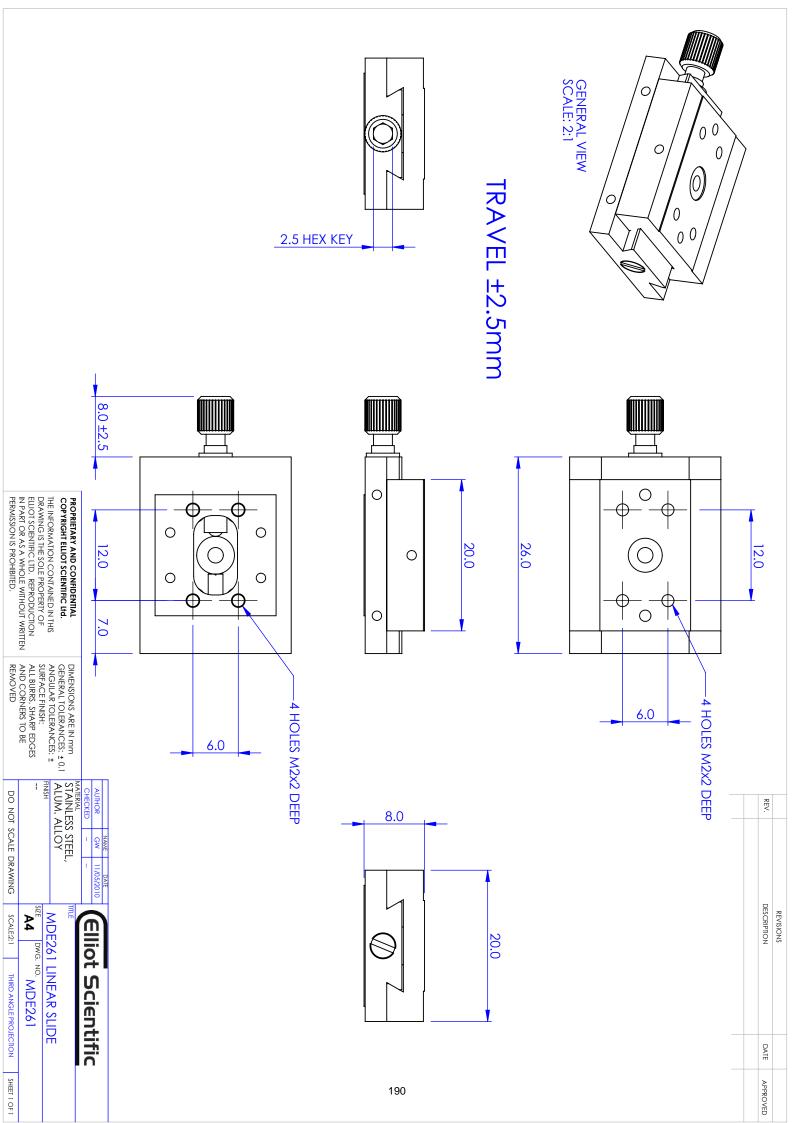
Rotation option: MDE283

Table-mounting option: MDE293

Vacuum version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





MDE262 Dual Axis XY Very-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel
Sensitivity
Adjusters

Ball hex driver supplied

Top plate Thickness

Mounting holes

5 mm

 $< 0.5 \mu m$

0.25 pitch with knurled knob and 2.5 mm hex socket

26 x 20 mm 16 mm

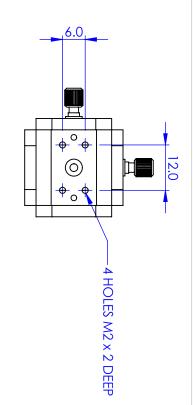
Four M2 x 2 mm deep on both sides

Variants

XZ and YZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



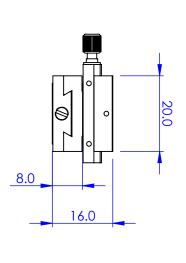
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MARTOCK DESIGN 0



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4 HOLES M2 x 2 DEEP



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MATERIAL STAINLESS STEEL, ALUM. ALLOY DO NOT SCALE DRAWING SCALE:1:1

2 AXIS DOVETAIL SLIDE

Elliot Scientific

₽ DWG. NO. MDE262

THIRD ANGLE PROJECTION SHEET 1 OF 1

192

8 ±2.5



MDE261-XZ Dual Axis XZ Very-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \ \mu m$

Adjusters 0.25 pitch with knurled knob and 2.5 mm hex socket

Ball hex driver supplied

Top plate

26 x 20 mm

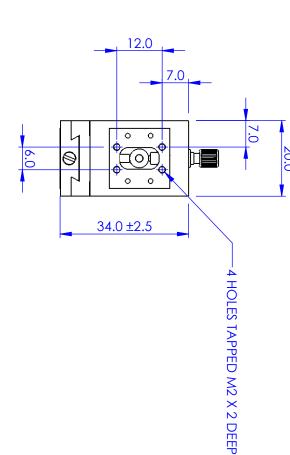
Mounting holes Four M2 x 2 mm deep on both sides

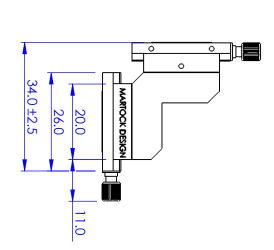
Variants

XY and XZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





REV.

DESCRIPTION

DATE

APPROVED

REVISIONS

EACH AXIS HAS ±2.5mm OF TRAVEL



6

12.0

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DIMENSIONS ARE IN mm
GENERAL TOLERANCES: ± 0.1
ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHARP EDGES
AND CORNERS TO BE
REMOVED

GENERAL VIEW SCALE: 1:1

MATERIAL STAINLESS STEEL, ALUM. ALLOY

DO NOT SCALE DRAWING

XZ DOVETAIL SLIDE ₽

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

Elliot Scientific

DWG. NO. MDE261-XZ

194



MDE261-YZ Dual Axis YZ Very-Small Micropositioner



- Wide range of configurationsVery smooth backlash-free motion
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

 $\begin{tabular}{lll} Travel & 5 mm \\ Sensitivity & < 0.5 \, \mu m \end{tabular}$

Adjusters 0.25 pitch with knurled knob and 2.5 mm hex socket Ball hex driver supplied

Top plate 26 x 20 mm

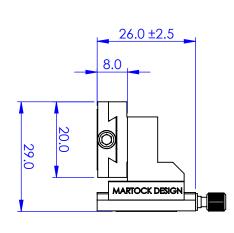
Mounting holes Four M2 x 2 mm deep on both sides

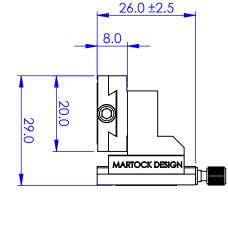
Variants

XY and XZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





12.0

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7.0

4 HOLES TAPPED M2 X 2 DEEP

20.0

REV.

DESCRIPTION REVISIONS

DATE

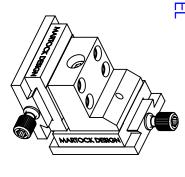
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6.0

 3.0 ± 2.5

EACH AXIS HAS ±2.5mm OF TRAVEL

-4 HOLES TAPPED M2 X 2 DEEP



26.0

12.0

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0 0

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DIMENSIONS ARE IN mm
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ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHARP EDGES
AND CORNERS TO BE
REMOVED

MATERIAL STAINLESS STEEL, ALUM. ALLOY

GENERAL VIEW SCALE 1:1

DO NOT SCALE DRAWING

SCALE:1:1

₽

Y-Z SLIDE ASSEMBLY

Elliot Scientific

DWG. NO. MD261-YZ

THIRD ANGLE PROJECTION SHEET 1 OF 1

196



MDE263 Three Axis XYZ Very-Small Micropositioner



- Wide range of configurations
- Very smooth backlash-free motion
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjusters 0.25 pitch with knurled knob and 2.5 mm hex socket

Ball hex driver supplied

Top plate 26 x 20 mm

Mounting holes Four M2 x 2 mm deep on both sides

Options

Post mounting using MDE857 (and MDE858 if required)

Fibre holder available: MDE72 Tilting option: MDE270 and MDE273

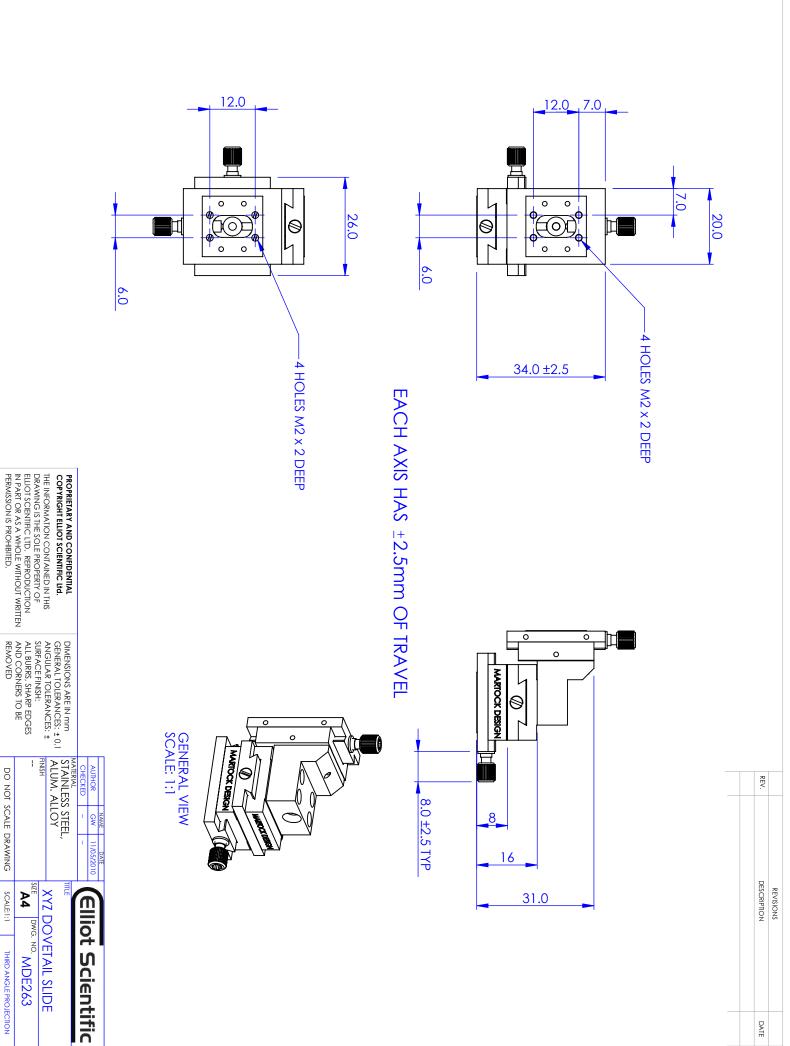
Rotation option: MDE283

Table-mounting option: MDE293

Vacuum version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



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DO NOT SCALE DRAWING

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

₽



MDE261M Single Axis Very-Small Micropositioner with Micrometer



- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjuster
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjuster Micrometer reading to 0.01 mm

Top plate 26 x 20 mm Thickness 8 mm

Mounting holes Four M2 x 2 mm deep on both sides

Options

Post mounting using MDE857 (and MDE858 if required)

Fibre holder available: MDE72 Tilting option: MDE270 and MDE273

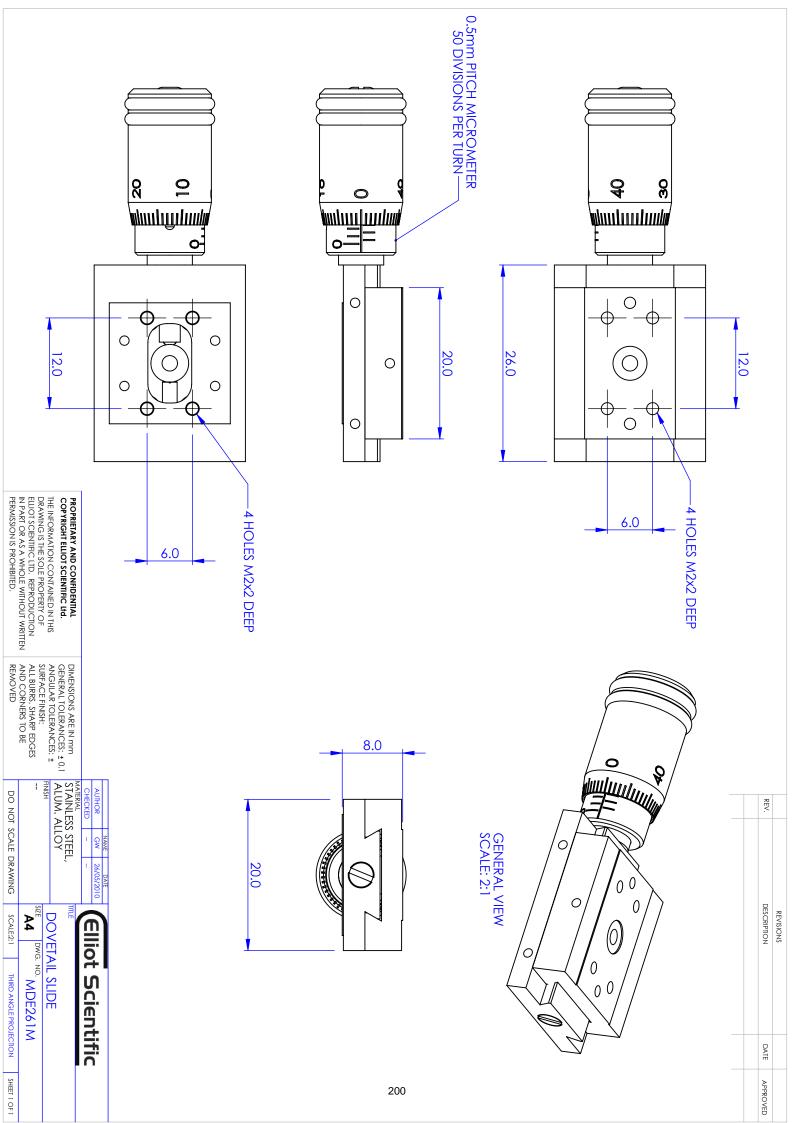
Rotation option: MDE283

Table-mounting option: MDE293

Vacuum version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





MDE262M Dual Axis XY Very-Small Micropositioner with Micrometers



- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjusters Micrometer reading to 0.01 mm

Top plate 26 x 20 mm Thickness 16 mm

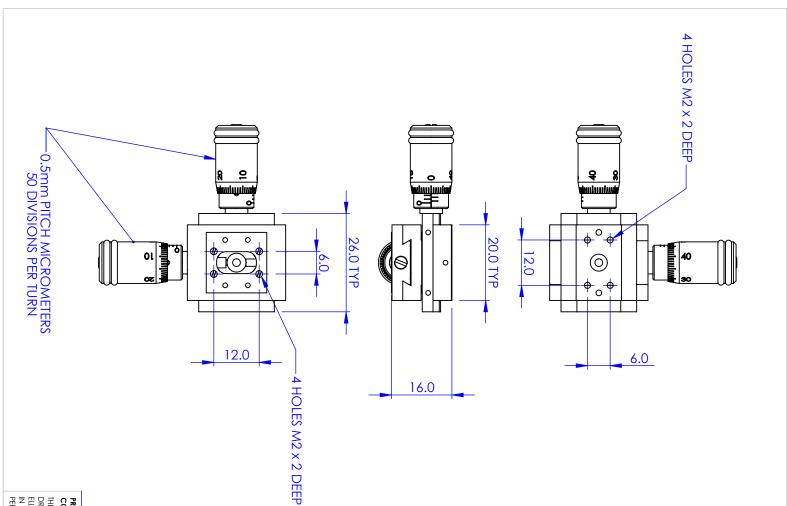
Mounting holes Four M2 x 2 mm deep on both sides

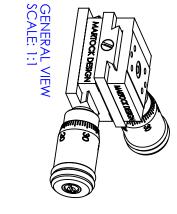
Variants

XZ and YZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



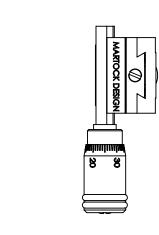


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DESCRIPTION REVISIONS

DATE

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EACH AXIS HAS ±2.5mm OF TRAVEL

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DIMENSIONS ARE IN mm
GENERAL TOLERANCES: ± 0.1
ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHARP EDGES
AND CORNERS TO BE
REMOVED

MATERIAL STAINLESS STEEL, ALUM. ALLOY

AUTHOR

DO NOT SCALE DRAWING

SCALE:1:1 **₽**

2 AXIS DOVETAIL SLIDE

Elliot Scientific

DWG. NO. MDE262M THIRD ANGLE PROJECTION

SHEET 1 OF 1



MDE261M-XZ Dual Axis XZ Very-Small Micropositioner with Micrometers



- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjusters Micrometer reading to 0.01 mm

Top plate 26 x 20 mm

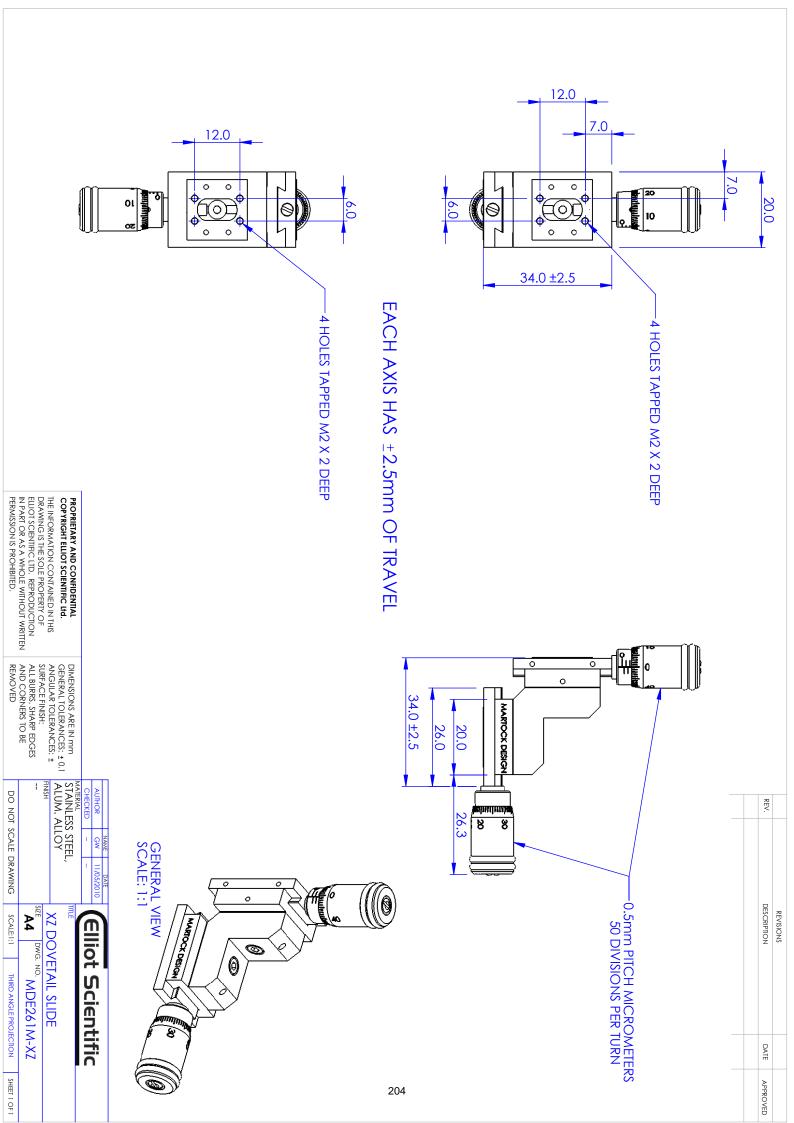
Mounting holes Four M2 x 2 mm deep on both sides

Variants

XY and XZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





MDE261M-YZ Dual Axis YZ Very-Small Micropositioner with Micrometers



- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

 $\begin{tabular}{lll} Travel & 5 mm \\ Sensitivity & < 0.5 \, \mu m \end{tabular}$

Adjusters Micrometer reading to 0.01 mm

Top plate 26 x 20 mm

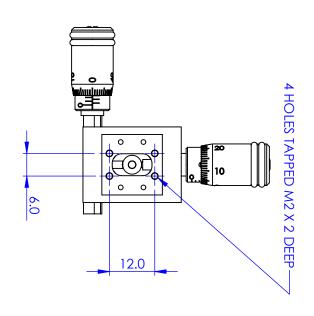
Mounting holes Four M2 x 2 mm deep on both sides

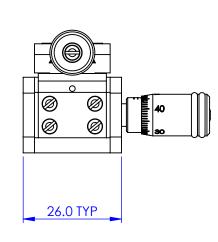
Variants

XY and XZ versions Lockable travel Vacuum version Non-magnetic version

Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.





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DESCRIPTION

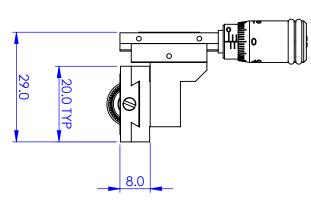
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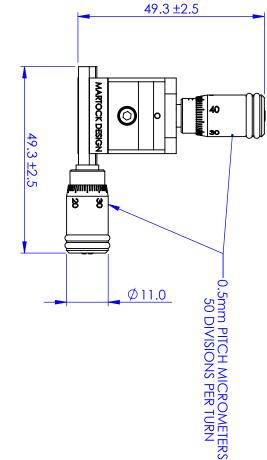
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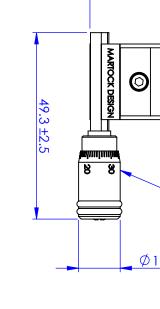
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AND CORNERS TO BE
REMOVED

DO NOT SCALE DRAWING

SCALE1:1

THIRD ANGLE PROJECTION

SHEET 1 OF 1

₽

MATERIAL STAINLESS STEEL, ALUM. ALLOY

AUTHOR

GW

Elliot Scientific

Y-Z SLIDE ASSY WITH MICROMETERS DWG. NO. MDE261M-YZ

206

GENERAL VIEW SCALE 1:1



MDE263M Three Axis XYZ Very-Small Micropositioner with Micrometers



- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Based on the Small dovetail slide series

ELLIOT MARTOCK

Specifications

Travel 5 mm Sensitivity $< 0.5 \, \mu m$

Adjusters Micrometer reading to 0.01 mm

Top plate 26 x 20 mm

Mounting holes Four M2 x 2 mm deep on both sides

Options

Post mounting using MDE857 (and MDE858 if required)

Fibre holder available: MDE72 Tilting option: MDE270 and MDE273

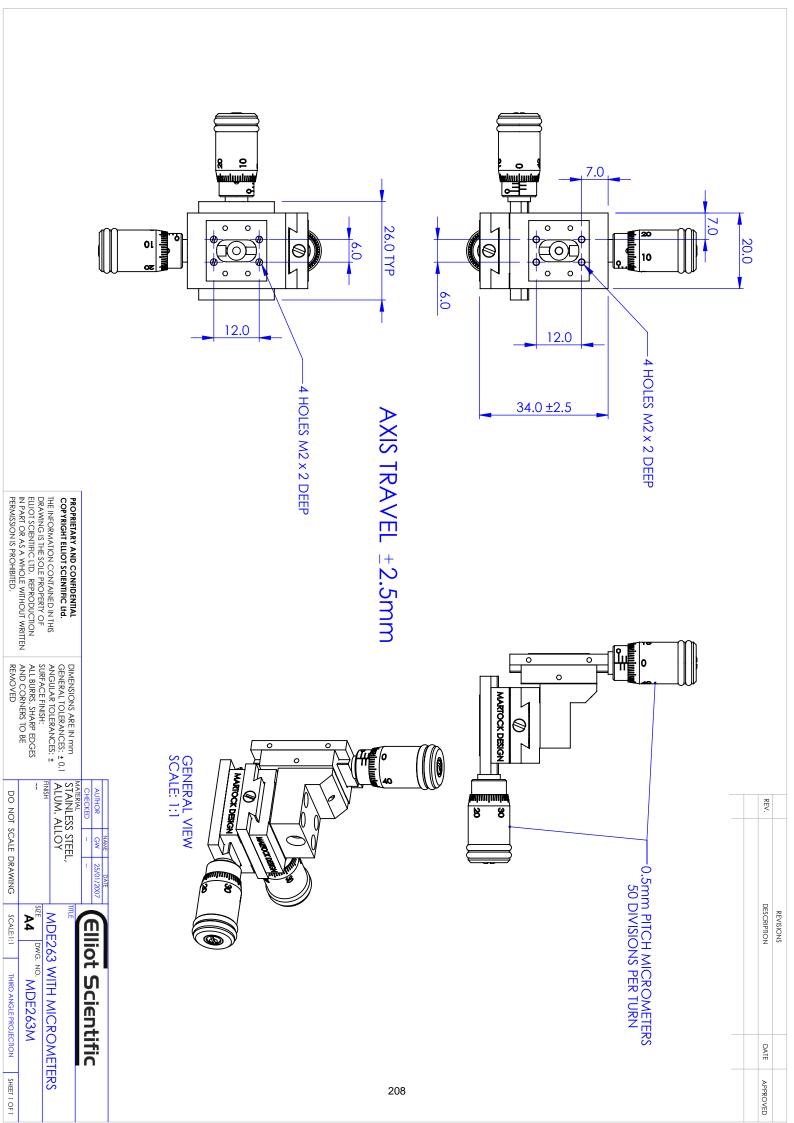
Rotation option: MDE283

Table-mounting option: MDE293

Vacuum version

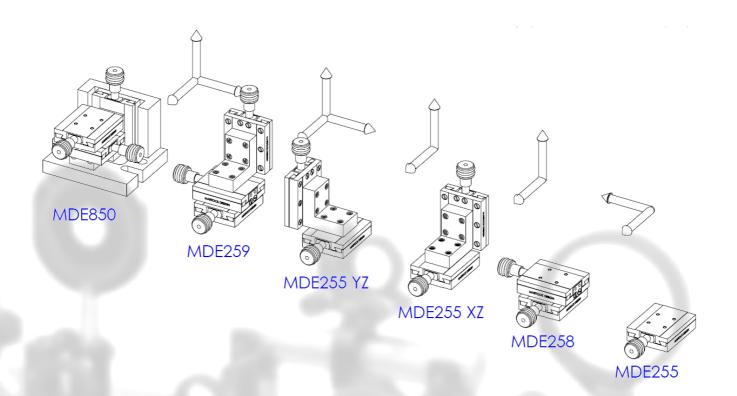
Notes

Surface mating with these micropositioners must be truly flat. Unflat surfaces or overtightened screws will cause the slide motion to be jerky and stiff due to distortion. Dovetail slides, unlike miniature ball slides, are unlikely to be permanently damaged by temporary distortion, as the load is supported on a comparatively large area.



Opto-Mechanics 2012

Small Linear Stages







MDE255 Single Axis Small Micropositioner



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Slide surfaces precision lapped in matched pairs

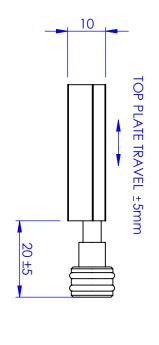
ELLIOT MARTOCK

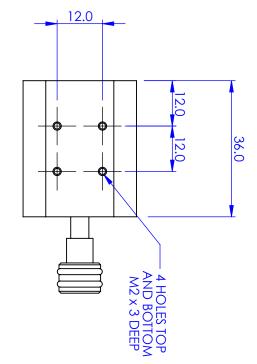
Specifications

Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjuster 0.25 pitch

Variants

Lockable travel Vacuum version Non-magnetic version





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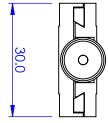
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DESCRIPTION

DATE

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DIMENSIONS ARE IN mm
GENERAL TOLERANCES: ± 0.1
ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHAPP EDGES
AND CORNERS TO BE
REMOVED

MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY DO NOT SCALE DRAWING SCALET:1 **∆**

MDE255 LINEAR SLIDE

DWG. NO. MDE255

THIRD ANGLE PROJECTION SHEET 1 OF 1

Elliot Scientific

AUTHOR

GW NAME

212

GENERAL VIEW SCALE: 1:1



MDE258 Dual Axis XY Small Micropositioner



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Slide surfaces precision lapped in matched pairs

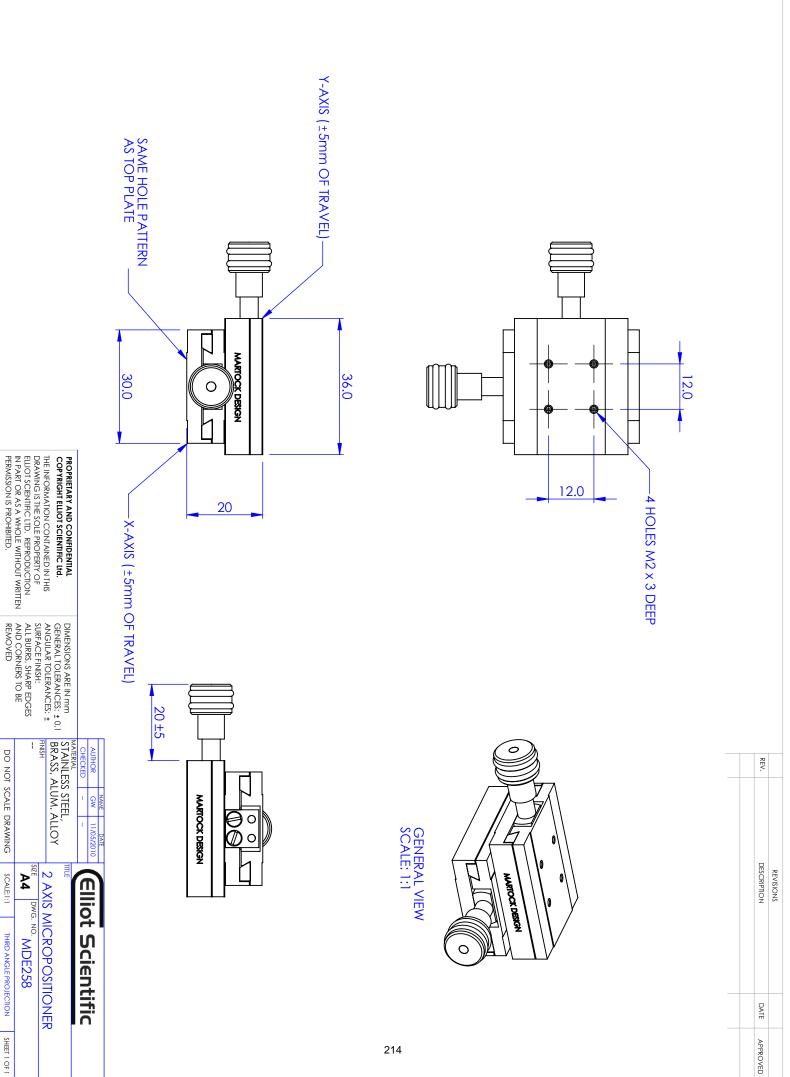


Specifications

Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjusters 0.25 pitch

Variants

Lockable travel Vacuum version Non-magnetic version



DO NOT SCALE DRAWING

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

₽

DWG. NO. MDE258



MDE255-XZ Dual Axis XZ Small Micropositioner



- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Very smooth backlash-free motion
- Slide surfaces precision lapped in matched pairs

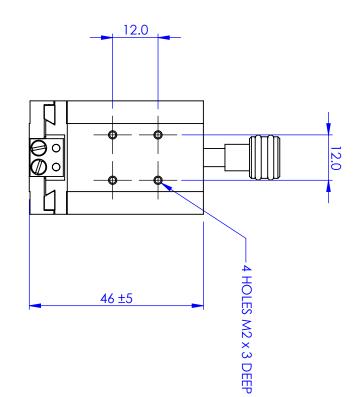


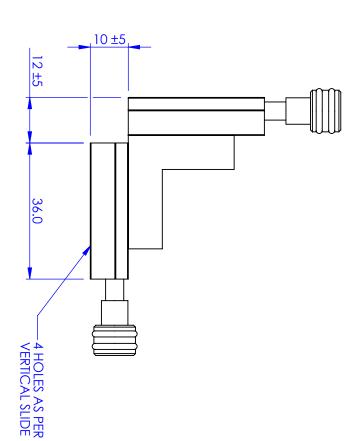
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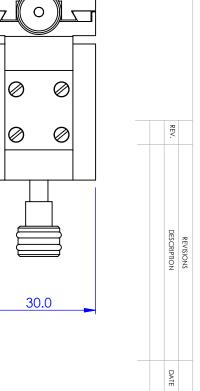
Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjusters 0.25 pitch

Variants

Lockable travel Vacuum version Non-magnetic version







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ANGULAR TOLERANCES: ±
SURFACE FINISH:
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AND CORNERS TO BE
REMOVED

DO NOT SCALE DRAWING

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY AUTHOR GW NAME SIZE **A** XZ DOVETAIL SLIDE **Elliot Scientific** DWG. NO. MDE255 XZ



MDE255-YZ Dual Axis YZ Small Micropositioner



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Slide surfaces precision lapped in matched pairs

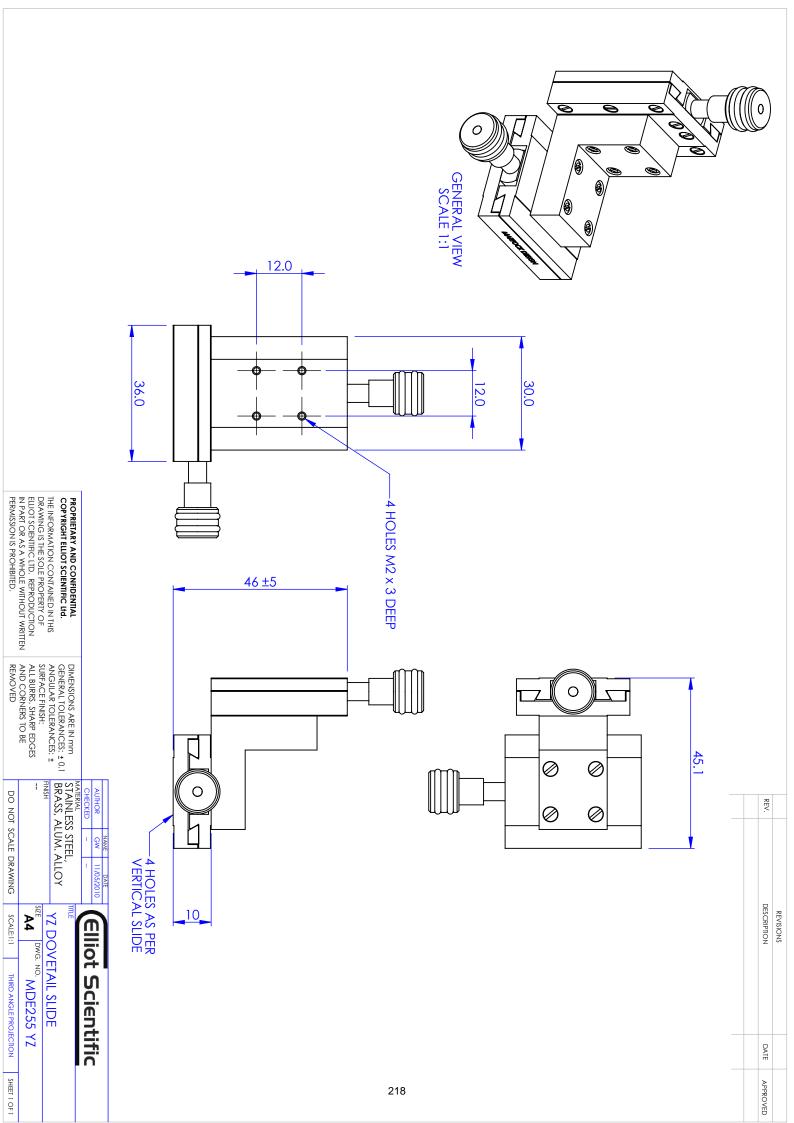


Specifications

Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjusters 0.25 pitch

Variants

Lockable travel Vacuum version Non-magnetic version





MDE259 Three Axis XYZ Small Micropositioner



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Slide surfaces precision lapped in matched pairs



Specifications

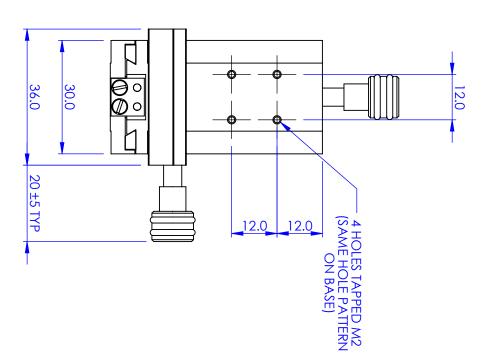
Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjusters 0.25 pitch

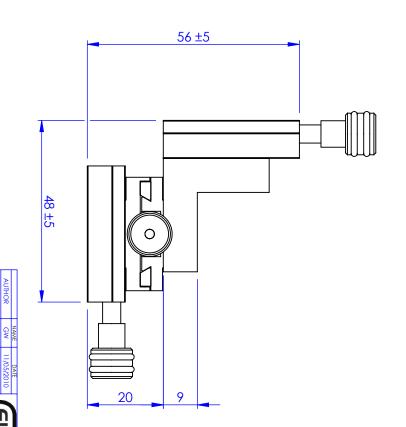
Variants

Lockable travel Vacuum version Non-magnetic version

ALL THREE AXES ±5mm TRAVEL

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ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHARP EDGES
AND CORNERS TO BE
REMOVED

MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY

DO NOT SCALE DRAWING

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

₽

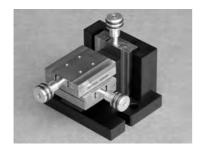
Elliot Scientific

3-Axis Mircropositioner DWG. NO. MDE259

220



MDE850 Three Axis Horizontal Platform



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Adjustable horizontal platform
- Very smooth backlash-free motion

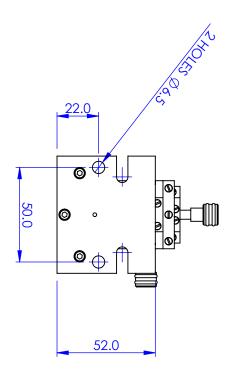
ELLIOT MARTOCK

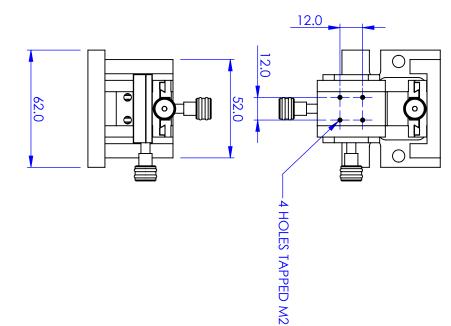
Specifications

Travel 10 mm Sensitivity $< 0.5 \ \mu m$ Adjusters 0.25 pitch

Variants

Lockable travel Vacuum version Non-magnetic version





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ANGULAR TOLERANCES: ±
SURFACE FINISH:
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AND CORNERS TO BE
REMOVED

AUTHOR

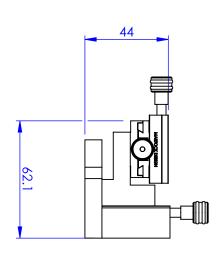
MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY

DO NOT SCALE DRAWING SCALE:1:2

THIRD ANGLE PROJECTION SHEET 1 OF 1

SIZE **A** XYZ MICROPOSITIONER DWG. NO. MDE850

NAME GW **Elliot Scientific**



	REV.		
	DESCRIPTION	REVISIONS	
	DATE		
	APPROVED		



MDE255M Single Axis Small Micropositioner with Micrometer





- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjuster
- Slide surfaces precision lapped in matched pairs

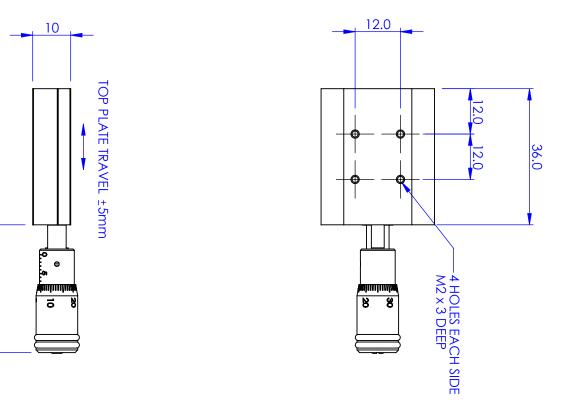
Specifications

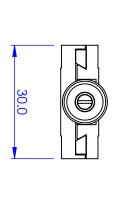
Travel Sensitivity Adjuster 10 mm < 0.5 μm

Micrometer reading to 0.01 mm

Variants

Lockable travel Vacuum version Non-magnetic version





34 ±5

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DIMENSIONS ARE IN mm
GENERAL TOLERANCES: ± 0.1
ANGULAR TOLERANCES: ±
SURFACE FINISH:
ALL BURRS, SHARP EDGES
AND CORNERS TO BE
REMOVED

NDE255M			1	
35.05			FINISH	
STIDE WITH MICROM	\LLOY	_UM. ⊁	BRASS, ALUM. ALLOY	
TITLE		STEEL	STAINLESS STEEL,	
			MATERIAL	
בווסר מכובורו	ı	1	CHECKED	
TOUR TO TOUR	26/06/2008	GW	AUTHOR	

DO NOT SCALE DRAWING | SCALE1:1 | THIRD ANGLE PROJECTION | SHEET 1 OF 1

ETER Ħ

	GENERAL VIEW SCALE: 1:1	DESCRIPTION	REVISIONS	
		DATE		
224		APPROVED		

0

REV.



MDE258M Dual Axis XY Small Micropositioner with Micrometers



- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Slide surfaces precision lapped in matched pairs



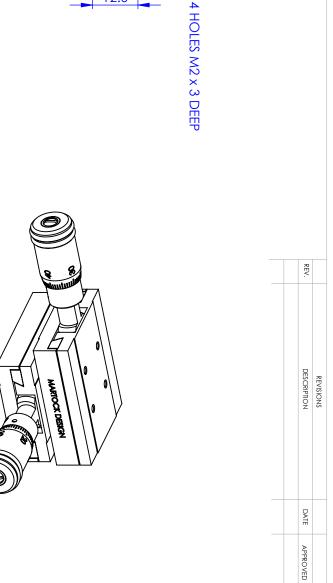
Specifications

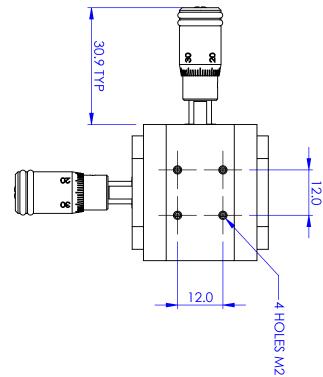
Travel Sensitivity Adjusters 10 mm < 0.5 μm

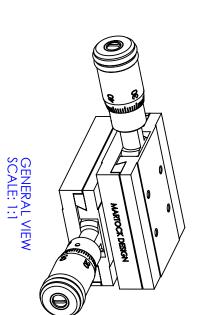
Micrometer reading to 0.01 mm

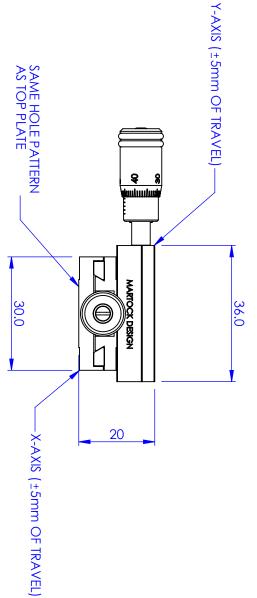
Variants

Lockable travel Vacuum version Non-magnetic version









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DIMENSIONS ARE IN mm GENERAL TOLERANCES: ± 0 ANGULAR TOLERANCES: ± SURFACE FINISH: ALL BURRS, SHARP EDGES AND CORNERS TO BE REMOVED

STAINLESS STEEL, BRASS, ALUM. ALLC

Elliot Scientific

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2 AXIS MICROPOSITIONER ₽

SCALE:1:1 DWG. NO. MDE258M THIRD ANGLE PROJECTION SHEET 1 OF 1



MDE255M-XZ Dual Axis XZ Small Micropositioner with Micrometers





- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Slide surfaces precision lapped in matched pairs

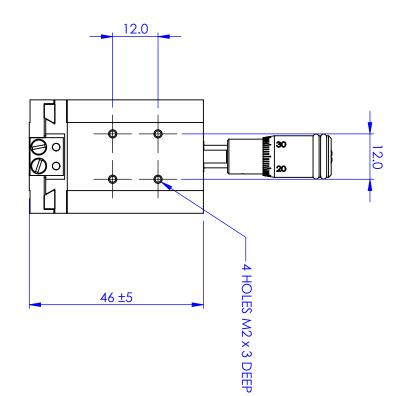
Specifications

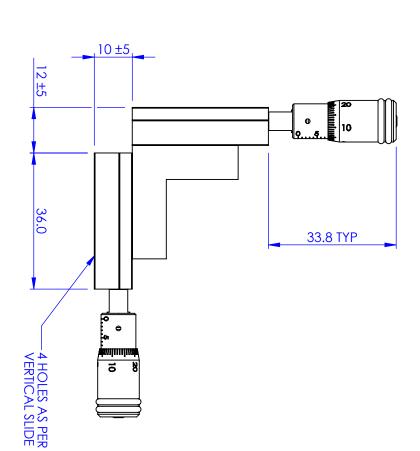
Travel Sensitivity Adjusters 10 mm < 0.5 μm

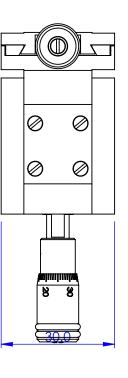
Micrometer reading to 0.01 mm

Variants

Lockable travel Vacuum version Non-magnetic version







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AUTHOR

GW NAME

MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY DO NOT SCALE DRAWING SCALE:1:1 XZ DOVETAIL SLIDE ₽ **Elliot Scientific** DWG. NO. MDE255M-XZ THIRD ANGLE PROJECTION SHEET 1 OF 1



MDE255M-YZ Dual Axis YZ Small Micropositioner with Micrometers





- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Slide surfaces precision lapped in matched pairs

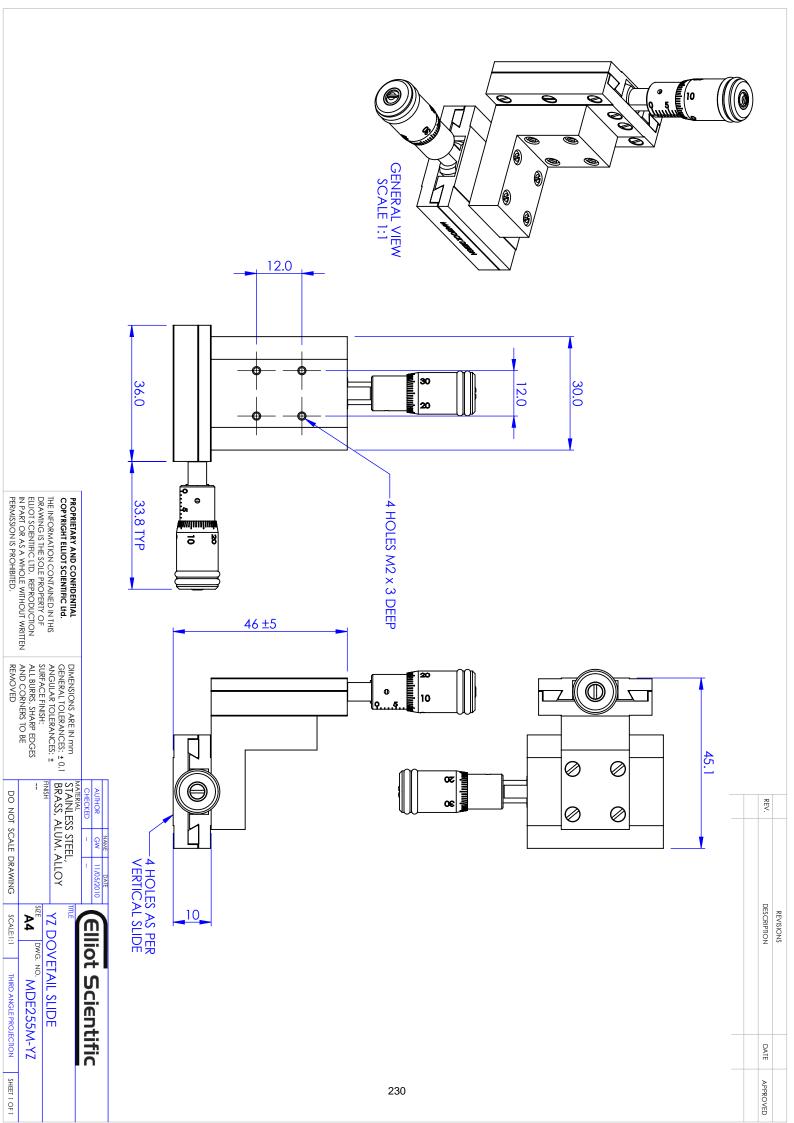
Specifications

Travel Sensitivity Adjusters 10 mm < 0.5 µm

Micrometer reading to 0.01 mm

Variants

Lockable travel Vacuum version Non-magnetic version





MDE259M Three Axis XYZ Small Micropositioner with Micrometers



- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Micrometer adjusters
- Slide surfaces precision lapped in matched pairs

ELLIOT MARTOCK

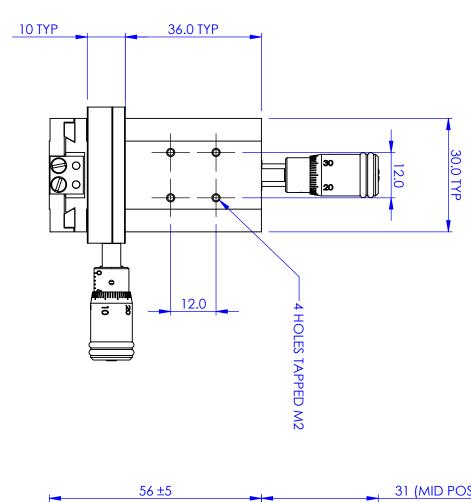
Specifications

Travel Sensitivity Adjusters 10 mm < 0.5 μm

Micrometer reading to 0.01 mm

Variants

Lockable travel Vacuum version Non-magnetic version





DIMENSIONS ARE IN mm
GENERAL TOLERANCES: ± 0.1
ANGULAR TOLERANCES: ±
SURFACE FINISH:
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AND CORNERS TO BE
REMOVED

MATERIAL STAINLESS STEEL, BRASS, ALUM. ALLOY

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AUTHOR

GW NAME

A A SCALE:1:1 3-Axis Mircropositioner DWG. NO. MDE259M THIRD ANGLE PROJECTION SHEET 1 OF 1

Elliot Scientific

	56 ±5	31 (MID PC	OSITION)		
48±5			8 8 33 ±5		REVISIONS
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Three Axis Horizontal Platform with Micrometers MDE850M



- Stainless steel body
- Small dovetail slides
- Wide range of configurations
- Adjustable horizontal platform
- Micrometer adjuster
- Very smooth backlash-free motion

ELLIOT MARTOCK

Specifications

Travel Sensitivity Adjusters

10 mm $< 0.5 \mu m$

Micrometer reading to 0.01 mm

Variants

Lockable travel Vacuum version Non-magnetic version





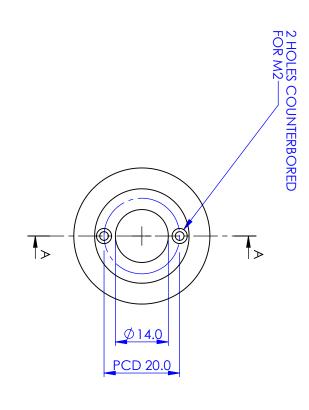
Manual Positioners: Small Linear Stages: Adaptors

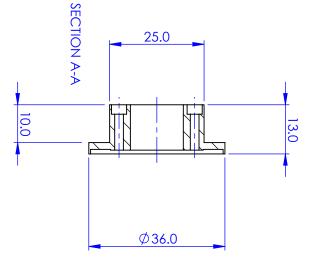
MDE252 Spigot for use with Centreing Micropositioners

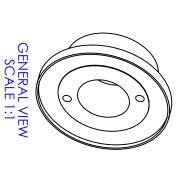




- Mounting spigot
- Compatible with Microbench from Spindler & Hoyer/Linos
- Photonics







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Elliot Scientific

DO NOT SCALE DRAWING SCALET:1 SIZE **A4 SPIGOT ADAPTER** DWG. NO. MDE252 THIRD ANGLE PROJECTION SHEET 1 OF 1

236



Manual Positioners: Small Linear Stages: Adaptors

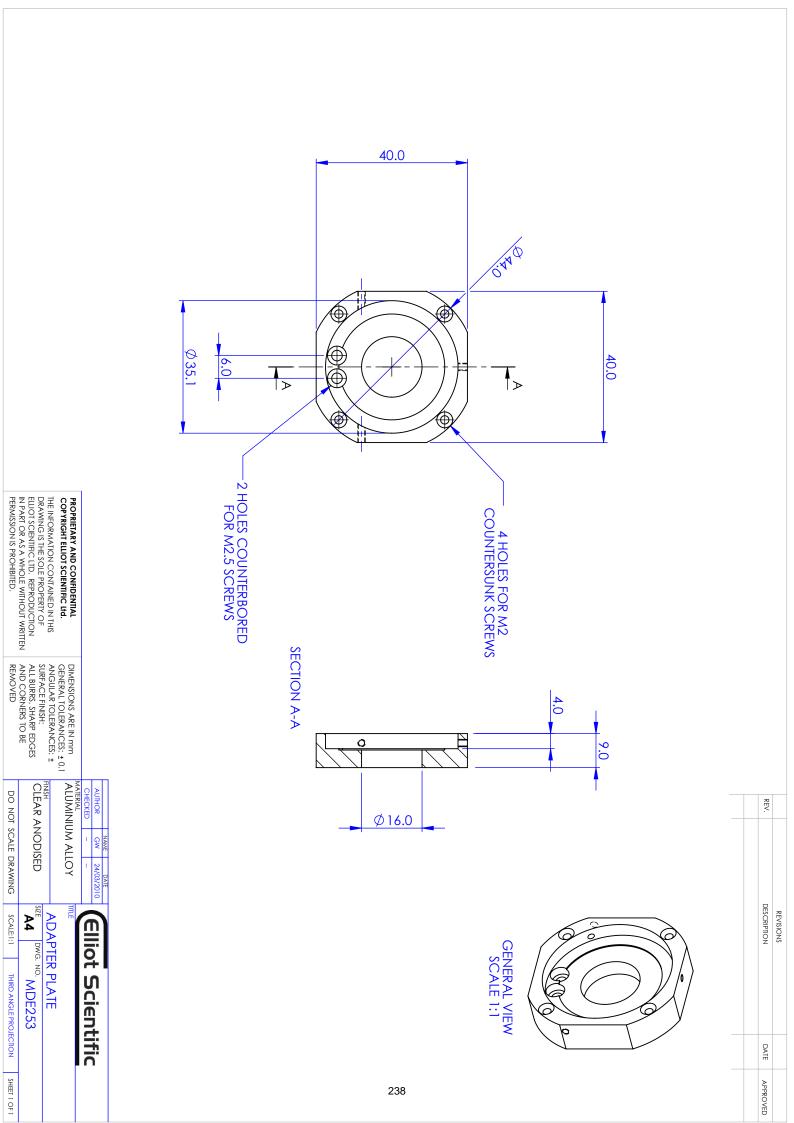
MDE253 Micropositioner Adaptor Plate



- Use with any MDE25x Series Micropositioner
- Allows external mounting via M2 screws



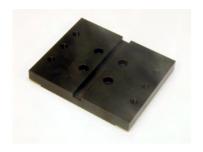
Adaptor plate for mounting MDE250 series centring and XY positioners using grub screws. The adaptor plate has 4 x 2.2 mm countersunk holes which accept M2 screws for attachment to external mount.





Manual Positioners: Small Linear Stages: Accessory

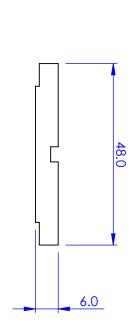
MDE851 Micropositioner Accessory Platform

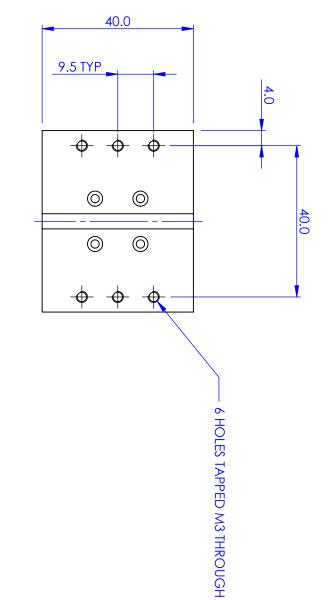


- Use with MDE850 or MDE850M
- Improves component stability



Accessory platform for use as an option with the MDE850 and MDE850M horizontal platform three axis XYZ micropositioners. It provides a stable large area platform for mounting XYZ Flexure Stage components.





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REMOVED	ALL BURRS, SHARP EDGES AND CORNERS TO BE	ANGULAR TOLERANCES: ±	DIMENSIONS ARE IN mm GENERAL TOLERANCES: ± 0.1	
DO NOT SCALE DRAWING	ANODISED BLACK	FINISH	ALUM ALLOY	MATERIAL
SCALE:1:1	SIZE DWC	+ PLATFC	TITLE	

|--|

THIRD ANGLE PROJECTION SHEET 1 OF 1

AUTHOR



Manual Positioners: Small Linear Stages: Fibre Accessories

MDE722 Fibre Holder (Mechanical) with Spigot



- Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- Holds 125/250 µm fibre with a jacket up to 1 mm diameter
- Clamp arm swings clear of V-groove for easy loading of fibre
- Includes 11 mm dia spigot for mating to centreing
- micropositioners



The model MDE722 Fibre Holder features a double V-groove and single clamp arm to hold $125/250 \,\mu m$ fibre with a jacket up to 1mm diameter. The clamp arms swing clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use.

The fibre holder is fitted with an 11 mm diameter spigot that mates with the MDE250 series centreing micropositioners. The spigot is slotted for easy insertion of the fibre and the clamp arms can be fitted on either side of the V-groove.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

Specifications

Configuration Double V-groove and clamp arms for cladding and jacket

Fibre size 125/250 µm fibre with up to 1 mm jacket

Fibre clamp Double clamp arms with adjustable force. Clamp arms can be fitted either

side of V-groove

Clamp force Adjustable from 25 to 125 g

Mount 11mm spigot to fit centreing mount models: MDE251, MDE250-S, MDE257,

MDE257M, MDE276, MDE276M, MDE277, MDE277M

Options

Custom sized V-grooves



Manual Positioners: Small Linear Stages: Fibre Accessories

MDE723 Fibre Holder (Mechanical) for MDE255 & MDE260 Series Positioners



- · Very easy to use
- Clamp force adjustable from 25 to 125 g
- Contact point on fibre is a resilient pad
- 125/250 µm fibre with a jacket up to 1 mm diameter
- Clamp arm swings clear of V-groove for easy loading of fibre
- Mounts MDE255/MDE260 series dovetail slide
- micropositioners



The model MDE723 Fibre Holder features a double V-groove and clamp arms to hold $125/250 \,\mu m$ fibre with a jacket up to 1 mm diameter. The clamp arms swing clear of the V-groove, and the clamp forces can be adjusted from 25 to 125 g, making the unit very easy to use.

The fibre holder fits MDE255 Series and MDE260 Series positioners (except models MDE257 & MDE257M), and can also be post mounted.

A comprehensive range of fibre holders using vacuum, magnet or spring-loaded clamps is available. User replaceable V-grooves enable the user to work with different fibre sizes economically. Custom grooves are our speciality.

Specifications

Configuration Double V-groove and clamp arms for cladding and jacket

Fibre size 125/250 µm fibre with up to 1 mm jacket
Fibre clamp
Double clamp arms with adjustable force

Clamp force Adjustable from 25 to 125 g
Optical Axis 11 mm centre height

Mount M4 hole on base for post mounting Fits MDE255 Series and MDE260 series

positioners (except models MDE257 & MDE257M). Supplied with mounting

screws

Options

Custom sized V-grooves

MDE255 series and MDE260 series micropositioners



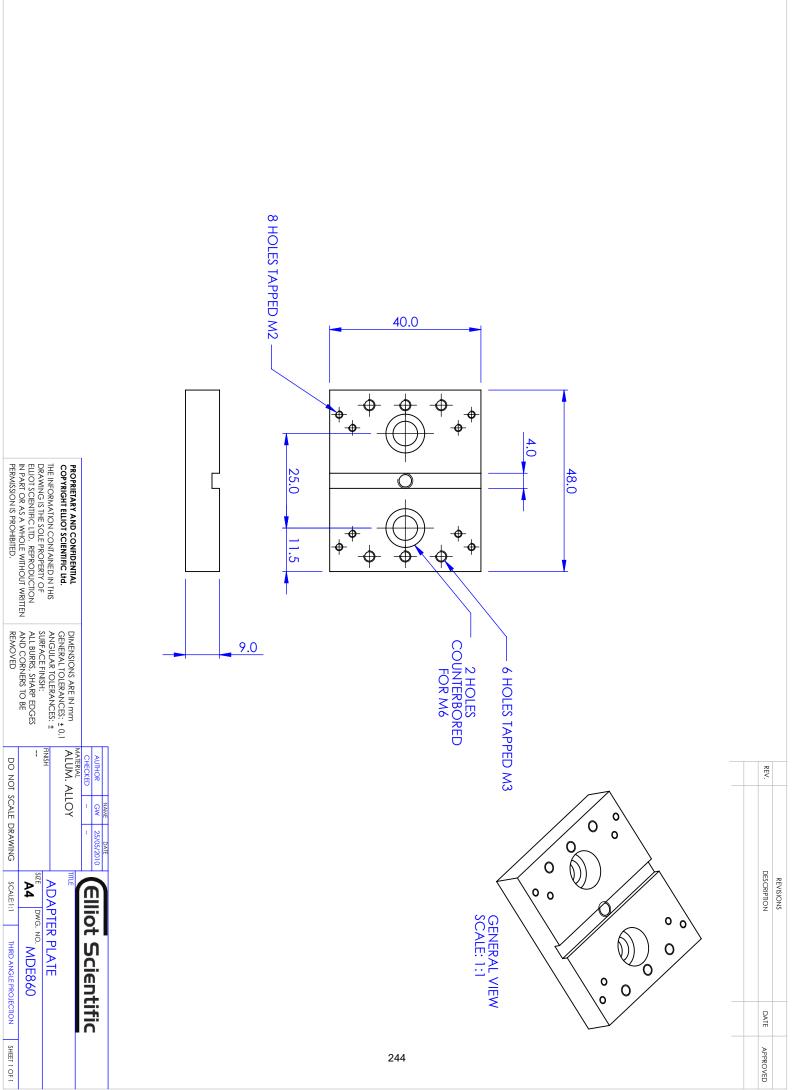
Manual Positioners: Small Linear Stages: Fibre Accessories

MDE860 MDE709 Fibre Holder Adaptor





This adaptor mounts the MDE709 fibre holder on to a conventional 25 mm pitch optical table or an M4 post.



Opto-Mechanics 2012

Centreing Micropositioners







Manual Positioners: Centreing Micropositioners

MDE250-S XY Simple Centreing Micropositioner





- Travel ± 1 mm
- Stainless steel body
- Simple centreing screw design
- For use where space is limited
- Wide range of configurations
- Very smooth backlash-free motion
- Standard 11 mm Ø bore (suits small laser diodes)

Specifications

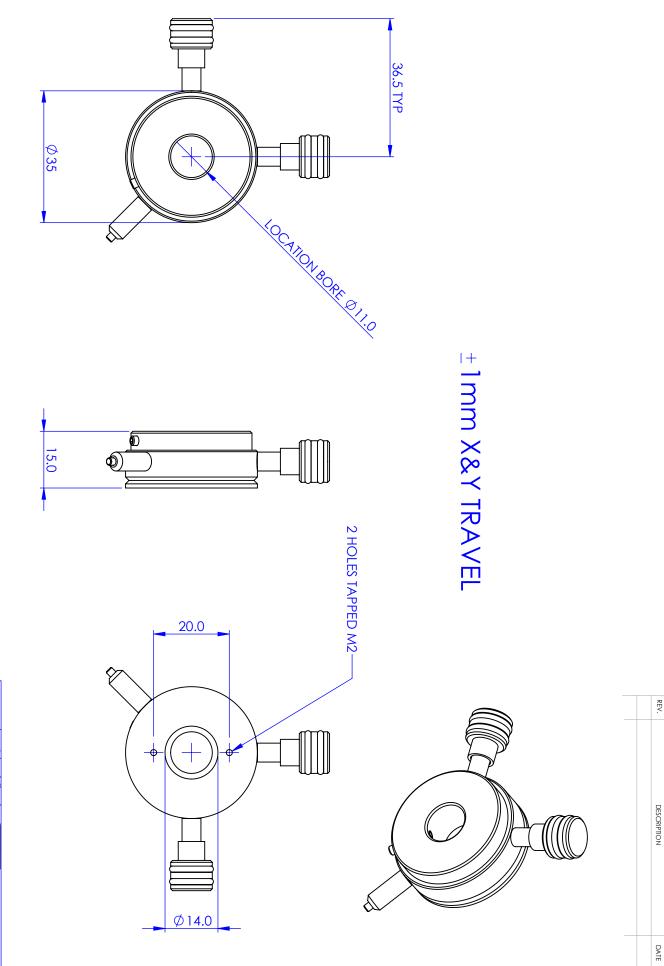
Thickness

Travel
Sensitivity
Adjusters
Bore diameter
Mounting holes

± 1 mm X and Y < 2 μm 0.25 pitch 11 mm

Two M2 x 3.5 mm deep

13 mm



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THIRD ANGLE PROJECTION SHEET 1 OF 1

STAINLESS STEEL **CENTRING MOUNT** ₽ **Elliot Scientific** DWG. NO. MDE250S



Manual Positioners: Centreing Micropositioners

MDE250-S-15 XY Simple Centreing Micropositioner (Large Bore)





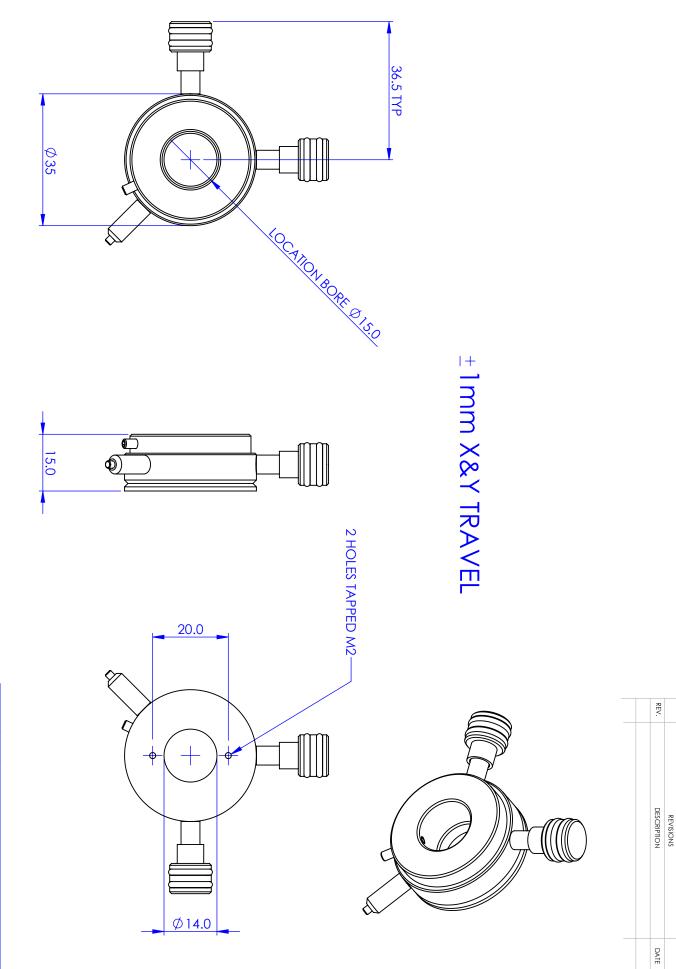
- Travel ± 1 mm
- Stainless steel body
- Simple centreing screw design
- For use where space is limited
- Wide range of configurations
- Very smooth backlash-free motion
- Large 15 mm Ø bore

Specifications

Travel
Sensitivity
Adjusters
Bore diameter
Mounting holes
Thickness

± 1 mm X and Y < 2 μm 0.25 pitch 15 mm Two M2 x 3.5 mm deep

13 mm



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THIRD ANGLE PROJECTION SHEET 1 OF 1

STAINLESS STEEL **CENTRING MOUNT** ₽ **Elliot Scientific** DWG. NO. MDE250-S-15

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Manual Positioners: Centreing Micropositioners

MDE257 XYZ Simple Centreing Micropositioner



- X & Y centreing positioner
- Stainless steel body
- Small dovetail slides
- · Wide range of configurations
- Very smooth backlash-free motion
- Standard 11 mm Ø bore (suits small laser diodes)
- Optional 15 mm bore model MDE257-15



Three axis XYZ micropositioner comprising MDE255 single axis positioner and MDE254 bracket fitted with MDE251 centreing positioner.

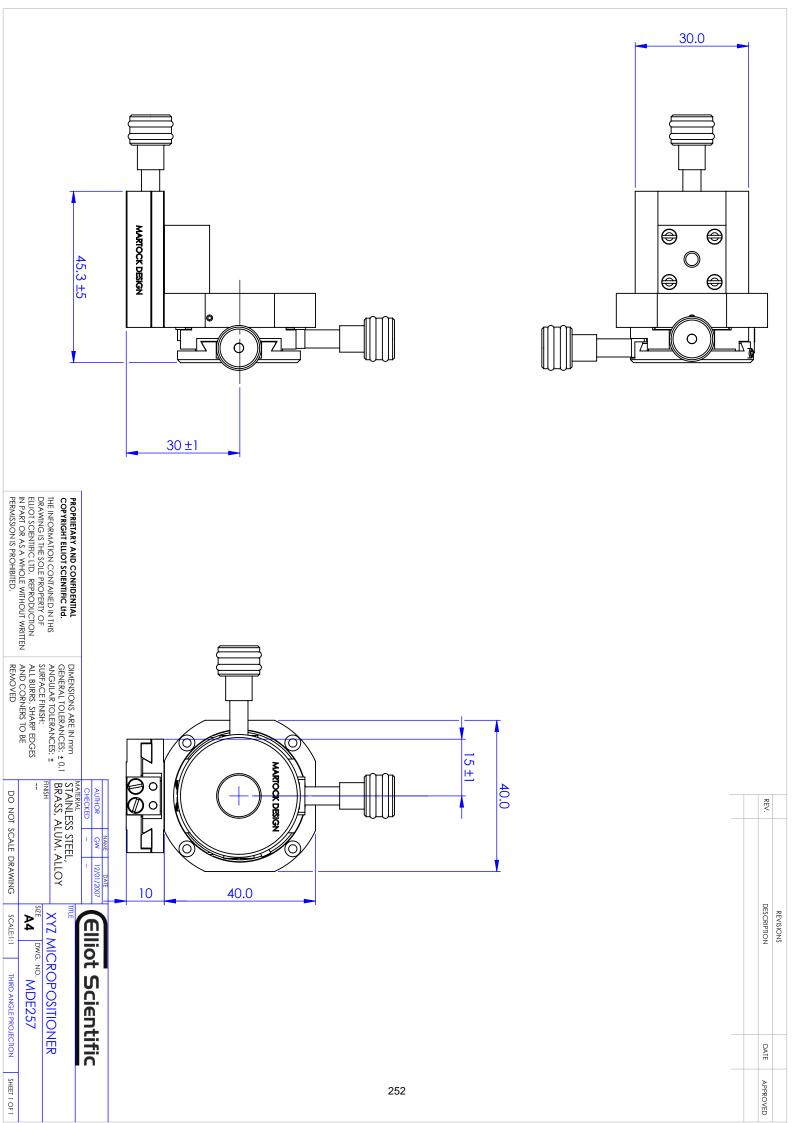
Specifications

X-axis travel 10 mm X-axis sensitivity $< 0.5 \mu m$ Z & Y-axis travel $\pm 1 mm$ Adjusters 0.25 pitch

Z & Y-axis location bore 11 mm Ø, 5 mm deep

Options

MDE257-15 Large Bore Model Vacuum version Non-magnetic version





Manual Positioners: Centreing Micropositioners

MDE257M XYZ Simple Centreing Micropositioner with Micrometers



- Micrometer adjusters
- Stainless steel body
- Small dovetail slides
- X & Y centreing positioner
- · Wide range of configurations
- Very smooth backlash-free motion
- Standard 11 mm Ø bore (suits small laser diodes)
- Optional 15 mm bore model MDE257M-15



Three-axis, micrometer adjusted XYZ micropositioner comprising MDE255M single axis positioner and MDE254 bracket fitted with MDE251M centreing positioner.

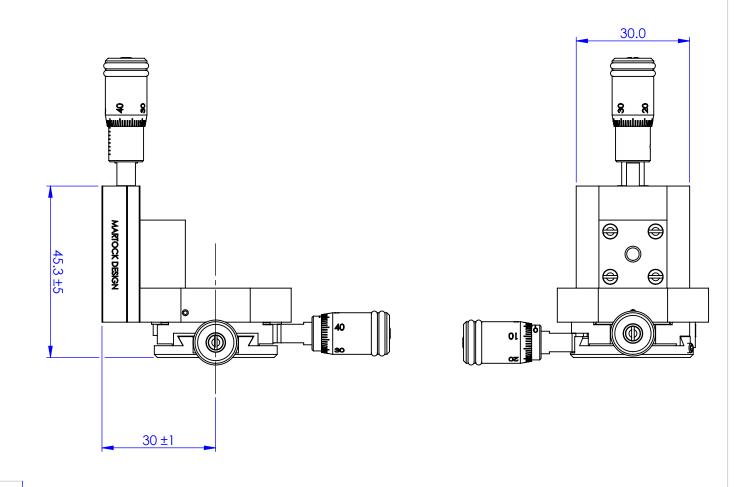
Specifications

 $\begin{array}{lll} \text{X-axis travel} & 10 \text{ mm} \\ \text{X-axis sensitivity} & < 0.5 \, \mu\text{m} \\ \text{Z \& Y-axis travel} & \pm 1 \text{mm} \\ \text{Micrometer scales} & 0.01 \text{ mm} \end{array}$

Z & Y-axis location bore 11 mm Ø, 5 mm deep

Options

MDE257M-15 Large Bore Model Vacuum version Non-magnetic version



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DO NOT SCALE DRAWING

SCALE:1:1

THIRD ANGLE PROJECTION

SHEET 1 OF 1

A

DWG. NO. MDE257M

MENSIONS ARE IN mm
STAINULESS STEEL,
SHERAL TOLERANCES: ± 0.1
BRASS, ALUM. ALLO
GULAR TOLERANCES: ±
FINISH

8 8 8 WANTOOK DESIGN 20 10 40.0

	SS STEEL, ALUM. ALLOY	1	GW 12/01/2007	NAME DATE
NIE WICKOI COLLICIAEN	TILE XY7 MIOROPOSITIONER	עווטר שכובוורוור	לתוויס+ תיויקיאיהיה	

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Manual Positioners: Centreing Micropositioners

MDE251 XY Precision Centreing Micropositioner





- Travel ± 1 mm
- · Stainless steel body
- Two independent dovetail slides
- Fine thread 0.25 pitch adjusters
- No interaction between X & Y axes
- For use where space is limited
- Wide range of configurations
- Smooth backlash-free motion
- Standard 11 mm Ø bore (suits small laser diodes)

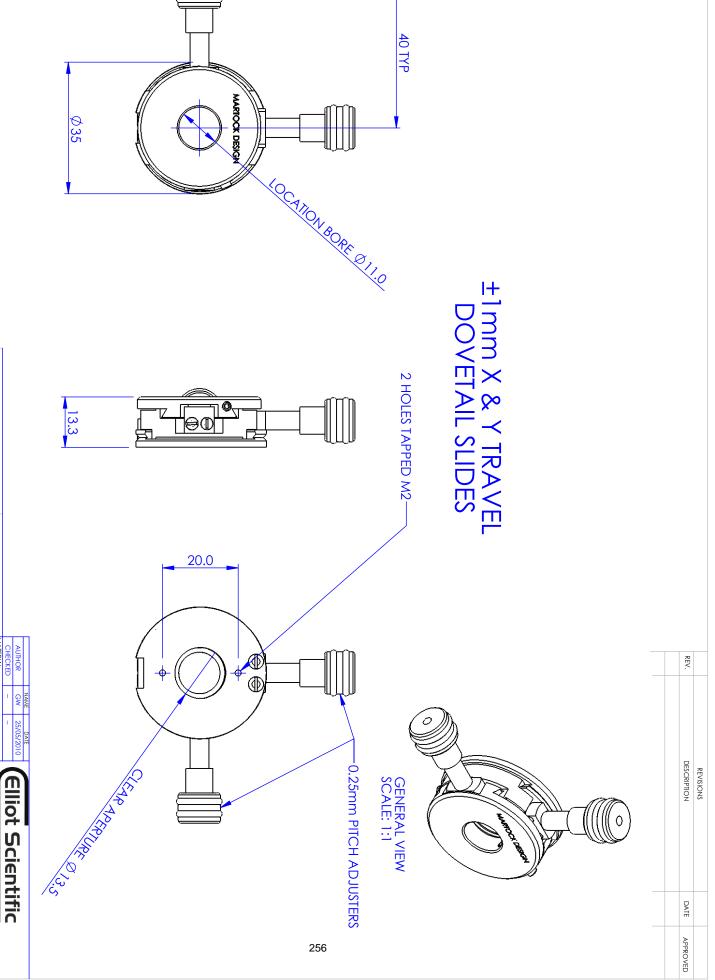
Specifications

Travel
Sensitivity
Adjusters
Bore diameter
Mounting holes
Thickness

± 1 mm X and Y < 0.5 μm 0.25 pitch 11 mm

Two M2 x 3.5 mm deep

13 mm



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MATERIAL STAINLESS STEEL AL. ALLOY/AL. BRONZE

PRECISION XY MICROPOSITIONER ₽ DWG. NO. MDE251

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

SCALE:1:1

SHEET 1 OF 1



Manual Positioners: Centreing Micropositioners

MDE251-15 XY Precision Centreing Micropositioner (Large Bore)





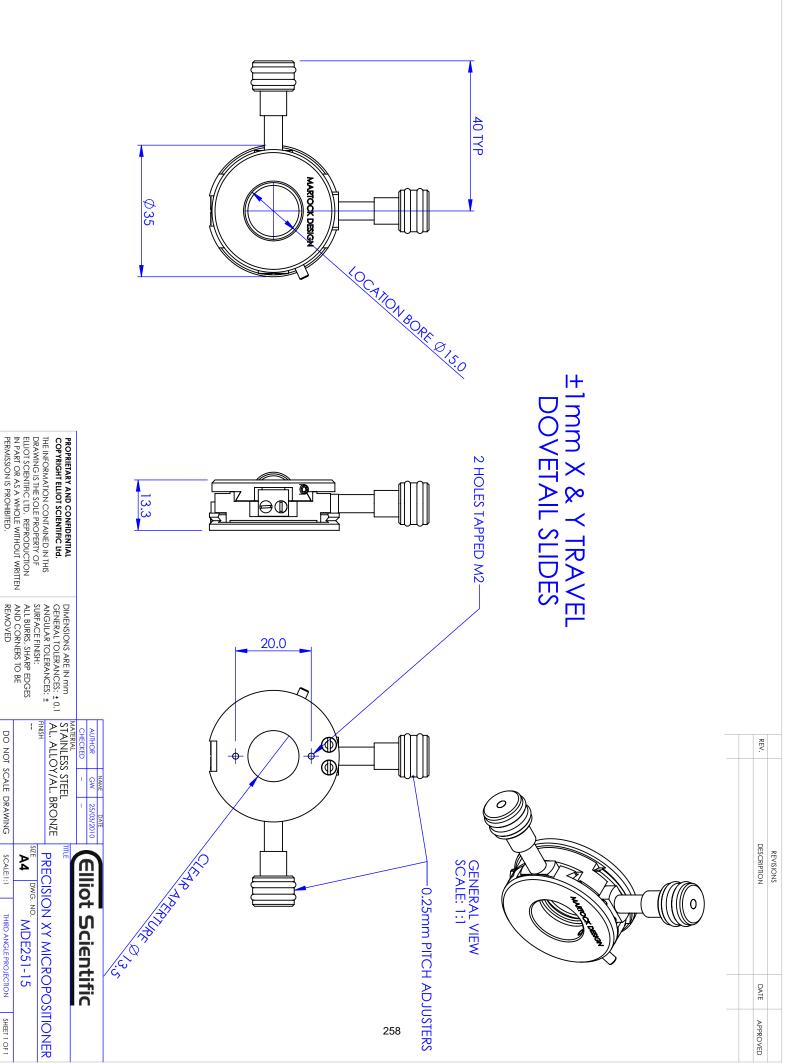
- Travel ± 1 mm
- Stainless steel body
- Two independent dovetail slides
- Fine thread 0.25 pitch adjusters
- No interaction between X & Y axes
- For use where space is limited
- Wide range of configurations
- Smooth backlash-free motion
- Large 15 mm Ø bore

Specifications

Travel
Sensitivity
Adjusters
Bore diameter
Mounting holes
Thickness

± 1 mm X and Y < 0.5 μm 0.25 pitch 15 mm Two M2 x 3.5 mm deep

13 mm



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THIRD ANGLE PROJECTION

SHEET 1 OF 1

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DWG. NO. MDE251-15



Manual Positioners: Centreing Micropositioners

MDE251M XY Precision Centreing Micropositioner with Micrometers (Large Bore)



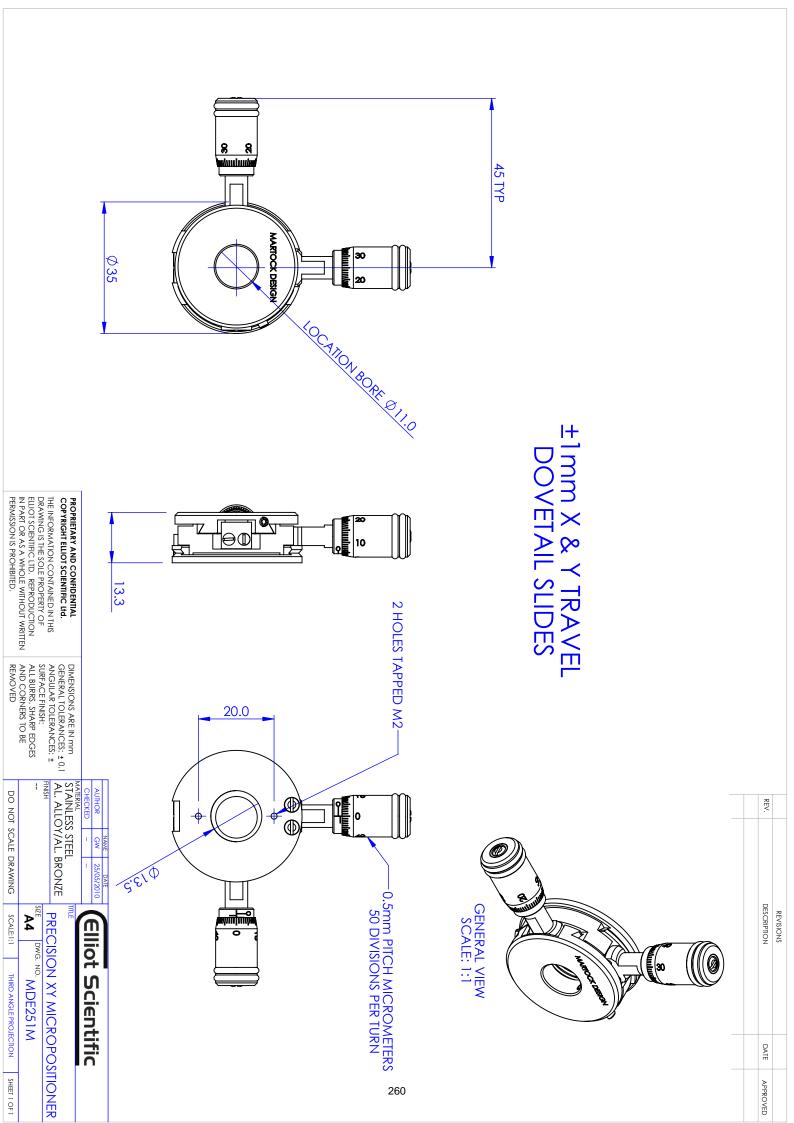


- Travel ± 1 mm
- · Stainless steel body
- Two independent dovetail slides
- Micrometer adjusters
- Fine thread 0.25 pitch adjusters
- No interaction between X & Y axes
- For use where space is limited
- Wide range of configurations
- Smooth backlash-free motion
- Standard 11 mm Ø bore (suits small laser diodes)

Specifications

Travel
Micrometer scale
Bore diameter
Mounting holes
Thickness

± 1 mm X and Y 0.01 mm 11 mm Two M2 x 3.5 mm deep 13 mm





Manual Positioners: Centreing Micropositioners

MDE251M-15 XY Precision Centreing Micropositioner with Micrometers (Large Bore)



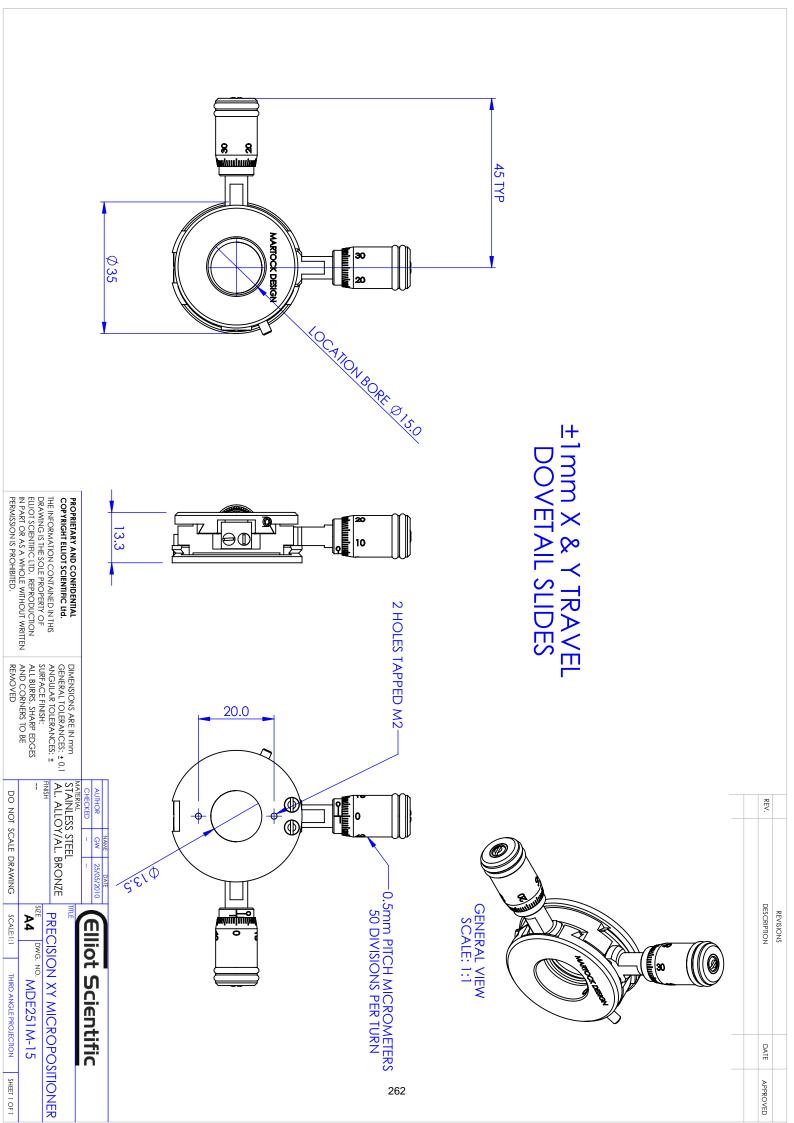


- Travel ± 1 mm
- Stainless steel body
- Two independent dovetail slides
- Micrometer adjusters
- Fine thread 0.25 pitch adjusters
- No interaction between X & Y axes
- For use where space is limited
- Wide range of configurations
- Smooth backlash-free motion
- Large 15 mm Ø bore

Specifications

Travel
Micrometer scale
Bore diameter
Mounting holes
Thickness

± 1 mm X and Y 0.01 mm 15 mm Two M2 x 3.5 mm deep 13 mm



Opto-Mechanics 2012

Rotation Stages

M6 CENTRAL BORE













Manual Positioners: Rotation Stages

MDE282 Compact Precision Rotation Stage



- Compact
- High precision design
- Stainless steel body
- · Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range



The model MDE282 rotation stage offers superb resolution (5 arc seconds) in a compact, low profile package. The calibrated fine adjustment control reads 2 arc minutes per division.

Specifications

ConstructionHigh precision lapped bearingRotation360° free rotation with clamp screwFine adjustmentTangent screw providing 10° range

Resolution 5 arc seconds

Calibration 1 division fine adjustment = 2 arc minutes

Thickness 13 mm

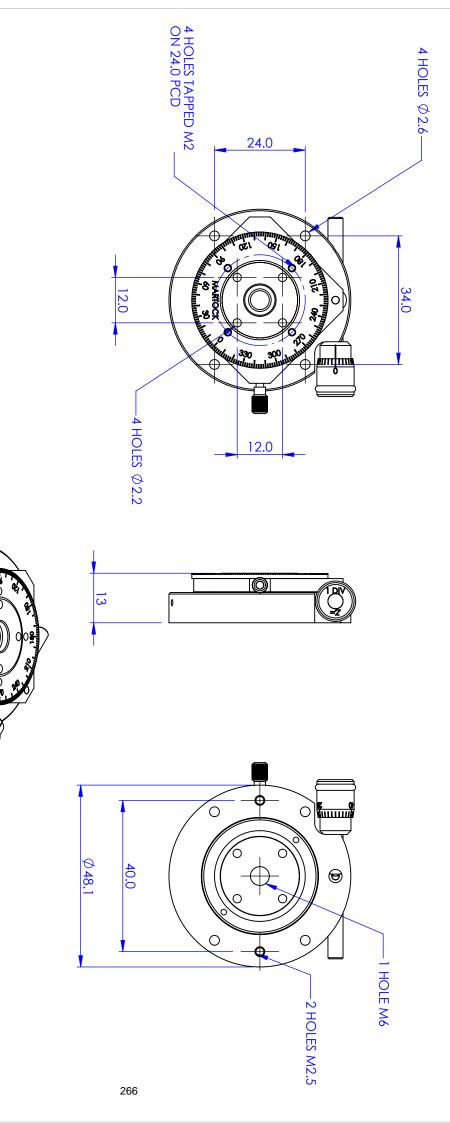
Standard bore tapped M6 with 8 mm counterbore

Hole array for mounting MDE255, MDE257, MDE258 or MDE259 micropositioners

Variants

MDE282-20: Stage with 20 mm Clear Bore

MDE282G: Stage with M6 Tapped Bore & Vernier Scale MDE282-20G: Stage with 20 mm Clear Bore & Vernier Scale



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GENERAL VIEW SCALE: 1:1

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MATERIAL DO NOT SCALE DRAWING SIZE **A** SCALE:1:1 **ROTATION STAGE Elliot Scientific** DWG. NO. MDE282 THIRD ANGLE PROJECTION SHEET 1 OF 1



Manual Positioners: Rotation Stages

Compact Precision Rotation Stage with Vernier MDE282G



- Compact
- High precision design
- Stainless steel body
- Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range
- 360° scale with 2° divisions and 10 arc minute vernier



The model MDE282G rotation stage offers superb resolution (5 arc seconds) in a compact, low profile package. The calibrated fine adjustment control reads 2 arc minutes per division and there is a 360° scale of 2° divisions plus a 10 arc minute vernier which itself can be adjusted and clamped over a 16° range.

Specifications

Construction High precision lapped bearing Rotation 360° free rotation with clamp screw

360° scale with 2° divisions and 10 arc minute vernier Gauge

Fine adjustment Tangent screw providing 10° range

Resolution 5 arc seconds

Calibration

1 division fine adjustment = 2 arc minutes

Thickness 13 mm

Standard bore tapped M6 with 8 mm counterbore

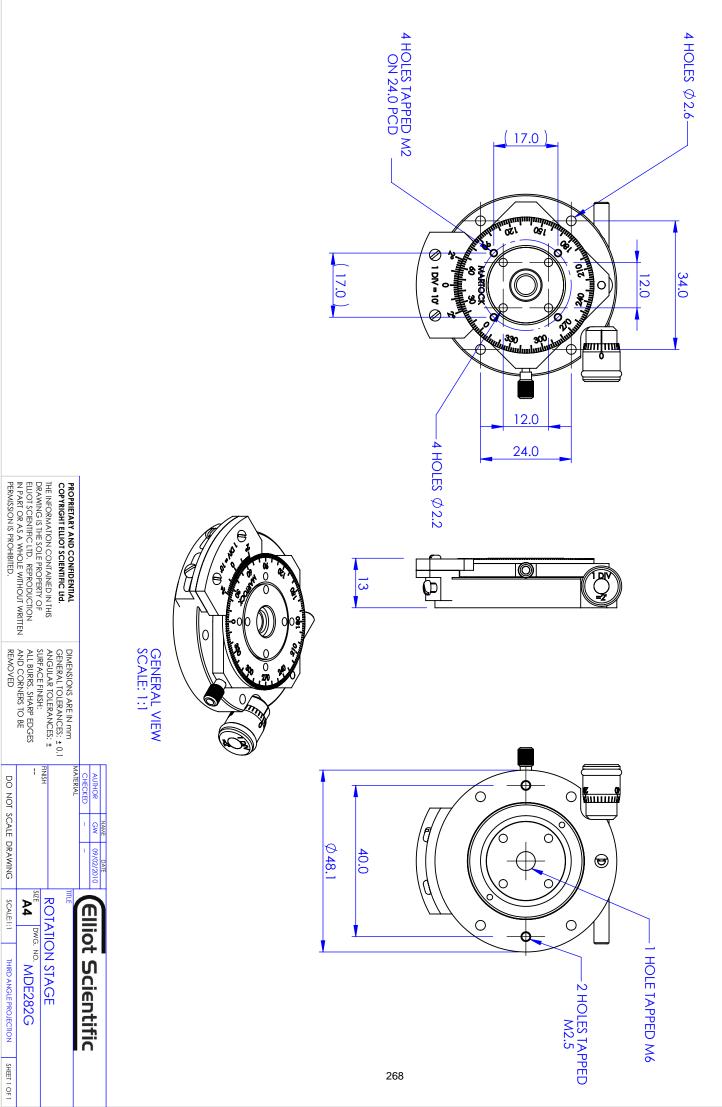
Hole array for mounting MDE255, MDE257, MDE258 or MDE259

micropositioners

Variants

MDE282: Stage with M6 Tapped Bore

MDE282G: Stage with M6 Tapped Bore & Vernier Scale MDE282-20G: Stage with 20 mm Clear Bore & Vernier Scale



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Manual Positioners: Rotation Stages

MDE282-20 Compact Precision Rotation Stage, Large Bore



- Compact
- High precision design
- Stainless steel body
- · Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range



The model MDE282-20 rotation stage offers superb resolution (5 arc seconds) in a compact, low profile package with a 20 mm centre bore. The calibrated fine adjustment control reads 2 arc minutes per division.

Specifications

ConstructionHigh precision lapped bearingRotation360° free rotation with clamp screwFine adjustmentTangent screw providing 10° range

Resolution 5 arc seconds

Calibration 1 division fine adjustment = 2 arc minutes

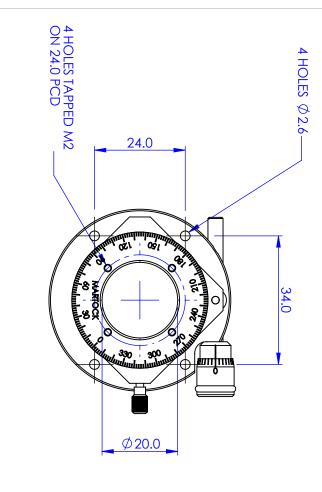
Thickness 13 mm
Bore 20 mm

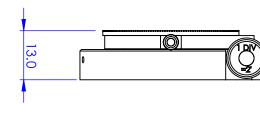
Hole array for mounting MDE255, MDE257, MDE258 or MDE259 micropositioners

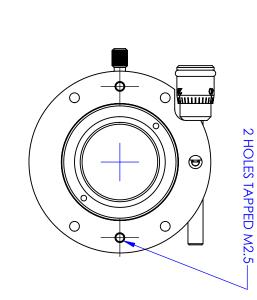
Variants

MDE282: Stage with M6 Tapped Bore MDE282-20: Stage with 20 mm Clear Bore

MDE282-20G: Stage with 20 mm Clear Bore & Vernier Scale







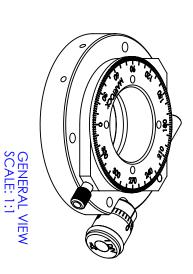
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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL SIZE **A ROTATION STAGE Elliot Scientific** DWG. NO. MDE282-20



Manual Positioners: Rotation Stages

MDE282-20G Compact Precision Rotation Stage, Large Bore with Vernier



- Compact
- High precision design
- Stainless steel body
- Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range
- 360° scale with 2° divisions and 10 arc minute vernier



The model MDE282-20G rotation stage offers superb resolution (5 arc seconds) in a compact, low profile package with a 20 mm centre bore. The calibrated fine adjustment control reads 2 arc minutes per division and there is a 360° scale of 2° divisions plus a 10 arc minute vernier which itself can be adjusted and clamped over a 16° range.

Specifications

Construction High precision lapped bearing
Rotation 360° free rotation with clamp screw

Gauge 360° scale with 2° divisions and 10 arc minute vernier

Fine adjustment Tangent screw providing 10° range

Resolution 5 arc seconds

Calibration 1 division fine adjustment = 2 arc minutes

Thickness 13 mm Bore 20 mm

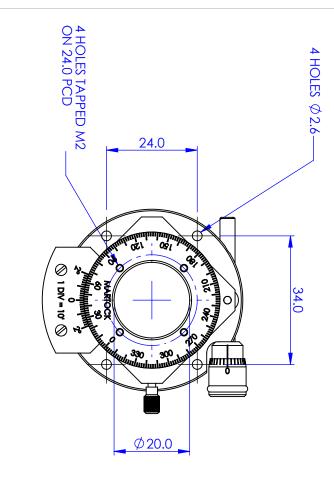
Hole array for mounting MDE255, MDE257, MDE258 or MDE259 micropositioners

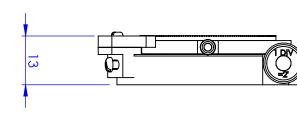
Variants

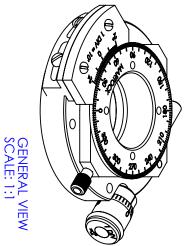
MDE282: Stage with M6 Tapped Bore

MDE282G: Stage with M6 Tapped Bore & Vernier Scale

MDE282-20: Stage with 20 mm Clear Bore







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A4 DWG. NO. MDE282-20G	VOIVION SIAGE	BOTATION STAGE	TILE		עווטר מכובוורוור	CHIC+ CAICS+IEIA

THIRD ANGLE PROJECTION SHEET 1 OF 1

2 HOLES TAPPED M2.5

2 HOLES TAPPED M2.5



Manual Positioners: Rotation Stages

MDE283 Very Compact Precision Rotation Stage



- Very compact
- High precision design
- Stainless steel body
- Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range



The model MDE283 rotation stage offers superb resolution (5 arc seconds) in a very compact, low profile package.

Specifications

Construction High precision lapped bearing
Rotation 360° free rotation with clamp screw

Fine adjustment Tangent screw providing 10° range: 1 turn = 1° rotation of stage

Resolution 5 arc seconds
Thickness 13 mm

Standard bore tapped M6 with 8 mm \emptyset x 2 mm counterbore

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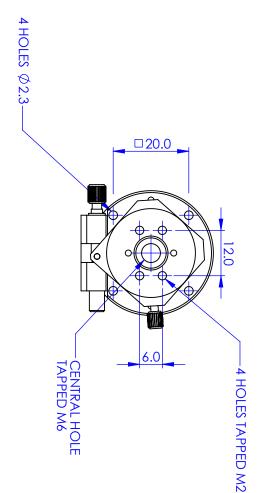
DESCRIPTION REVISIONS

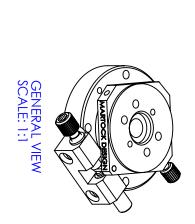
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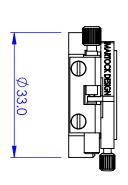
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MDE283 COARSE ADJUST: FULL 360°

FINE ADJUST: ±5°
RESOLUTION: 5 ARC.SEC







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l			A4 DWG. NO. MDE283

DO NOT SCALE DRAWING SCALE 1:1 THIRD ANGLE PROJECTION SHEET 1 OF 1



Manual Positioners: Rotation Stages

MDE283-8 Very Compact Precision Rotation Stage, 8 mm Bore



- Very compact
- High precision design
- Stainless steel body
- Resolution 5 arc seconds
- Very smooth backlash-free motion
- 360° free rotation with clamp screw
- Tangent screw fine adjustment 10° range



The model MDE283-8 rotation stage offers superb resolution (5 arc seconds) in a very compact, low profile package with an 8 mm bore.

Specifications

Construction High precision lapped bearing
Rotation 360° free rotation with clamp screw

Fine adjustment Tangent screw providing 10° range: 1 turn = 1° rotation of stage

Resolution 5 arc seconds

Thickness 13 mm
Bore 8 mm

MDE283-8

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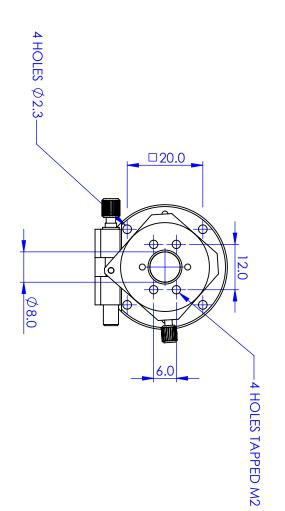
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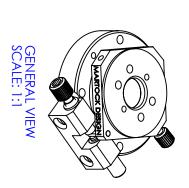
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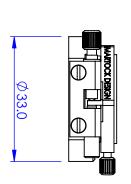
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COARSE ADJUST: FULL 360°

FINE ADJUST: ±5°
RESOLUTION: 5 ARC.SEC







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THIRD ANGLE PROJECTION SHEET 1 OF 1



Manual Positioners: Rotation Stages: Adaptors

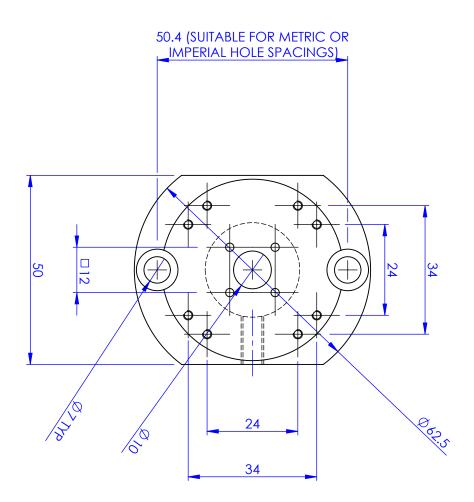
MDE292 Compact Rotation Stage to Optical Table Adaptor



- Mounts stage onto optical table
- Alternative M6 hole for post mounting
- Adapts MDE255 and MDE282 series micropositioners to
- optical tables



The MDE292 Adaptor Plate allows the mounting of MDE282 compact rotation stages and the MDE255 series linear stages onto optical tables or M6 studded posts.



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THIRD ANGLE PROJECTION

SHEET 1 OF 1

MATERIAL **A**4 MDE292

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SIZE DWG. NO.	ADAPTOR PLATE	шге	CINCL SCIENTIFIC	לחוויס+ חלולים+וּהוֹל	

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Manual Positioners: Rotation Stages: Adaptors

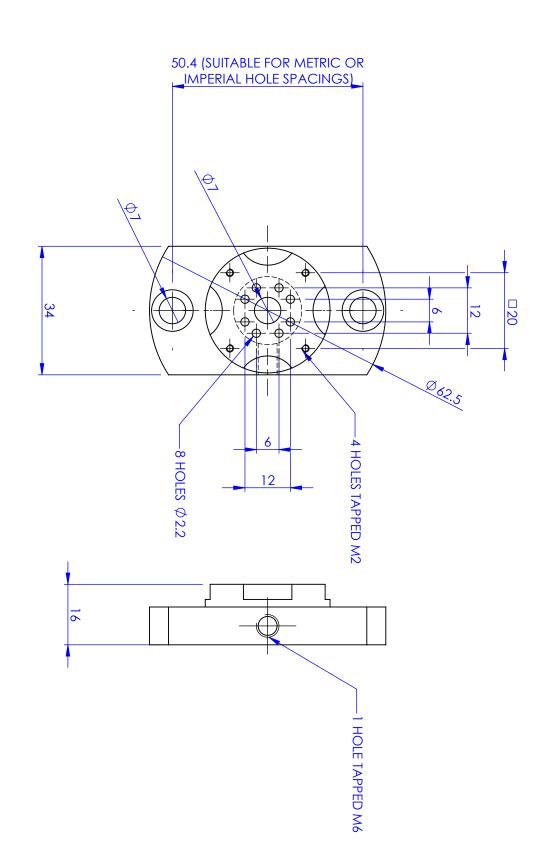
MDE293 Very Compact Rotation Stage to Optical Table Adaptor



- Mounts stage onto optical table
- Alternative M6 hole for post mounting
- Adapts MDE260 series micropositioners to optical tables



The MDE293 Adaptor Plate allows the mounting of the MDE283 very compact rotation stage and the MDE26x Series linear stages onto optical tables or M6 studded posts.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL **A ADAPTOR PLATE** DWG. NO. MDE293

Elliot Scientific

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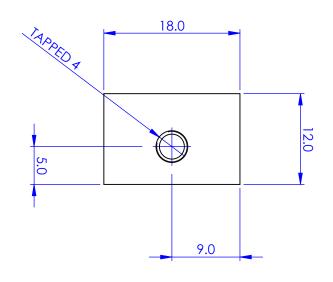
Manual Positioners: Rotation Stages: Adaptors

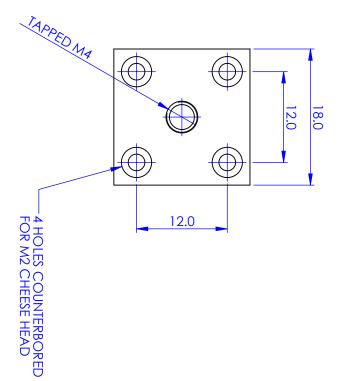
MDE856 Very Small Micropositioner Adaptor





- Use with any MDE25x Series Micropositioner
- Allows mounting onto any post with M4 stud
- Facilitates vertical and horizontal mounting





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ANODISED CLEAR	MATERIAL ALUMINIUM ALLOY	

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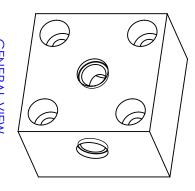
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THIRD ANGLE PROJECTION SHEET 1 OF 1

DWG. NO. MDE856

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ALLOY	TITLE
	POST MOUNT ADAPTER
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GENERAL VIEW SCALE 2:1

JAPPED M25



Manual Positioners: Rotation Stages: Adaptors

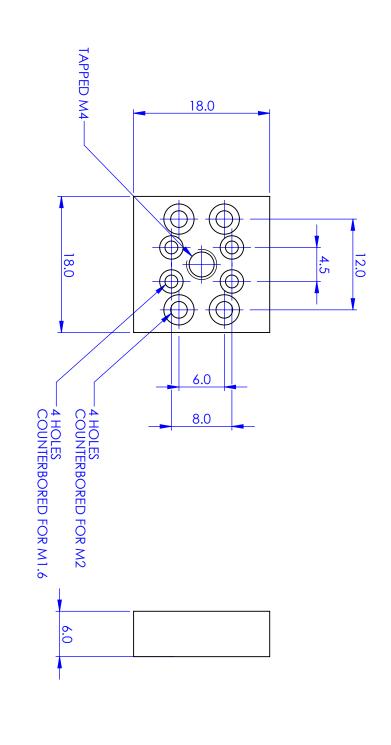
MDE857 MDE260 & MDE265 Adaptor

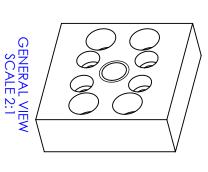


- Mount slide horizontal on post
- Mount MDE260 and MDE265 series to any M4 stud post
- Use with Elliot/Martock MDE260 and MDE265 series Ultra
- Small Micropositioners



MDE857 adaptor fits MDE260 and MDE265 series slides.





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ANODISED CLEAR ALUMINIUM ALLOY A SIZE **HORIZONTAL POST MOUNT Elliot Scientific** DWG. NO. MDE857

THIRD ANGLE PROJECTION SHEET 1 OF 1

284



Manual Positioners: Rotation Stages: Adaptors

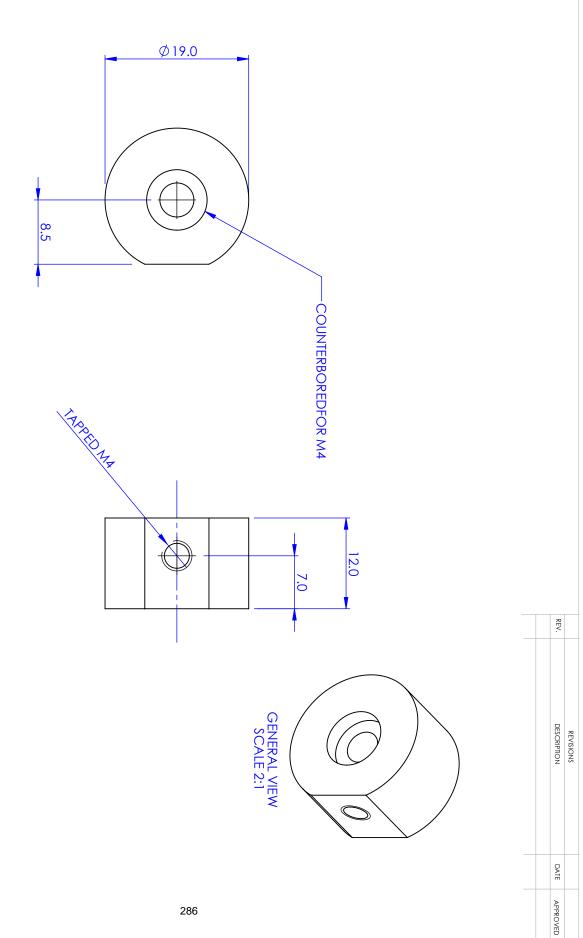
MDE858 MDE260 & MDE265 Adaptor



- Requires MDE857 adaptor
- Mount MDE260/MDE265 series micropositioners vertically
- or rotationally on an M4 stud



The MDE858 adaptor is used in conjunction with an MDE857 to allow vertical or rotational mounting of MDE260 and MDE265 series Ultra Small Micropositioners.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

ANODISED CLEAR ALUMINIUM ALLOY GW NAME A SIZE **ADAPTER MOUNT Elliot Scientific** DWG. NO. MDE858

AUTHOR



Manual Positioners: Rotation Stages: Adaptors

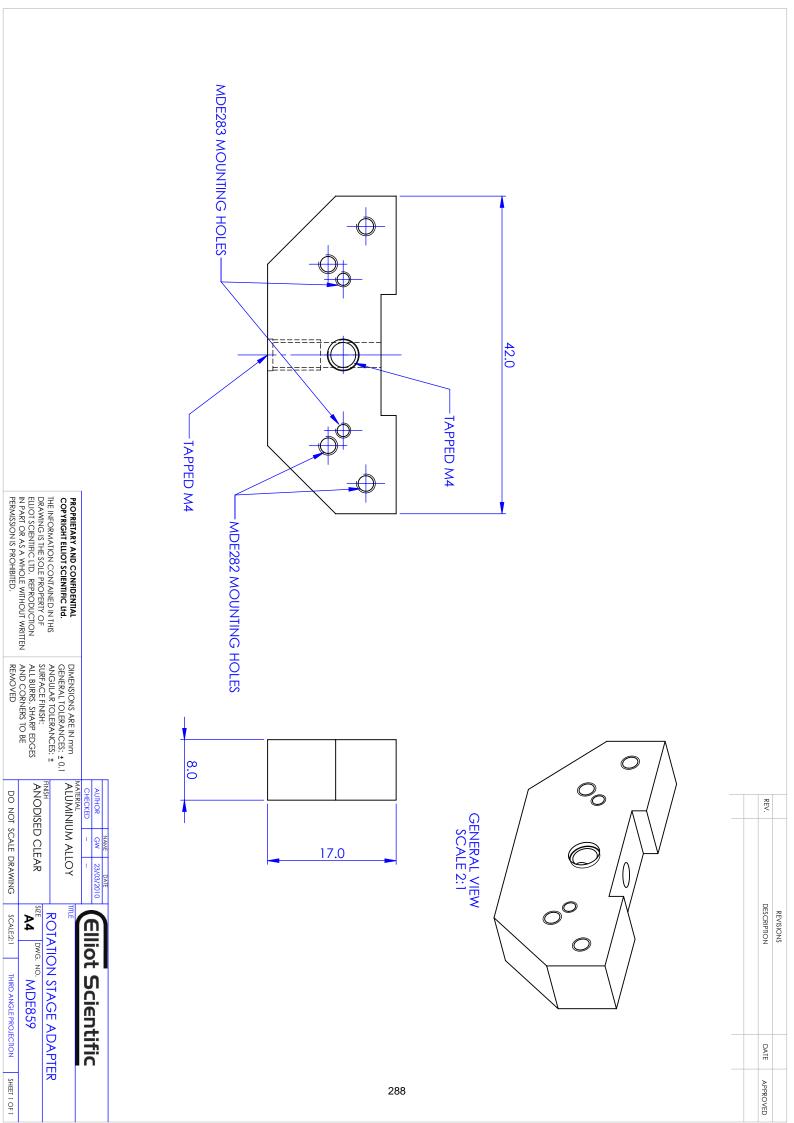
MDE859 Rotation Stage to Post Mount Adaptor



- Post mount stage onto any M4 stud post
- Designed for MDE282 & MDE283 rotation stages
- Allows mounting in vertical or horizontal plane

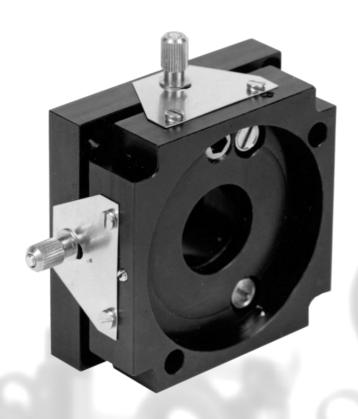


The MDE859 adaptor fits both MDE282 and MDE283 Rotation Stages allowing you to mount them onto a post via an M4 stud in the vertical or horizontal plane. The adaptor can also be used with FEMTO-BENCH™ accessories.



Opto-Mechanics 2012

Tilt Stages









MDE270 High Precision Tilting Stage



- Clamps fitted to angular motions
- Range on each axis 3°
- Sensitivity 5 arc seconds
- Kinematic gimbal design gives independent adjustment on
- two axes



This high precision tilting stage provides angular adjustment to a range of Elliot Scientific linear micropositioners and rotation stages. Specifically for use with MDE251 or MDE251M micropositioners, it can also be used with the MDE283 rotation stage, and MDE255 or MDE260 series micropositioners using an appropriate adaptor plate.

Specifications

Range on each axis

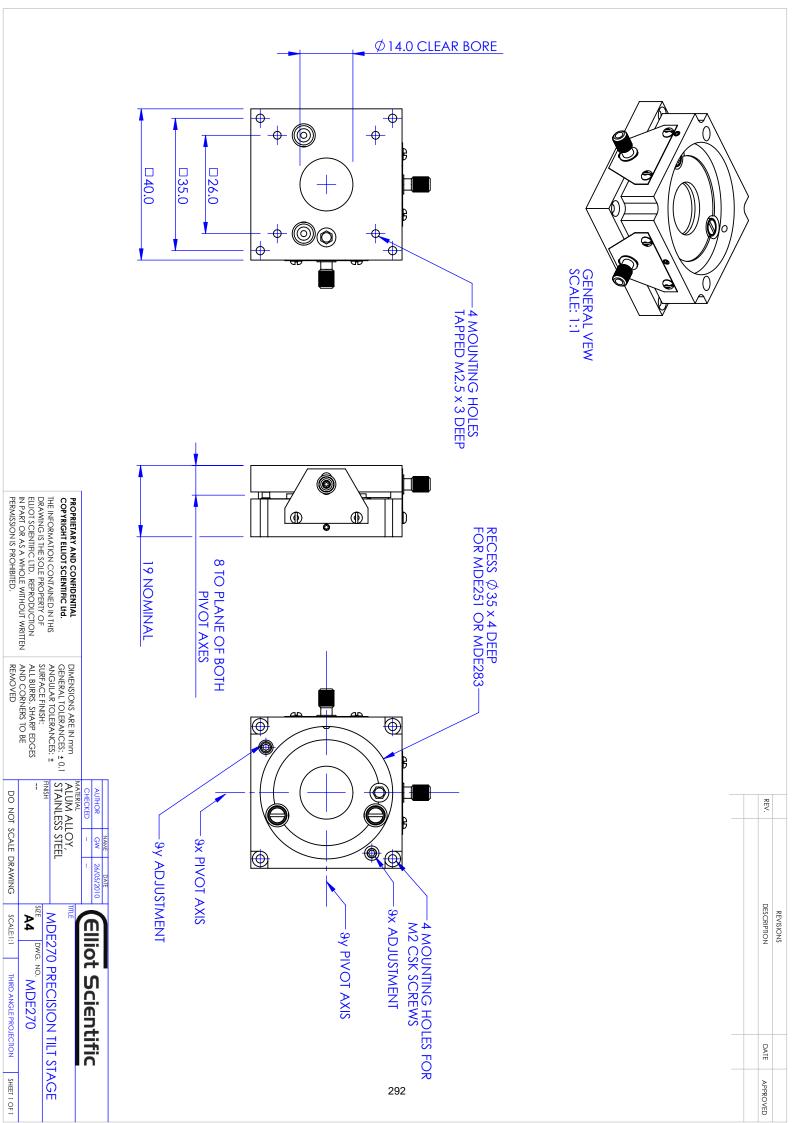
Sensitivity 5 arc seconds Adjustment Hex key

Mounting options M2 clearance holes, M2.5 tapped holes & M4 post-mounting using adaptor

(MDE274)

3°

Clamps fitted to angular motions





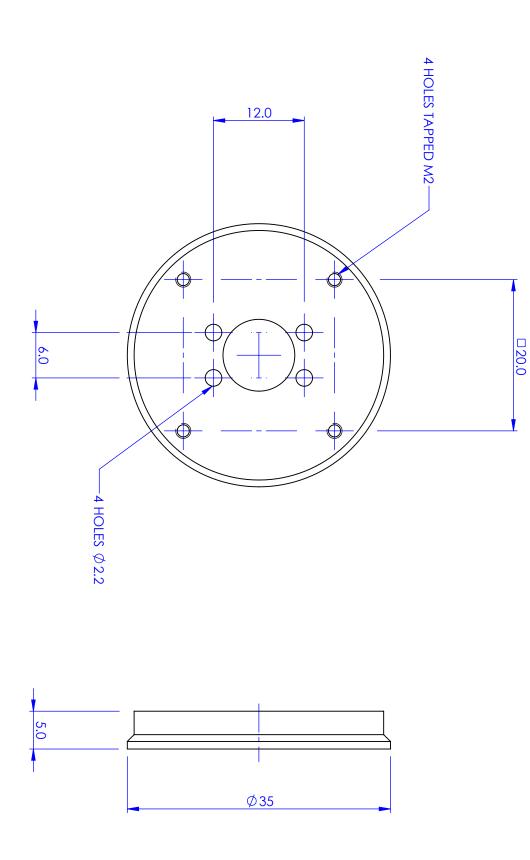
Manual Positioners: Tilt Stages: Adaptors

MDE273 MDE283/MDE26x to MDE270 Adaptor Plate





Adaptor plate that facilitates mounting of rotation stage MDE283 or linear micropositioner MDE26x series stages to the MDE270 tilt stage.



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THIRD ANGLE PROJECTION SHEET 1 OF 1

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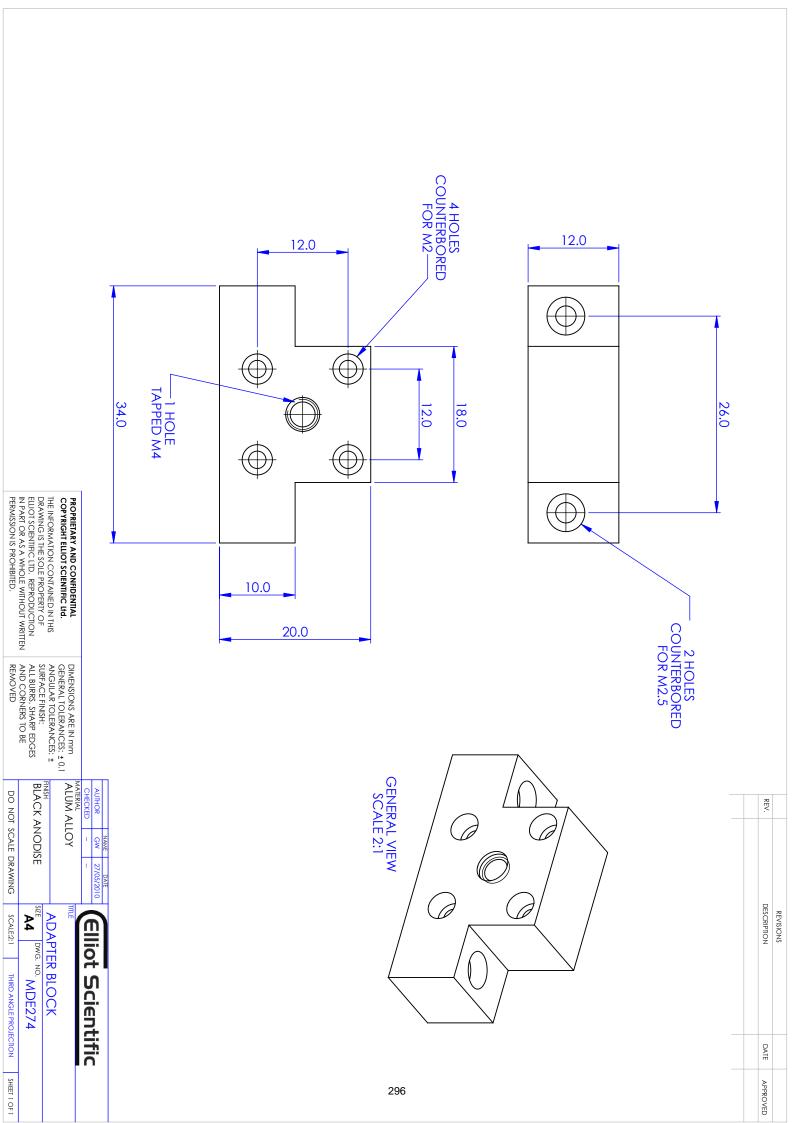
Manual Positioners: Tilt Stages: Adaptors

MDE274 MDE270 to MDE255 Adaptor





Adaptor block to allow tilt stage MDE270 to be mounted to single axis micropositioner MDE255. Also includes M4 tapped hole to accept mounting post.





MDE276 Four-Axis Micropositioner





- Clamps fitted to angular motions
- Tilt range on each axis 3° sensitivity 5 arc seconds
- Kinematic gimbal design gives independent adjustment on two tilt axes
- X & Y Travel ± 1 mm
- Two independent dovetail slides
- Very smooth backlash-free motion
- No interaction between X and Y axes
- Fine thread 0.25 pitch adjusters
- Standard 11 mm Ø bore suits small laser diodes

A four-axis micropositioner comprising an MDE270 Precision Tilt Stage and MDE251 Precision XY Centreing Micropositioner

Specifications

Tilt range on each axis 3°

Sensitivity 5 arc seconds Adjustment Hex key

Mounting options M2 clearance holes, M2.5 tapped holes & M4 post-mounting (use adaptor

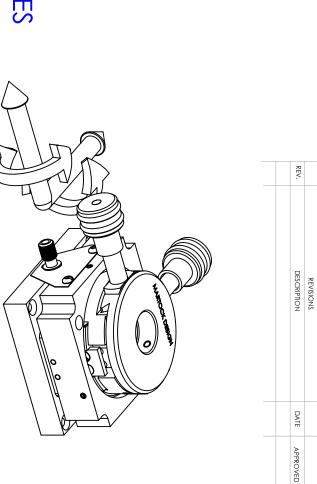
MDE274)

Clamps fitted to angular motions

Two independent dovetail slides combined

Travel in X & Y \pm 1 mm Sensitivity $< 0.5 \mu m$ Bore diameter 11 mm

Adjusters 0.25 pitch (x2)



3° ROTATION AXES ±1mm TRANSLATION AXES

4 HOLES M2 COUNTERSUNK –

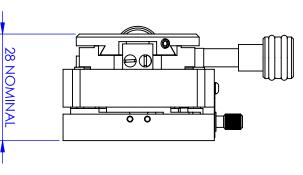
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MATERIAL **4 AXIS MICROPOSITIONER** ₽ **Elliot Scientific** DWG. NO. MDE276

SCALE:1:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

GENERAL VIEW SHOWING ROTATION AND TRANSLATION AXES



MDE276M Four-Axis Micropositioner with Micrometers





- · Clamps fitted to angular motions
- Tilt range on each axis 3° sensitivity 5 arc seconds
- Kinematic gimbal design gives independent adjustment on two tilt axes
- X & Y Travel ± 1 mm
- Two independent dovetail slides
- Very smooth backlash-free motion
- No interaction between X and Y axes
- Micrometer scales read to 0.01 mm
- Standard 11 mm Ø bore suits small laser diodes

A four-axis micropositioner comprising an MDE270 Precision Tilt Stage and MDE251M Precision XY Centreing Micropositioner

Specifications

Tilt range on each axis 3°

Sensitivity 5 arc seconds Adjustment Hex key

Mounting options M2 clearance holes, M2.5 tapped holes & M4 post-mounting (use adaptor

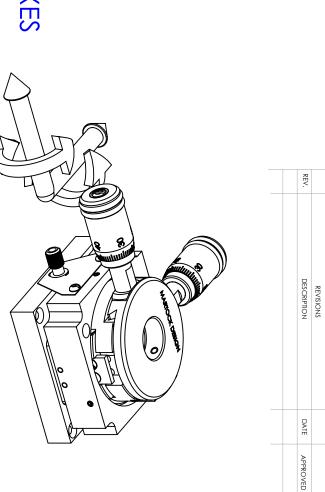
MDE274)

Clamps fitted to angular motions

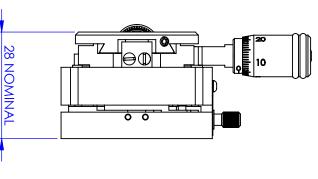
Two independent dovetail slides combined

Travel in X & Y \pm 1 mm Bore diameter 11 mm

Adjusters Micrometer reading to 0.01 mm (x2)



3° ROTATION AXES ±1mm TRANSLATION AXES



4 HOLES M2 COUNTERSUNK-

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MARTOCK DESIGN

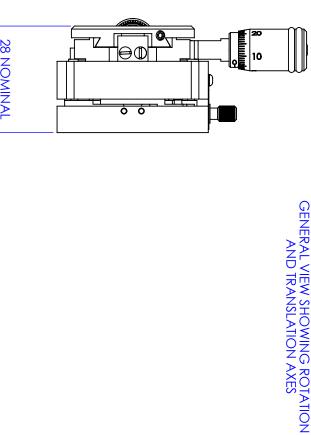
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DWG. NO. MDE276M	4V			l	
4 AXIS MICROPOSITIONER	4 AX			FINISH	
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THIRD ANGLE PROJECTION SHEET 1 OF 1



MDE277 Five-Axis Micropositioner





- Kinematic gimbal design gives independent adjustment on two tilt axes
- Tilt range on each axis 3° with sensitivity of 5 arc seconds
- · Clamps fitted to angular motions
- Centreing is by two independent dovetail slides (stainless steel body)
- Travel: ± 1 mm with very smooth backlash-free motion
- No interaction between X and Y axes
- Fine thread 0.25 pitch adjusters
- Standard 11 mm Ø bore suits small laser diodes
- Positioner is a small dovetail slide (stainless steel body)

Specifications

Tilt range on each axis

Sensitivity

Adjustment

Mounting options

MDE251 Specifications

Travel in X & Y

Bore diameter

Adjusters

MDE255 Specifications

Travel

3°

5 arc seconds

Hex key

M2 clearance holes, M2.5 tapped holes & M4 post-mounting (using adaptor

MDE274)

Two independent dovetail slides combined

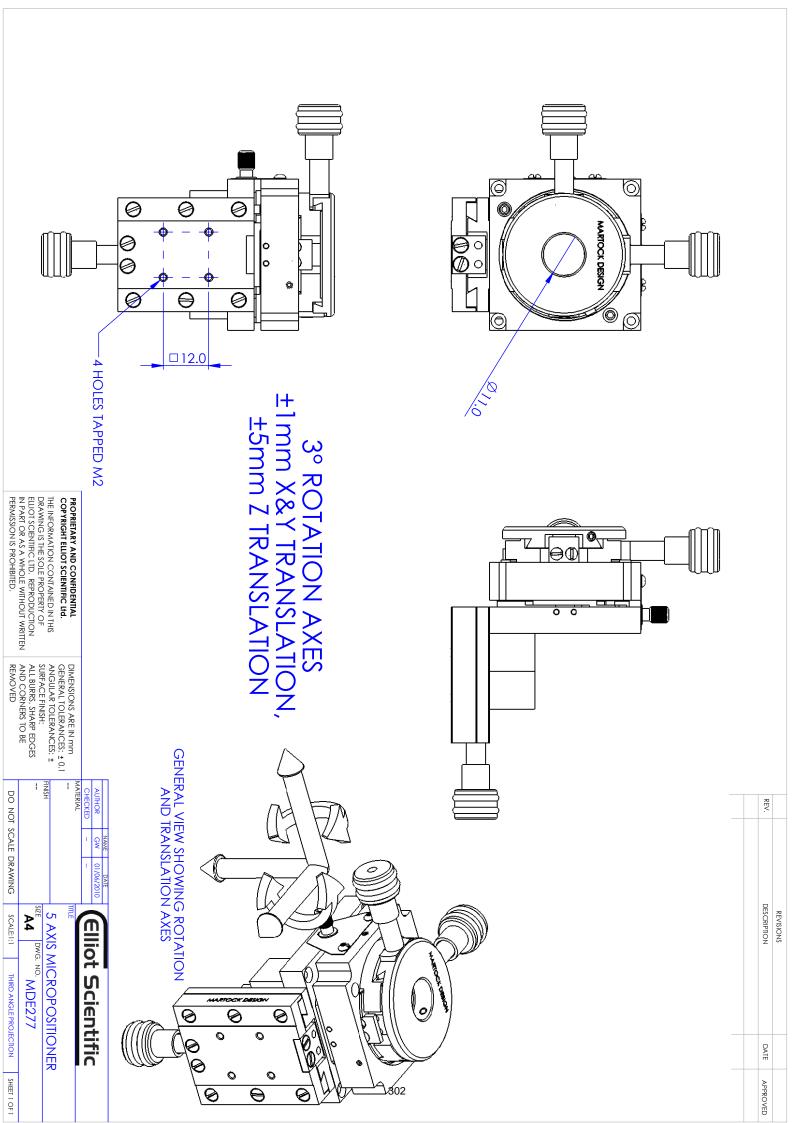
± 1 mm

11 mm

Fine thread 0.25 pitch adjusters

Dovetail slide with fine thread 0.25 pitch adjuster

10 mm





MDE277M Five-Axis Micropositioner with Micrometers





- Kinematic gimbal design gives independent adjustment on two tilt axes
- Tilt range on each axis 3° with sensitivity of 5 arc seconds
- · Clamps fitted to angular motions
- Centreing is by two independent dovetail slides (stainless steel body)
- Travel: ± 1 mm with very smooth backlash-free motion
- No interaction between X and Y axes
- Micrometer scales read to 0.01 mm
- Standard 11 mm Ø bore suits small laser diodes
- Positioner is a small dovetail slide (stainless steel body)

A five-axis micropositioner comprising an MDE270 Precision Tilt Stage, MDE251 Precision XY Centreing Micropositioner, MDE274 Adaptor Block and MDE255M Single Axis Micropositioner.

Specifications

Tilt range on each axis 3°

Sensitivity 5 arc seconds Adjustment Hex key

Mounting options M2 clearance holes, M2.5 tapped holes & M4 post-mounting (using adaptor

MDE274)

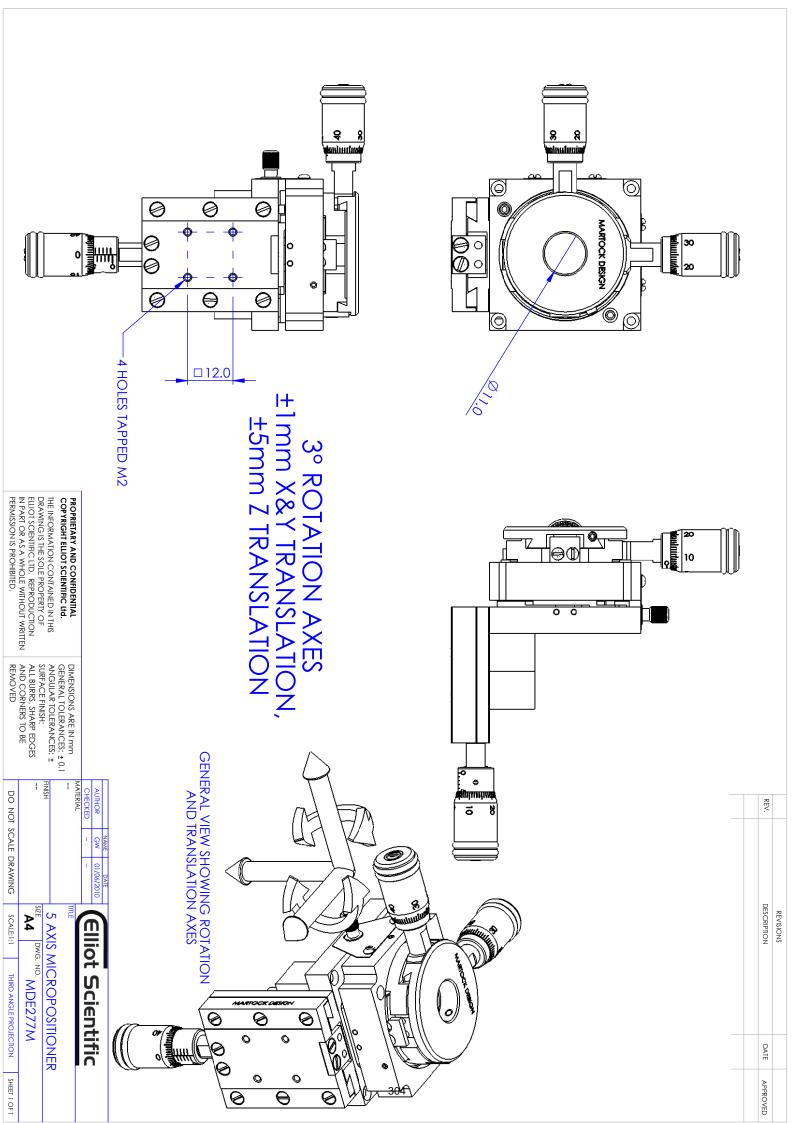
MDE251M Specifications Two independent dovetail slides combined

Travel in X & Y \pm 1 mm Bore diameter 11 mm

Adjusters Micrometer reading to 0.01 mm x2

MDE255M Specifications Dovetail slide with micrometer reading to 0.01 mm

Travel 10 mm



Opto-Mechanics 2012

Centreing Lens Mounts









Manual Positioners: Centreing Lens Mounts

MDE870 1" (25 mm) Centreing Lens Mount



- Mounts 1" or 25 mm lens
- Travel in X & Y ± 2.5 mm
- Convenient sleeve clamping of optic
- Accepts a range of optic thicknesses



Part of a range of economical, post mountable lens holders with X and Y adjustment for lens centreing applications and general laboratory use.

Specifications

Optic size 25 mm / 1.0 inch

Adjusters Drive screws with knurled knob

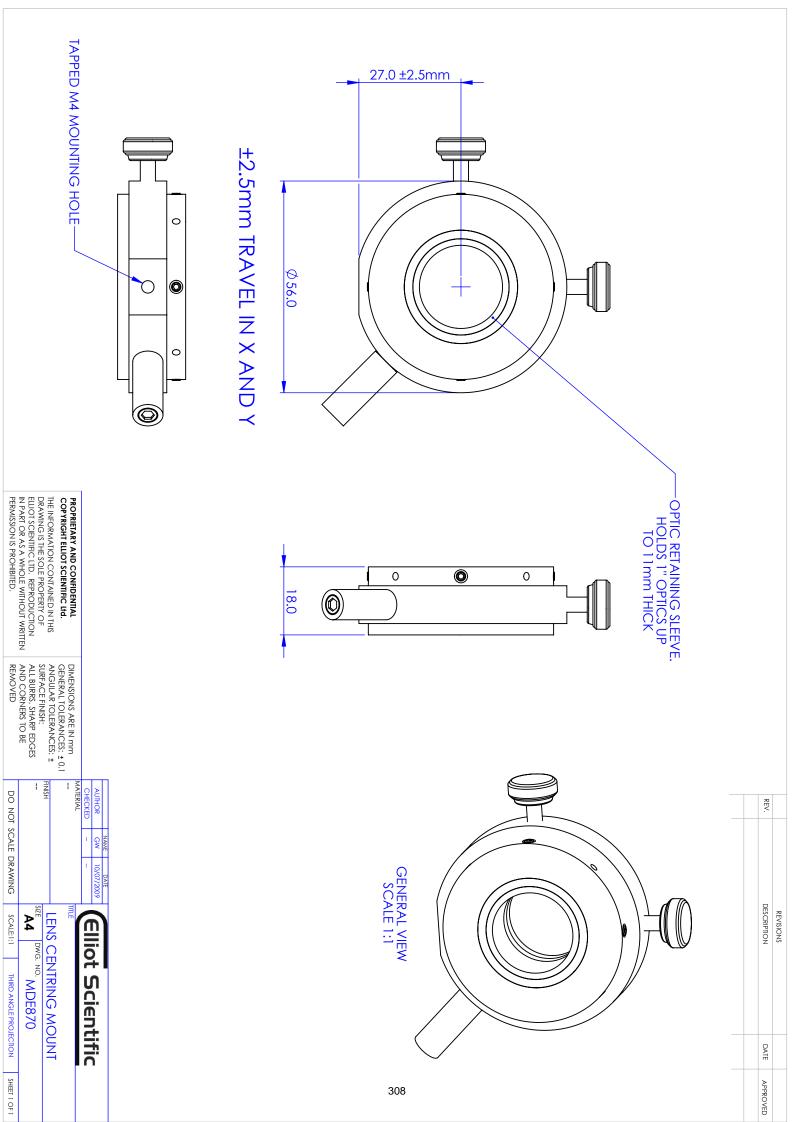
Travel \pm 2.5 mm in X & Y Mounting hole \pm 4.5 mm in X & Y

Options and Accessories

MDE874 RMS 0.800-36 threaded insert to accept microscope objectives

Posts

Post holders





Manual Positioners: Centreing Lens Mounts

MDE871 ½" (12.5 mm) Centreing Lens Mount



- Mounts ½" or 12.5 mm lens
- Travel in X & Y ± 2.5 mm
- · Convenient sleeve clamping of optic
- Accepts a range of optic thicknesses



Part of a range of economical, post mountable lens holders with X and Y adjustment for lens centreing applications and general laboratory use.

Specifications

Optic size 12.5 mm / ½ inch

Adjusters Drive screws with knurled knob

Travel \pm 2.5 mm in X & Y Mounting hole \pm 4.5 mm in X & Y

Options and Accessories

Posts

Post holders





Manual Positioners: Centreing Lens Mounts

MDE872 2" (50 mm) Centreing Lens Mount



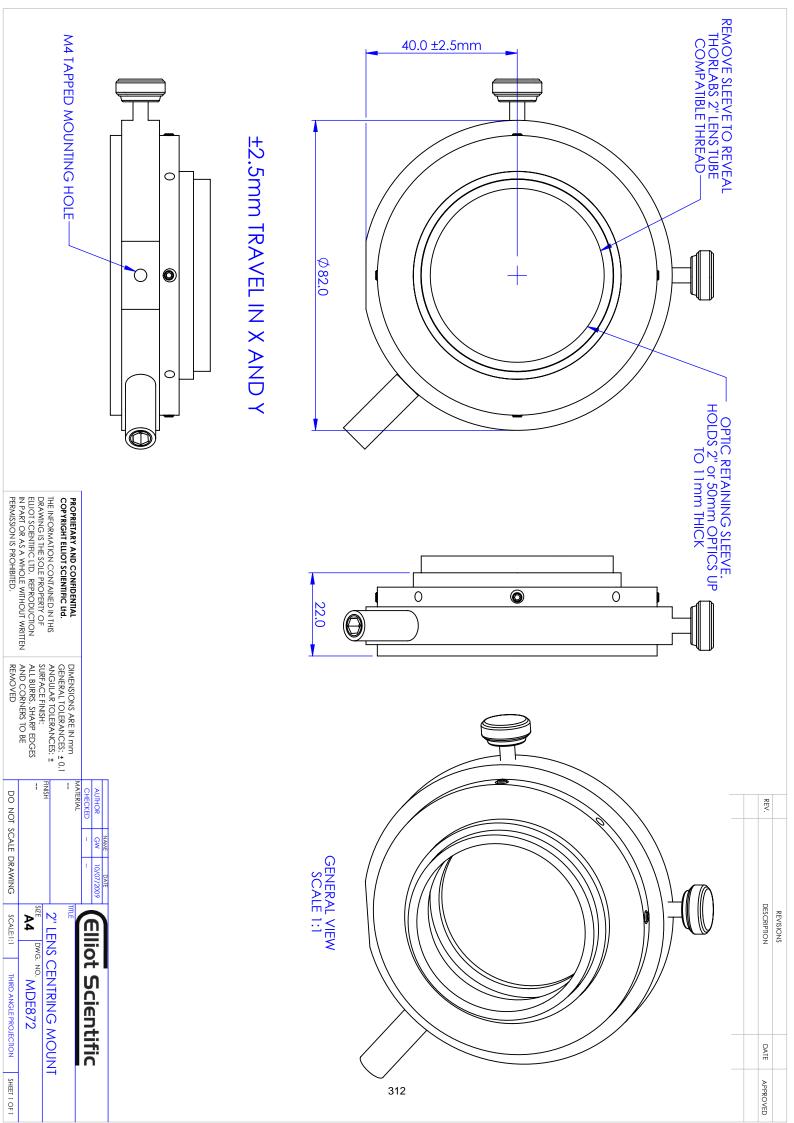
- Mounts 2" or 50 mm lens
- Travel in X & Y ± 2.5 mm
- · Convenient sleeve clamping of optic
- Accepts a range of optic thicknesses
- 2.035" 40 thread on rear for mounting lens tubes



Part of a range of economical, post mountable lens holders with X and Y adjustment for lens centreing applications and general laboratory use.

Specifications

Optic size Adjusters Travel Mounting hole 50 mm / 2.0 inch
Drive screws with knurled knob
± 2.5 mm in X & Y
M4 threaded hole



Opto-Mechanics 2012

Micrometers & Adjusters









Micrometers, Adjusters, Piezos & Inertial Drives: Miniature Adjusters

MDE208 Simple Adjuster with 5 mm travel





- 5 mm travel
- · Extremely compact
- Very smooth operation
- Very fine thread 0.25 mm pitch
- Designed specifically for micropositioning applications
- Positioning to 0.5 µm using a hex key/driver in the integral hex hole in knob
- Long life stainless steel spindle with hard steel ball tip &
- nickel silver nut



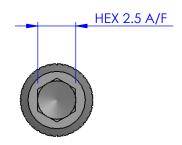
This miniature adjuster is used in the MDE260 series micropositioners. It incorporates a 4 mm diameter mounting spigot. A knurled knob facilitates simple adjustment or an optional hex driver can be used when greater sensitivity is required.

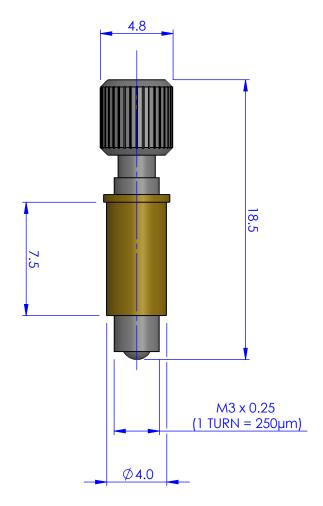
Specifications

0 ~ 5 mm Travel Thread 0.25 mm pitch Sensitivity 0.5 µm

Options

Long travel version - 10 mm





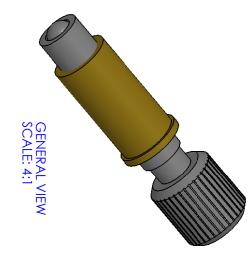
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AND CORNERS TO BE
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SHEET 1 OF 1



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Micrometers, Adjusters, Piezos & Inertial Drives: Miniature Adjusters

MDE213 Simple Adjuster with 3 mm travel





- 3 mm travel
- Ultra-miniature
- Very smooth operation
- Very fine thread 0.25 mm pitch
- Designed specifically for micropositioning applications
- Positioning to 0.5 μm using the supplied 1.27 AF Ball Drive key
- Long life stainless steel spindle with hard steel ball tip &
- nickel silver nut

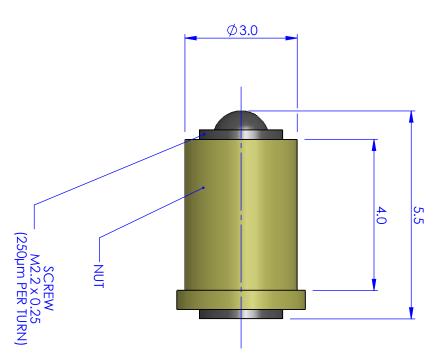
This miniature adjuster is used in the MDE265 series micropositioners. It incorporates a 3 mm diameter mounting spigot. A ball drive key is supplied to effect adjustments.

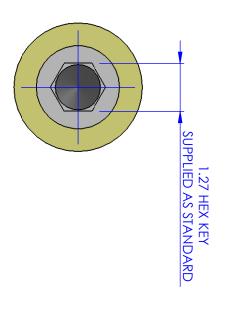
Specifications

Travel $0 \sim 5 \text{ mm}$ Thread 0.25 mm pitch Sensitivity $0.5 \text{ } \mu\text{m}$

Options

Long travel version





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MATERIAL DO NOT SCALE DRAWING SCALE:10:1 SIZE **A** M2.2 ADJUSTER **Elliot Scientific** DWG. NO. MDE213 THIRD ANGLE PROJECTION SHEET 1 OF 1



Micrometers, Adjusters, Piezos & Inertial Drives: Miniature Adjusters

MDE214 Simple Adjuster with 10 mm travel



- 10 mm travel
- Compact design
- Very smooth operation
- Positioning to 0.5 μm
- Very fine thread 0.25 mm pitch
- Designed specifically for micropositioning applications
- Long life stainless steel spindle with hard steel ball tip &
- nickel silver nut



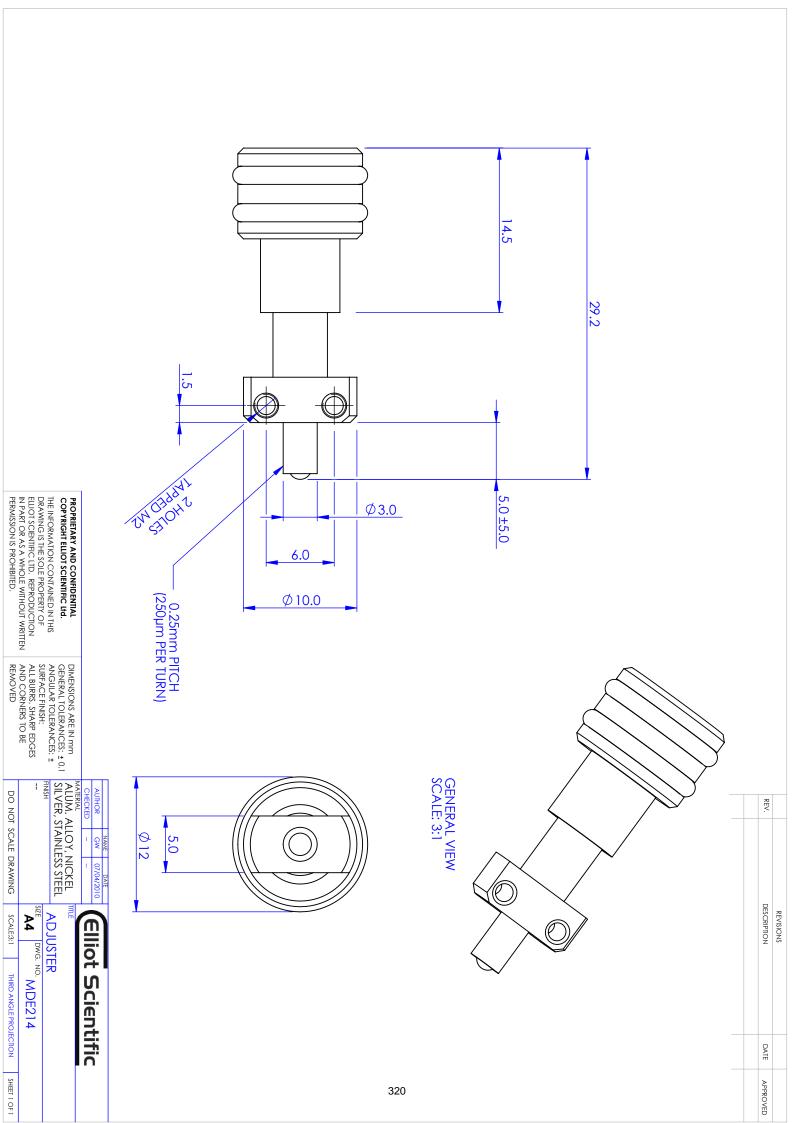
This miniature adjuster is used in the MDE255 and MDE260 series micropositioners. It incorporates a side mounting bar and a knurled knob facilitates simple adjustment.

Specifications

Travel $0 \sim 10 \text{ mm}$ Thread 0.25 mm pitch Sensitivity $0.5 \text{ } \mu\text{m}$

Options

Short travel version





Micrometers, Adjusters, Piezos & Inertial Drives: Miniature Adjusters

E200 Simple Adjuster with 12 mm travel



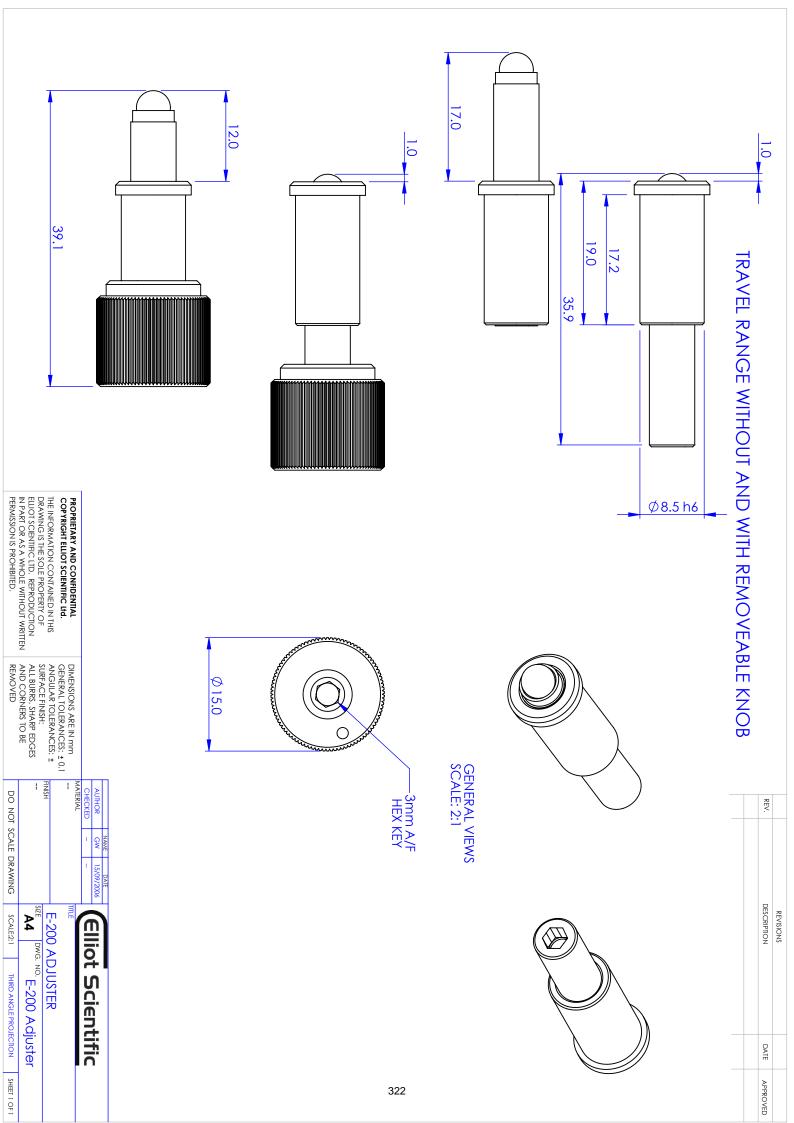


- 12 mm travel
- Compact design
- Very smooth operation
- Positioning to 0.5 μm
- · Highest quality hand-lapped adjusters
- Hex drive adjusters with removable knurled knobs
- Designed specifically for micropositioning applications
- Very fine thread 0.25 mm pitch (~100 turns/inch thread)
- Long life stainless steel spindle with hard steel ball tip &
- nickel silver nut

This miniature adjuster is used in the E901, E902 and E910 series micropositioners. Adjustment is either via a removable knurled knob or a 3 mm hex socket.

Specifications

Travel $0 \sim 12 \text{ mm}$ Thread 0.25 mm pitch Sensitivity $0.5 \text{ } \mu\text{m}$





Micrometers, Adjusters, Piezos & Inertial Drives: Micrometers

MDE206 Micrometer Adjuster with 5 mm travel



- Very compact
- 0.01 mm graduations, 0.5 mm per revolution
- Very smooth motion allows positioning to 1 μm
- Rubber rings provide a sensitive but precise grip
- Designed specifically for micropositioning applications
- Stainless steel screw with hard steel ball on spindle tip



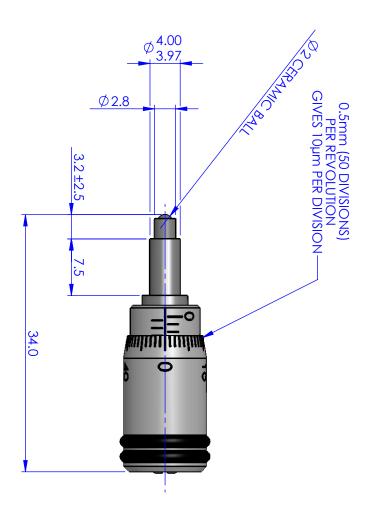
This micrometer features rubber finger grips and very smooth motion that give a linear sensitivity of 1 μ m. Graduations indicate 10 μ m of linear travel.

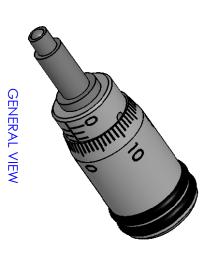
Specifications

Travel $0 \sim 5 \text{ mm}$

Displacement 0.5 mm per revolution

 $\begin{array}{ll} \text{Graduations} & 10 \ \mu\text{m} \\ \text{Sensitivity} & 1 \ \mu\text{m} \\ \text{Spigot diameter} & 4 \ \text{mm} \end{array}$





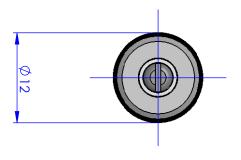
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	NCES: + 0.1
FINISH	ALUM. ALLOY, NIC SILVER, STAINLESS S

CHECKED

STEEL

DO NOT SCALE DRAWING

SCALE:2:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

₽

Elliot Scientific

5mm TRAVEL MICROMETER DWG. NO. MDE206

324



Micrometers, Adjusters, Piezos & Inertial Drives: Micrometers

MDE219 Micrometer Adjuster with 10 mm travel



- Very compact
- 0.01 mm graduations, 0.5 mm per revolution
- Very smooth motion allows positioning to 1 μm
- Rubber rings provide a sensitive but precise grip
- Designed specifically for micropositioning applications
- Stainless steel screw with hard steel ball on spindle tip



This micrometer features rubber finger grips and very smooth motion that give a linear sensitivity of 1 μ m. Graduations indicate 10 μ m of linear travel.

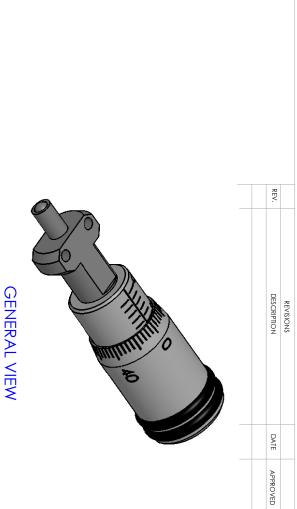
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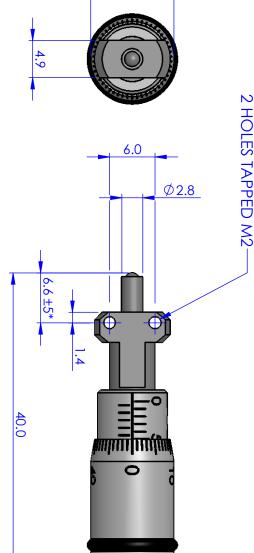
Travel $0 \sim 10 \text{ mm}$

Displacement 0.5 mm per revolution

Graduations 10 μm Sensitivity 1 μm

Mounting M2 tapped holes x2





Ø11.0

*MDE219 HAS ±5mm OF TRAVEL FROM POSITION SHOWN. SCREW PITCH IS 0.5 SO ONE COMPLETE TURN GIVES 0.5mm OF TRAVEL AT 10µm PER DIVISION

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+5mm		ANT. 1.07,	MATERIAL ALUM, ALLOY, NICKEL SILVER, STAINLESS STEEL	
	1		CHECKED	
	22/04/2008	G₩	AUTHOR	

ot Scientific

±5mm TRAVEL MICROMETER

₽ DWG. NO. MDE219

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SCALE:2:1

THIRD ANGLE PROJECTION SHEET 1 OF 1

326



Micrometers, Adjusters, Piezos & Inertial Drives: Micrometers

MD-Mitutoyo Digital Micrometer Adjuster with 25 mm travel



- Data hold
- Data output
- · Zero setting
- Large LCD display
- Inch/metric conversion
- Tungsten carbide tip
- Reads to 1 µm or 0.00005"



Digital micrometer with direct read-out of position to 1 μm on LCD display. Very smooth motion that gives a linear sensitivity of 0.5 μm .

Specifications

Travel $0 \sim 25 \text{ mm}$

Displacement 0.635 mm (0.025") per revolution

 $\begin{array}{ll} \text{Graduations} & 0.001 \text{"} \\ \text{Sensitivity} & 0.5 \ \mu\text{m} \\ \text{Mounting shaft} & 9.5 \ \text{mm} \ \emptyset \end{array}$





Micrometers, Adjusters, Piezos & Inertial Drives: Precision Adjusters

MDE215 Ultra Fine Mirror Mount Adjuster



- 20 nm resolution
- · Lockable coarse drive
- Provides ultra-fine adjustment
- · Retrofits existing mirror mounts
- Fits the 1/4-80 tapped hole
- Improves resolution



The MDE215 incorporates a patented† mechanical lever that can achieve a linear sensitivity of 20 nm. Suitable for retrofitting to existing optical mounts, as it fits the 1/4-80 tapped hole typically found on kinematic mirror mounts, enhancing their adjustment precision.

Specifications

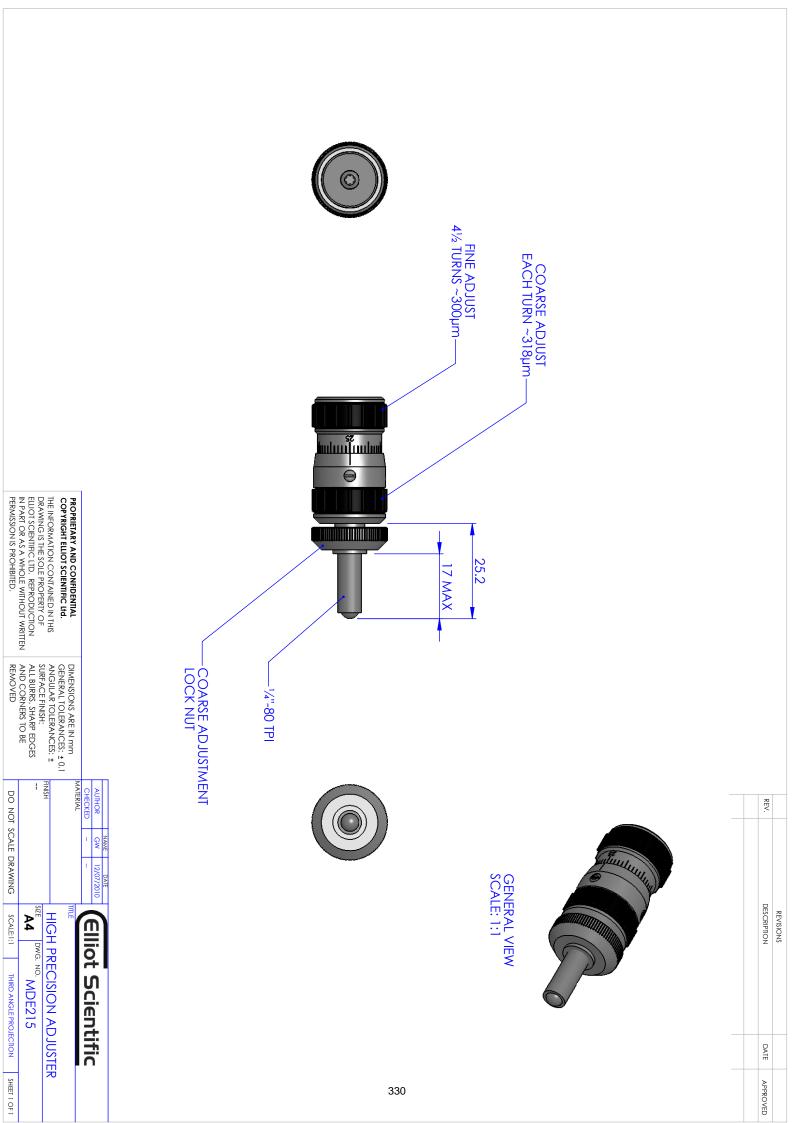
Resolution 20 nm

Mounting size ¼-80 tapped thread

Options

Elliot Scientific can supply a mirror mount for 1" optics fitted with two MDE215 adjusters. Resolution is increased from around 2 arc seconds to 0.1 arc seconds.

† Patent Nos. GB 2152616B & USA 4617833

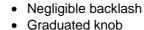




Micrometers, Adjusters, Piezos & Inertial Drives: Precision Adjusters

MDE216 High Precision Manual Adjuster





- Output via non-rotating hard steel ball
- Positive travel limit stops on control knob
- Coarse adjustment: 8.0 mm travel at 1 µm resolution
- Fine adjustment: 0.3 mm travel at 20 nm resolution
- Very smooth feel, largely independent of applied load
- Santoprene control ring allows a delicate touch and reduces
- heat transfer into the drive



The MDE216 high precision adjuster is based on a patented† mechanical lever system and is the highest resolution mechanical (non-piezo) adjuster in the Elliot Scientific range.

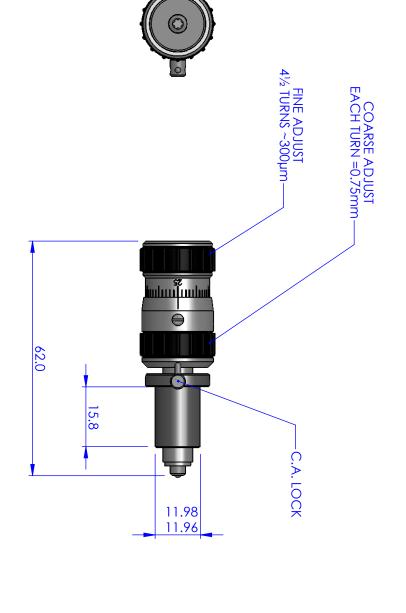
It is ideal for use with the Elliot Gold™ series flexure stages as it incorporates a 12 mm diameter matching sleeve. Travel is 8 mm (limited to 2 mm in flexure stages), with 20 nm resolution on the fine control.

Not all applications require that three adjusters be fitted in a flexure stage. Substitution with an MDE229 fixed axis spacer sets an axis in mid travel position and provides a cost saving. At a later date it can be replaced by an adjuster if user requirements change.

Specifications

Coarse adjustment Fine adjustment Readout 8 mm travel, 1 µm resolution 0.3 mm travel, 20 nm resolution Graduated knob with 50 arbitrary divisions

† Patent Nos. GB 2152616B & USA 4617833





GENERAL VIEW SCALE: 1:1

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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL SIZE **A** HIGH PRECISION ADJUSTER **Elliot Scientific** DWG. NO. MDE216



Micrometers, Adjusters, Piezos & Inertial Drives: Precision Adjusters

MDE217 Simple Manual Adjuster



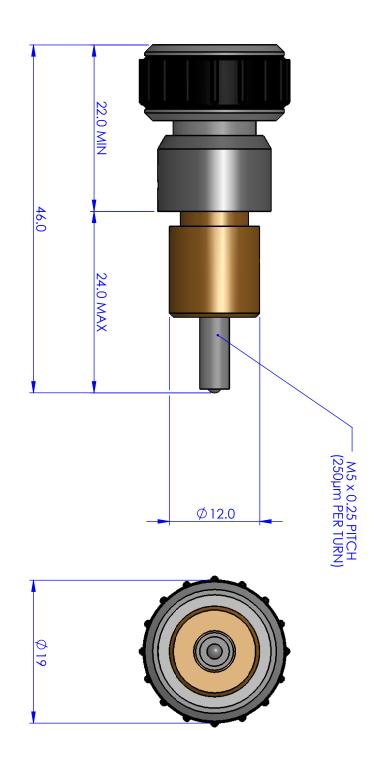
- 8.0 mm travel
- 1 µm resolution
- Cost effective



The MDE217 is a manual adjuster incorporating a 12 mm diameter sleeve matched to the Elliot Gold™ series flexure stages. It has 1 µm resolution and provides a cost effective solution where simple adjustment is required.

Specifications

 $\begin{array}{ccc} \text{Travel} & 8 \text{ mm} \\ \text{Resolution} & 1 \text{ } \mu\text{m} \\ \text{Thread type} & 0.25 \text{ pitch} \\ \end{array}$



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MATERIAL **A Elliot Scientific**

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AUTHOR

SIMPLE ADJUSTER

DWG. NO. MDE217 THIRD ANGLE PROJECTION SHEET 1 OF 1

334

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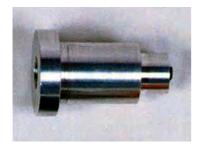
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Micrometers, Adjusters, Piezos & Inertial Drives: Precision Adjusters

MDE229 Fixed Axis Spacer



- Eliminates expense of high precision adjuster
- Preset to fit Elliot Gold™ series flexure stage



A Fixed Axis Spacer is used when a third axis is not required on a flexure stage. For example, when used as an YZ waveguide mount between two XYZ stages.

Not all applications require that three adjusters be fitted in a flexure stage. Substitution with an MDE229 fixed axis spacer sets an axis in mid travel position and provides a cost saving. At a later date it can be replaced by an adjuster if required.





Micrometers, Adjusters, Piezos & Inertial Drives: Motorised Actuators

MDE231 Stepper Motor Actuator: 8 mm travel



- Non-rotating spindle
- Resolution 0.254 µm single step
- Integral stepper motor drive and gearbox
- Integrates with Elliot Gold™ series flexure stages and
- rotation units



The MDE231 is a stepper motor-driven 8 mm travel actuator. The non-rotating spindle offers low noise translation or rotation when integrated with the Elliot Gold™ series flexure stages, pitch & yaw stages and rotation units. Developed for the demanding rotation and alignment of fibre optic components, it can be used anywhere that stable, accurate motion is needed.

Specifications

Travel

Thread Max. speed

Non-rotating spindle

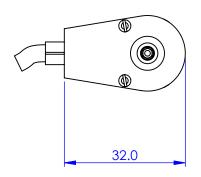
Manual adjustment via hex key

8 mm

0.254 µm pitch 0.5 mm/s

Options

Stepper drive controllers available



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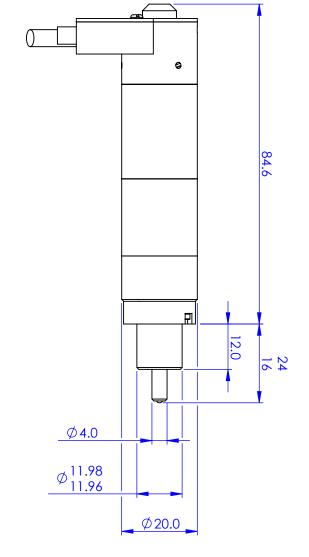
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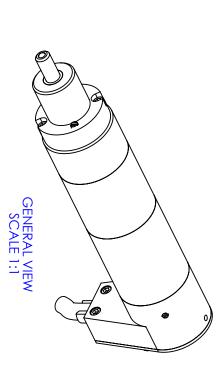
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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL SIZE A 8mm STEPPER MOTOR ACTUATOR Elliot Scientific DWG. NO. MDE231





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Micrometers, Adjusters, Piezos & Inertial Drives: Piezo Adjusters

MDE218 Standard Piezo Adjuster with 25 µm travel



- 25 µm direct-drive piezo
- 8 mm coarse travel on 0.25 pitch thread
- Adjustable hard stop prevents damage to the piezo when
- axis is at full mechanical extension



Standard piezo adjuster for applications requiring greater resolution than that achievable with manual adjusters or where "hands free" operation of the positioner is required.

The MDE218 piezo adjuster offers 25 µm of direct-drive piezo travel with 10 nm resolution and incorporates a 12 mm sleeve matched to the Elliot Gold™ series flexure stage.

Specifications

Travel 25 µm direct-drive piezo

Resolution 10 nm

Coarse travel 8 mm coarse travel on 0.25 pitch thread (limited to 2 mm when fitted to an

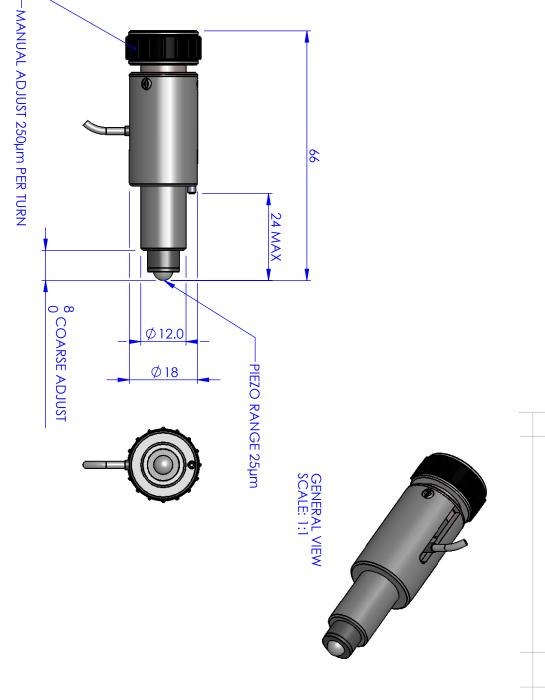
Elliot Gold™ Series flexure stage)

Operating voltage $0 \sim 150 \text{ V}$ Hysteresis $12 \sim 15\%$

Adjustable hard stop prevents damage to the piezo when axis is at full mechanical extension

Options

Long travel 100 µm piezo adjuster (MDE227) Very long travel 200 µm piezo adjuster (MDE230) DALi2 piezo controller (E-2200)



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THIRD ANGLE PROJECTION SHEET 1 OF 1

MATERIAL AUTHOR SIZE **A** PIEZO ADJUSTER **Elliot Scientific** DWG. NO. MDE218

340



Micrometers, Adjusters, Piezos & Inertial Drives: Piezo Adjusters

MDE227 Long Travel Piezo Adjuster with 100 µm travel



- 100 µm travel
- 50 nm resolution



This Long Travel Piezo Adjuster is for applications requiring an increased range of high precision adjustment. The MDE227 gives 100 µm of piezo travel with 50 nm resolution by means of a lever mechanism to amplify the extension of a 40 µm piezo stack. It also incorporates a 12 mm sleeve matched to the Elliot Gold™ series flexure stage.

On drives such as the MDE227, an integral hex adjuster is built into the coarse drive. This adjuster protrudes significantly from the flexure stage body, so finger pressure effects during manual adjustment can cause crosstalk between axes. Adjustment using a ball-headed hex key avoids these effects and the adjuster is driven in the intended axis only.

Specifications

Travel 100 µm piezo travel

Resolution 50 nm

Coarse travel \pm 1 mm travel on coarse drive with 1 μ m resolution

Operating voltage $0 \sim 150 \text{ V}$ Hysteresis $12 \sim 15\%$

Options

Standard travel 25 µm piezo adjuster (MDE218) Very long travel 200 µm piezo adjuster (MDE230) DALi2 piezo controller (E-2200)



Micrometers, Adjusters, Piezos & Inertial Drives: Piezo Adjusters

MDE230 Very Long Travel Piezo Adjuster with 200 µm travel



200 µm travel130 nm resolution

ELLIOT MARTOCK

This Very Long Travel Piezo Adjuster is for applications requiring an increased range of high precision adjustment.

The MDE230 gives 200 µm of piezo travel with 130 nm resolution by means of a lever mechanism to amplify the extension of a piezo stack. It also incorporates a 12 mm sleeve matched to the Elliot Gold™ series flexure stage.

The MDE230 features an integral hex adjuster built into the coarse drive. The adjuster protrudes significantly from the flexure stage body, so finger pressure effects during manual adjustment can cause cross-talk between axes. Adjustment using a ball-headed hex key aviods these effects and the adjuster is driven in the intended axis only.

Specifications

Travel 200 µm piezo travel

Resolution 130 nm

Coarse travel \pm 1 mm travel on coarse drive with 1 μ m resolution

Operating voltage $0 \sim 150 \text{ V}$ Hysteresis $12 \sim 15\%$

Options

Standard travel 25 µm piezo adjuster (MDE218) Long travel 100 µm piezo adjuster (MDE227) DALi2 piezo controller (E-2200)

Opto-Mechanics 2012

Specialist Systems & Custom Design







E2200 DALi 2 - Device Automatic Alignment System with IEEE Interface



- 3-Axis piezo controller for 150v actuators
- Menu-driven setup and operation
- Button search and optimize routine
- Store parameter sets for each alignment
- Full control over scan parameters
- Full IEEE-488.2 specification with LabVIEW drivers included
- Power meter display
- Floating input stage
- Clear LCD display High visibility black-on-white LCD
- display



The Elliot Scientific E2200 DALi 2 is a 3-axis piezo controller for photonic device alignment using an automated feedback routine. It is compatible with a wide range of external optical detectors and facilitates rapid and automated alignment of photonic components across a wide range of applications.

The E2200 DALi 2 is a sophisticated 3-axes piezo actuator controller, designed to complement the piezo-driven versions of the Elliot Gold™ Series range of flexure stages, but which is also suited to other piezo devices working on 0 - 150 V. It works by locating and optimizing an optical signal fed back from any suitable external detector.

The user interface features a convenient menu-driven system with full control over the scan parameters. In addition an IEEE-488.2 interface is provided for full remote control of the instrument, allowing it to be incorporated into automated test and measurement rigs or production alignment systems. A complete set of parameters for any particular alignment can be stored and recalled, making it simple to switch between alignment tasks.

Specifications

Display Parameters Piezo Voltage, Detector Current, Function, dB power level

Piezo Drivers Three at 60 mA per channel

Voltage 0 - 150 VStability < 0.1%Output Noise < 100 mV rms

Control Automatic or manual for each of the three axes

Detector Input Source Voltage or Current with 6 autoranges: 20 nA to 2 mA

Bias -100 V to +100 V
Bandwidth 1 kHz (max)
Accuracy 0.1%

Options

E2223 - DALi 2 E2200 with MDE123 piezo driven XYZ positioner (25 μ m piezo travel) E2225 - DALi 2 E2200 with MDE125 piezo driven XYZ positioner (100 μ m piezo travel)

Rack mount kit

Continued overleaf...



E2200 DALi 2 - Continued



- · Fibre-to-laser diode alignment
- Fibre-to-waveguide alignment
- Fibre-to-fibre coupling
- Fibre array-to-device alignment
- Compensation for epoxy drift during pigtailing
- Compensation for drift during long-term characterisation
- Simultaneous alignment of input & output fibres (or arrays)
- to waveguide device



Principle of Operation - DALi 2 works by continuously monitoring an optical feedback signal derived from the components being aligned and then adjusting their relative position in 3 axes to optimize the signal and hence their alignment. This signal can come from any suitable external optical detector plugged into the back of the unit.

The first step is to acquire a signal above the operating threshold of the system. This is done by selecting SEARCH from the front panel, at which point the piezo adjusters in the plane perpendicular to the optical axis are scanned over their full range of travel in a raster pattern. For example, for the long travel piezo adjusters (MDE227) this allows an area of $100 \ \mu m \ x \ 100 \ \mu m$ to be searched for an optical signal. As soon as a signal is found, an indication appears on the screen of the instrument and the unit switches (either manually or automatically) into TRACK mode.

In TRACK mode the signal is optimized by applying a small circular dither motion in the plane perpendicular to the optical axis to generate modulation within the detected signal. Proprietary algorithms are used to derive correction vectors from the modulated signal. These vectors are fed back to the corresponding piezo axes. This analogue process is iterated and the optimization occurs virtually in real time, with the whole procedure including the initial search taking a matter of seconds. If the optical system contains a focus point, then movement along the third axis can also be included within the TRACK mode procedure. Alternatively, the third axis position can be manually set.

Once the signal has been successfully located and optimized, the dither continues about the peak of the signal unless HOLD is selected from the menu. On this command the piezos are moved to the centre of the dither pattern coincident with the peak of the signal.

For critical alignment tasks that require the simultaneous optimization of two components to a third one, (eg where both input and output fibres need to be simultaneously aligned to a waveguide device) two DALi units can be operated together at different dither frequencies to independently optimise the alignment of the separate components.

Specifications continued...

Automatic Alignment Programmable Dither

17 nm to 25 μm scan size (typical - actual scan size is piezo dependent),

adjustable in XYZ

Programmable Gain 0 - 25 in steps of 0.1

Programmable Frequency 25 Hz to 325 Hz with Y and Z in quadrature, X independent

0.5% full scale

IEEE 488 Interface

Threshold

Type IEEE 488.2

Access Full access to all setup, operation, menu commands

Drivers LabVIEW and LabWindows/CVI

Accessories

MDE218 - Piezo adjuster (25 μm) MDE227 - Piezo adjuster (100 μm) MDE230 - Piezo adjuster (200 μm)



E22884 E-Wedge™



Automatic Alignment for Multi-channel Optical Devices



The E-Wedge™ system is designed to provide automatic alignment for multi-channel optical devices and fibre V-groove arrays. It includes automatic roll axis optimisation and compensation for angled device facets. The E-Wedge can be configured as a dual-ended automatic waveguide/device alignment workstation providing simultaneous alignment of input and output fibre arrays. The system can be customised to provide the number of axes needed for any particular devices. Holding fixtures are available for the full range of devices, fibres and v-groove arrays. Custom fixtures can also be provided.

Automatic alignment is provided by two E2200 DALi controllers, designed to speed up and automate alignment in a wide range of applications such as laser diode to single-mode fibre, or input and output pigtailing to waveguide devices, couplers, splitters and WDMs. The E2200 includes a sophisticated 3-axis piezo actuator controller suitable for the piezo-actuated versions of our Elliot GoldTM Series flexure stages, and works by locating and optimising an optical signal fed back from any suitable detector.

The user interface features a convenient menu-driven system with full control over the scan parameters. An IEEE-488.2 interface with LabVIEW and LabWindows CVI drivers are provided for full remote control of the instrument, allowing it to be incorporated into automated test and measurement rigs or production alignment systems.

E-Wedge™ Resolution

25 μm piezo drive 100 μm piezo drive Rotation 10 nm in X, Y & Z axes 50 nm in X, Y & Z axes < 0.1 arc seconds



MDE22885 Semiconductor Optical Amplifier Aligner



- Slotted design for easy insertion and removal of fibre
- Full 360° rotation on all rotational axes
- Piezo drives available for linear axes
- Can be configured for variable facet angle
- Fibre held in V-groove clamps
- Standard V-groove for 125/250 µm fitted. (Custom sizes
- available.)



The MDE22885 is a specialised system for the alignment of SOAs (semiconductor optical amplifiers) and other similar dual-ended devices with angled facets.

The system comprises two 5-axis stages with Elliot Gold™ Series flexure stages, long-travel base platforms and a 2-axis fibre rotation mount. The central unit is a 2-axis rotation device mount configured for mounting of passive or active single- or multi-channel planar devices.

The linear axes of the flexure stages can be automated with a E2200 DALi alignment controller and piezo adjusters. Automated alignment is of particular benefit when working with lensed fibres.



MDE2350 PM Fibre Alignment





- Slotted design for easy insertion and removal of fibre
- Full 360° rotation
- · Integral stepper motor drive
- Resolution < 0.01° single step
- Maximum speed 18°/s (20 s for 360°)
- Fibre held in variable-force V-groove clamps
- Standard V-groove for 125/250 μm fitted. (Custom sizes available.)
- V-block preset on axis with < 1 μm concentricity error
- Stepper drive controllers available with LabVIEW drivers for
- auto rotation alignment

The MDE2350 comprises an MDE235 motorised fibre rotator mounted on an Elliot Gold™ Series 3-axis piezo-driven flexure stage. A DALi alignment system is used to maintain alignment while the fibre is rotated.

Designed for the alignment of angular-sensitive components, the MDE2350 is particularly effective for the alignment of polarisation-maintaining fibre and components.



MDE9183 Fibre Collimator Aligner





- Slotted design for easy insertion and removal of fibre
- Full 360° rotation
- Integral stepper motor drive
- Resolution <0.01° single step
- Maximum speed 18°/s (20s for 360°)
- Fibre held in variable-force V-groove clamps
- Standard V-groove for 125/250µm fitted. (Custom sizes available.)
- V-block preset on axis with < 1µm concentricity error
- Stepper drive controllers available with LabVIEW drivers for
- auto rotation alignment

The MDE9183 is configured for the alignment of fibre collimators. It utilises the accurate MDE185 two axis pitch and yaw stage in combination with Elliot Gold™ Series flexure stages giving accurate 5-axis control. Includes model MDE154 clamp set.



E22933 Five-Axis Lens Positioning Stage



- Combination of precision rotation stages and slides
- 5 degrees of independent movement
- 10 µm micrometer adjusters
- 360° free rotation in two axes with clamp screws
- Tangent screws for fine adjustment



The E22933 combines Elliot Scientific's precision manufacturing and expertise in component design to provide a specialist lens holding stage with two axes of independent rotational movement combined with three in precise linear slide motion.

Larger or smaller units can be manufactured as the design is scalable. If you have specific interests for different sizes, then please let us know.



Opto-Mechanics 2012

Lab Essentials









E911 Adjustable High Precision Mirror Mount Frame with 1" Optic Holder





- · Nylon tipped clamping screw
- · Excellent long term stability
- Engraved cross-hairs aid alignment
- Hex drive adjusters with removable knurled knobs
- M6 mounting holes (x 5) for on-axis post mounting
- User configurable left-hand or right-hand geometry
- Uses unique 0.25 µm pitch highest quality hand-lapped adjusters with ~100 turns/inch thread
- Accepts interchangeable front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics with rear optic loading
- for repeatable location of mirror face

The E910 Series kinematic mirror mounts consist of a precision frame with adjusters to which the user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm.

These mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base. Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Interchangeable front plates boost the versatility of these mounts as the same frame can accommodate a variety of optic sizes. Furthermore, on-line mirrors can be quickly replaced with alternative optics preloaded off-line into additional front plates.

Specifications

Mirror size Interchangeable front plate for 1"/25 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate

For the latest price, contact us today.

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+44 (0)1582 766300



E912 Adjustable High Precision Mirror Mount Frame with 2" Optic Holder





- · Nylon tipped clamping screw
- · Excellent long term stability
- · Engraved cross-hairs aid alignment
- Hex drive adjusters with removable knurled knobs
- M6 mounting holes (x 5) for on-axis post mounting
- User configurable left-hand or right-hand geometry
- Uses unique 0.25 µm pitch highest quality hand-lapped adjusters with ~100 turns/inch thread
- Accepts interchangeable front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics with rear optic loading
- for repeatable location of mirror face

The E910 Series kinematic mirror mounts consist of a precision frame with adjusters to which the user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm.

These mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base. Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Interchangeable front plates boost the versatility of these mounts as the same frame can accommodate a variety of optic sizes. Furthermore, on-line mirrors can be quickly replaced with alternative optics preloaded off-line into additional front plates.

Specifications

Mirror size Interchangeable front plate for 2"/50 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate

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E913 Adjustable High Precision Mirror Mount Frame with 3" Optic Holder





- · Nylon tipped clamping screw
- Excellent long term stability
- Engraved cross-hairs aid alignment
- Hex drive adjusters with removable knurled knobs
- M6 mounting holes (x 5) for on-axis post mounting
- User configurable left-hand or right-hand geometry
- Uses unique 0.25 µm pitch highest quality hand-lapped adjusters with ~100 turns/inch thread
- Accepts interchangeable front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics with rear optic loading
- for repeatable location of mirror face

The E910 Series kinematic mirror mounts consist of a precision frame with adjusters to which the user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm.

These mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base. Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Interchangeable front plates boost the versatility of these mounts as the same frame can accommodate a variety of optic sizes. Furthermore, on-line mirrors can be quickly replaced with alternative optics preloaded off-line into additional front plates.

Specifications

Mirror size Interchangeable front plate for 3"/75 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate

For the latest price, contact us today.

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E914 Adjustable High Precision Mirror Mount Frame with 4" Optic Holder





- · Nylon tipped clamping screw
- · Excellent long term stability
- Engraved cross-hairs aid alignment
- Hex drive adjusters with removable knurled knobs
- M6 mounting holes (x 5) for on-axis post mounting
- User configurable left-hand or right-hand geometry
- Uses unique 0.25 µm pitch highest quality hand-lapped adjusters with ~100 turns/inch thread
- Accepts interchangeable front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics with rear optic loading
- for repeatable location of mirror face

The E910 Series kinematic mirror mounts consist of a precision frame with adjusters to which the user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm.

These mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base. Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Interchangeable front plates boost the versatility of these mounts as the same frame can accommodate a variety of optic sizes. Furthermore, on-line mirrors can be quickly replaced with alternative optics preloaded off-line into additional front plates.

Specifications

Mirror size Interchangeable front plate for 4"/100 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

- 46 1 4 4 4 4 4 4 4 4 4 4



EFP911 Interchangeable 1" (25 mm) Front Plate Optic Holder





- · Nylon tipped clamping screw
- · Excellent long term stability
- Engraved cross-hairs aid alignment
- User configurable left-hand or right-hand geometry
- · Rear optic loading for repeatable location of mirror face
- Range of front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics
- Interchangeable front plate optic holders for E910 Series
- High Precision Mirror Mounts

The EFP91n Series front plate optic holders are for use with the E910 Series mirror mount frames. The user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm. The interchangeable front plates greatly boost the versatility of these mounts as the same frame can accommodate a variety of mirror sizes. Furthermore, on-line optics can be quickly replaced with alternative mirrors that have previously been preloaded off-line into additional front plates.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Specifications

Mirror size Interchangeable front plate for 1"/25 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate



Interchangeable 2" (50 mm) Front Plate Optic Holder **EFP912**





- Nylon tipped clamping screw
- Excellent long term stability
- Engraved cross-hairs aid alignment
- User configurable left-hand or right-hand geometry
- Rear optic loading for repeatable location of mirror face
- Range of front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics
- Interchangeable front plate optic holders for E910 Series
- **High Precision Mirror Mounts**



The EFP91n Series front plate optic holders are for use with the E910 Series mirror mount frames. The user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm. The interchangeable front plates greatly boost the versatility of these mounts as the same frame can accommodate a variety of mirror sizes. Furthermore, on-line optics can be quickly replaced with alternative mirrors that have previously been preloaded off-line into additional front plates.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Specifications

Mirror size Interchangeable front plate for 2"/50 mm optics (Supplied)

Angular range $\pm 4.5^{\circ}$

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate



EFP913 Interchangeable 3" (75 mm) Front Plate Optic Holder





- Nylon tipped clamping screw
- · Excellent long term stability
- Engraved cross-hairs aid alignment
- User configurable left-hand or right-hand geometry
- · Rear optic loading for repeatable location of mirror face
- Range of front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics
- Interchangeable front plate optic holders for E910 Series
- High Precision Mirror Mounts

The EFP91n Series front plate optic holders are for use with the E910 Series mirror mount frames. The user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm. The interchangeable front plates greatly boost the versatility of these mounts as the same frame can accommodate a variety of mirror sizes. Furthermore, on-line optics can be quickly replaced with alternative mirrors that have previously been preloaded off-line into additional front plates.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Specifications

Mirror size Interchangeable front plate for 3"/75 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP914 4 inch/100 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate



EFP914 Interchangeable 4" (100 mm) Front Plate Optic Holder





- · Nylon tipped clamping screw
- · Excellent long term stability
- Engraved cross-hairs aid alignment
- User configurable left-hand or right-hand geometry
- · Rear optic loading for repeatable location of mirror face
- Range of front plates for 1"/25 mm, 2"/50 mm, 3"/75 mm or 4"/100 mm optics
- Interchangeable front plate optic holders for E910 Series
- High Precision Mirror Mounts

The EFP91n Series front plate optic holders are for use with the E910 Series mirror mount frames. The user can fit different sizes of front plate to hold optics ranging from 1 inch/25 mm through to 4 inch/100 mm. The interchangeable front plates greatly boost the versatility of these mounts as the same frame can accommodate a variety of mirror sizes. Furthermore, on-line optics can be quickly replaced with alternative mirrors that have previously been preloaded off-line into additional front plates.

Optics are loaded via the rear of the front plate, and the front face of the mirror locates against a mechanical datum. Thus the critical optical surface always locates in the same place irrespective of the thickness of the mirror substrate. A nylon tipped screw positively locks the mirror optic against two machined pads within the front plate.

Specifications

Mirror size Interchangeable front plate for 4"/100 mm optics (Supplied)

Angular range ± 4.5°

Angular resolution 2.5 arc seconds

Configuration Right-hand or left-hand user changeable

Options

Custom configurations

Interchangeable front plate optic holders (see below)

E200 market-leading adjusters available separately

Mirror mounts for 1" / 25 mm, 2" / 50 mm, 3" / 75 mm or 4" / 100 mm optics (see below)

Variants

E910 Precision frame with adjusters - No front plate

Front plate optic holders:

EFP911 1 inch/25 mm front plate optic holder

EFP912 2 inch/50 mm front plate optic holder

EFP913 3 inch/75 mm front plate optic holder

E911 Precision frame with adjusters and 1 inch/25 mm front plate

E912 Precision frame with adjusters and 2 inch/50 mm front plate

E913 Precision frame with adjusters and 3 inch/75 mm front plate

E914 Precision frame with adjusters and 4 inch/100 mm front plate



E901 High Precision L/H 25 mm (1") Mirror Mount





- M6 mounting holes (x 3)
- Nylon tipped clamping screw
- Excellent long term stability
- Soft mounting for optic protection
- 25 mm optic mounting (12.5 mm on request)
- Hex drive adjusters with removable knurled knobs
- Left-hand (E901) and right-hand (E902) versions
- Ultra-stable base with proven laser alignment performance
- Uses unique 0.25 μm pitch highest quality hand-lapped
- adjusters with ~100 turns/inch thread

The E900 series precision kinematic mirror mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base.

Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob. A nylon tipped locking screw positively locates the mirror optic against two compliant pads which minimise the stress applied to the optical substrate.

To improve access in confined spaces, both left-hand (E901) and right-hand (E902) versions are available.

Specifications

Mirror size 1" / 25 mm diameter

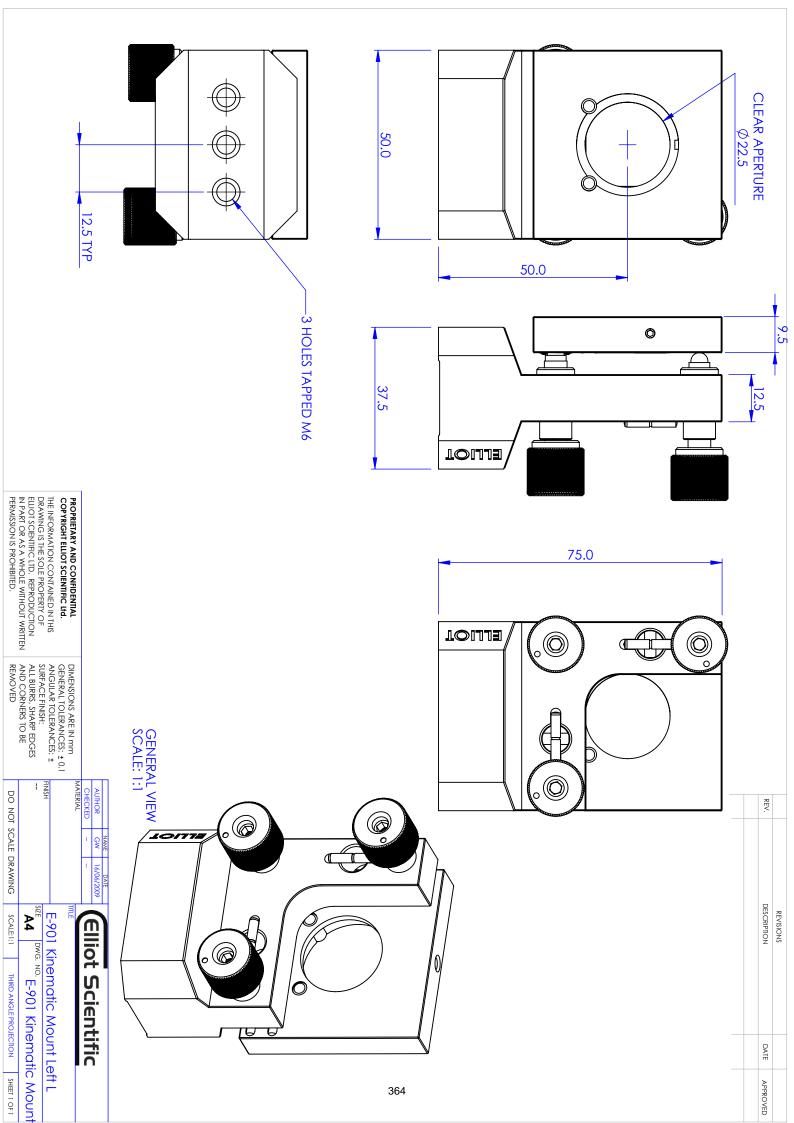
Angular range $\pm 7.5^{\circ}$ Angular resolution 0.001°

Variants

Right hand version 12.5 mm optic mounting Custom configurations

Note

E200 market-leading adjusters available separately





E902 High Precision R/H 25 mm (1") Mirror Mount





- M6 mounting holes (x 3)
- Nylon tipped clamping screw
- Excellent long term stability
- Soft mounting for optic protection
- 25 mm optic mounting (12.5 mm on request)
- Hex drive adjusters with removable knurled knobs
- Left-hand (E901) and right-hand (E902) versions
- Ultra-stable base with proven laser alignment performance
- Uses unique 0.25 µm pitch highest quality hand-lapped
- adjusters with ~100 turns/inch thread

The E900 series precision kinematic mirror mounts use the highest quality hand-lapped adjusters to provide smooth and accurate adjustment for critical laser and optical alignment. The 0.25 pitch (approx 100 TPI) threaded screws provide a very high degree of sensitivity and control, and complement the excellent long term stability of the base.

Ease of use is enhanced by the provision of both a hex drive socket and a removable knurled knob. A nylon tipped locking screw positively locates the mirror optic against two compliant pads which minimise the stress applied to the optical substrate.

To improve access in confined spaces, both left-hand (E901) and right-hand (E902) versions are available.

Specifications

Mirror size 1" / 25 mm diameter

Angular range $\pm 7.5^{\circ}$ Angular resolution 0.001°

Variants

Right hand version 12.5 mm optic mounting Custom configurations

Note

E200 market-leading adjusters available separately



MDE320 25 mm (1") Ultra-fine Kinematic Mirror Mount



- 25 mm optic mounting
- Angular resolution 0.1 arc secs
- Lockable coarse drive on adjusters
- Patented† mechanical lever system on adjusters



The MDE320 mount consists of a conventional kinematic mirror mount for 25 mm (1 inch) optics fitted with two MDE215 ultra-fine mirror mount adjusters.

The MDE215 adjusters used on the MDE320 mirror mount incorporate a patented mechanical lever system to achieve a linear sensitivity of 20 nm. This plus the ability to lock the coarse drive gives much improved precision of the mirror mount.

Specifications

1" / 25 mm diameter Mirror size Angular resolution 0.1 arc seconds Adjusters

MDE215 Ultrafine Mirror Mount Adjuster, with coarse (locakable) and fine drive x 2

† Patent Nos. GB 2152616B & USA 4617833



KMP021 Standard ½" (12.5 mm) Kinematic Mirror Mount



- Angular range ± 4°
- Left or right-handed mounting
- Imperial and metric compatible
- Two M4-0.25 pitch hex drive adjusters



A quality ½" mirror mount for general laboratory applications. Clearance hole for imperial and metric mounting. Features M4-0.25 pitch adjusters with hex key drive. A nylon tipped set screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement even with small adjustments.

Specifications

Mirror size ½" / 12.7 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 7 arc seconds

Configuration Right-hand or left-hand

Base mounting M4 (#8-32) counterbored mounting clearance hole



KMP121 Standard 1" (25 mm) Kinematic Mirror Mount



- Angular range ± 4°
- Left or right-handed mounting
- · Imperial and metric compatible
- ¼"-80 adjusters with removable knobs and hex drive



A quality 1" mirror mount for general laboratory applications. Clearance hole for imperial and metric mounting. Features ¼"-80 adjusters with removable knobs and hex key drive. A nylon tipped set screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement even with small adjustments.

Specifications

Mirror size 1" / 25 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 5 arc seconds

Configuration Right-hand or left-hand
Base mounting M4 (#8-32) clearance hole



KMP221 Standard 2" (50 mm) Kinematic Mirror Mount



- Angular range ± 4°
- · Left or right-handed mounting
- Imperial and metric compatible
- 1/4"-80 adjusters with removable knobs and hex drive



A quality 2" mirror mount for general laboratory applications. Clearance hole for imperial and metric mounting. Features ¼"-80 adjusters with removable knobs and hex key drive. A nylon tipped set screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement even with small adjustments.

Specifications

Mirror size 1" / 25 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 3 arc seconds

Configuration Right-hand or left-hand

Base mounting Six M4 (#8-32) counterbored clearance mounting holes



KTO121 1" Threaded Kinematic Mirror Mount



- Angular range ± 4°
- · Load optics from the rear
- · Left or right-handed mounting
- Imperial and metric compatible
- Particularly suitable for thin optics
- Holds 1" (25.4 mm) optics up to 6.5 mm thick
- Threaded retaining ring to reduce optic distortion
- Two ¼"-80 adjusters with removable knobs and hex drive



A quality 1" mirror mount with rear loading and a threaded retaining ring to minimise optic distortion. Clearance holes for imperial and metric mounting. Features two ¼"-80 adjusters with hex drive and removable knobs. Stainless steel adjusters act on hardened inserts to ensure smooth movement even with small adjustments. One ORR100 retaining ring is included with each mount and additional rings are available separately.

Specifications

Mirror size 1" / 25 mm diameter

Mirror thickness ½" / 6.5 mm

Angular range ± 4°

Angular resolution 3 arc seconds

Configuration Right hand, left hand or horizontal mounting
Base mounting M4 (#8-32) clearance mounting holes



KML031 1/2" (12.5 mm) Locking Kinematic Mirror Mount



- Angular range ± 4°
- Superior locking mechanism
- · Left or right-handed mounting
- Imperial and metric compatible
- Angular adjustment and translation
- Three ½-80 adjusters with removable knobs and hex drive



A quality half inch locking mirror mount for demanding applications. With clearance holes for imperial and metric mounting.

It features three ¼-80 adjusters with removable knobs and hex drive allowing both angular adjustment and translation. A nylon tipped set-screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement, even with small adjustments.

Locking is performed by a superior mechanism that virtually eliminates movement during the locking process. Once positioned, the adjusters are held in place by a simple twist of the scalloped lock ring.

Specifications

Mirror size ½" / 12.7 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 7 arc seconds

Configuration Right-hand or left-hand user changeable

Base mounting M4 (#8-32) clearance hole on the base for either left or right handed

mounting



KML131 1" (25 mm) Locking Kinematic Mirror Mount



- Angular range ± 4°
- Superior locking mechanism
- Left or right-handed mounting
- Imperial and metric compatible
- Angular adjustment and translation
- Three ½-80 adjusters with removable knobs and hex drive



A quality one inch locking mirror mount for demanding applications. With clearance holes for imperial and metric mounting.

It features three ¼-80 adjusters with removable knobs and hex drive allowing both angular adjustment and translation. A nylon tipped set-screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement, even with small adjustments.

Locking is performed by a superior mechanism that virtually eliminates movement during the locking process. Once positioned, the adjusters are held in place by a simple twist of the scalloped lock ring.

Specifications

Mirror size 1" / 25 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 5 arc seconds

Configuration Right-hand or left-hand user changeable

Base mounting M4 (#8-32) clearance hole on the base for either left or right handed

mounting



KML231 2" (50 mm) Locking Kinematic Mirror Mount



- Angular range ± 4°
- · Superior locking mechanism
- · Left or right-handed mounting
- Imperial and metric compatible
- Angular adjustment and translation
- Three ½-80 adjusters with removable knobs and hex drive



A quality two inch locking mirror mount for demanding applications. With clearance holes for imperial and metric mounting.

It features three ¼-80 adjusters with removable knobs and hex drive allowing both angular adjustment and translation. A nylon tipped set-screw positively locks the optic in place. Stainless steel adjusters act on hardened inserts to ensure smooth movement, even with small adjustments.

Locking is performed by a superior mechanism that virtually eliminates movement during the locking process. Once positioned, the adjusters are held in place by a simple twist of the scalloped lock ring.

Specifications

Mirror size 1" / 25 mm diameter

Angular range $\pm 4^{\circ}$

Angular resolution 3 arc seconds

Configuration Right-hand or left-hand user changeable

Base mounting Six M4 (#8-32) clearance holes on the base for either left or right handed

mounting



KPH121 Kinematic Platform Mount



- Angular range ± 4°
- · Left or right-handed vertical mounting
- Imperial and metric compatible
- Tapped M4 hole pattern on front plate
- Horizontal post mounting with M4 (#8-32) clearance hole
- ¼"-80 adjusters with removable knobs and hex drive



A quality platform mount for general laboratory applications. Clearance holes for imperial and metric mounting. Features two ¼"-80 adjusters with hex drive and removable knobs. Stainless steel adjusters act on hardened inserts to ensure smooth movement even with small adjustments.

For prism mounting, clamp arm CAA101 is available separately.

Specifications

Angular range ± 4°

Angular resolution 3 arc seconds

Configuration Right-hand or left-hand vertical mounting

Base mounting M4 (#8-32) clearance holes



CAA101 General Purpose Clamp Arm



- M4 thread
- Rubber pad on arm
- Standard height 27 mm
- Extension rods available (35 mm)



The CAA101 is a general purpose clamp arm for use with prism tables and V-mounts. The arm has a rubber pad for the soft mounting of optics. An M4 thread is provided for mounting (and stacking) which can be extended with separately available additional pieces.



KNA121 Plain Kinematic Mount



- Angular range ± 4°
- Left or right-handed mounting
- Imperial and metric compatible
- Two 1/4"-80 adjusters with removable knobs and hex drive
- Removable unanodised front plate for user modification
- Vertical or horizontal post mounting with M4 (#8-32)
- clearance holes



The KNA121 is a quality mount for general laboratory applications. The front plate can be removed for user modification or optics can be glued directly to it.

Clearance holes are provided for imperial and metric mounting in either vertical or horizontal planes. KNA121 features two stainless steel ¼"-80 adjusters with removable knobs and hex drive that act on hardened inserts to ensure a smooth movement - even with small adjustments.

Optic is held in place by the CAA101 clamp arm supplied.

Specifications

Angular range ± 4°

Angular resolution 3 arc seconds

Configuration Right-hand or left-hand mounting
Base mounting M4 (#8-32) clearance holes



KMO121 Kinematic Objective Mount



- Angular range ± 4°
- 0.8"-36 RMS thread
- Suitable for mounting microscope objectives
- Left or right-handed mounting
- Imperial and metric compatible
- Two 1/4"-80 adjusters with removable knobs and hex drive



The KMO121 is a quality kinematic mount for mounting microscope objectives. It has clearance holes for imperial and metric mounting and features two stainless steel ¼"-80 adjusters with hex drive and removable knobs that act on hardened inserts to ensure smooth movement - even with small adjustments.



KTA121 Three Axis 1" Kinematic Mount



- 3-axis movement
- Angular range ± 4° with 360° rotation
- Holds 1" (25.4 mm) optics up to 11.4 mm thick
- · Threaded retaining ring
- Imperial and metric compatible
- Two ¼"-80 adjusters with removable knobs and hex drive



The KTA121 is a quality one inch kinematic mount with three axis adjustment including rotation. It has clearance holes for imperial or metric mounting and features two ¼"-80 stainless steel adjusters which act on hardened inserts.

The rotation axis utilises a pair of precision thrust bearings to give smooth continuous 360° rotation that can be locked at the desired angle.

A single optic retaining ring is included with each mount and additional retaining rings ORR100 are available separately.

Specifications

Angular range $\pm 4^{\circ}$

Angular resolution 3 arc seconds
Mirror size 1" / 25 mm diameter

Mirror thickness 11.4 mm

Rotation range 360°

Graduations 2°

Base mounting M4 (#8-32) clearance hole



KPV121 Kinematic Prism Table



- Angular range ± 4°
- Imperial and metric compatible
- Tapped M4 holes
- 1/4"-80 adjusters with removable knobs and hex drive



The KPV121 is a quality platform mount for general laboratory applications. It has a counterbored clearance hole for imperial and metric mounting and features two ¼"-80 stainless steel adjusters with removable knobs and hex drive that act on hardened inserts to ensure smooth movement - even with small adjustments.

The optic platform has tapped M4 mounting holes.

For prism mounting, clamp arm CAA101 is available separately.

Specifications

Angular range ± 4°

Angular resolution 3 arc seconds
Configuration Right-hand

Base mounting M4 (#8-32) counterbored mounting clearance holes



KVM121 Kinematic V-Mount



- Angular range ± 4°
- Holds cylindrical objects up to 27 mm diameter
- Tapped M4 holes
- ¼"-80 adjusters with removable knobs and hex drive



The KVM121 is a quality V-mount for holding cylindrical objects. It has a counterbored clearance hole for imperial or metric mounting and features two $\frac{1}{4}$ "-80 stainless steel adjusters with removable knobs and hex drive that act on hardened inserts to ensure smooth movement - even with small adjustments.

The optic is held in place by the CAA101 clamp arm supplied.

Specifications

Optic diameter 27 mm maximum

Angular range $\pm 4^{\circ}$

Angular resolution 3 arc seconds
Configuration Right-hand

Base mounting M4 (#8-32) counterbored mounting clearance holes



KCL121 Kinematic Cylindrical Lens Mount



- Rubber mounting faces
- Holds cylindrical lenses
- Angular range ± 4°
- Imperial and metric compatible
- Two 1/4"-80 adjusters with removable knobs and hex drive



The KCL121 is a quality mount for holding cylindrical lenses. It has a counterbored clearance hole for imperial or metric mounting and features two ¼"-80 stainless steel adjusters with removable knobs and hex drive that act on hardened inserts to ensure smooth movement - even with small adjustments.

The open design allows mounting of optics of any width, while the height of the optic held can be increased by extending the post with the supplied extension pieces.

Specifications

Optic height 30 mm (65 mm with included extension pieces)

Angular range $\pm 4^{\circ}$

Angular resolution 3 arc seconds
Configuration Right-hand

Base mounting M4 (#8-32) counterbored mounting clearance hole



KMF121 Kinematic Mount Frame



- Angular range ± 4°
- Supplied without front plate
- Imperial and metric compatible
- User configurable left-hand or right-hand geometry
- Horizontal post mounting with M4 (#8-32) clearance hole
- Two ¼"-80 adjusters with removable knobs and hex drive



A quality mount for general laboratory applications. The user can mount their own front plate or parts. Clearance mounting holes for imperial and metric mounting. Features two ¼"-80 adjusters with removable knobs and hex drive. Stainless steel adjusters act on a hardened inserts to ensure smooth movement even with small adjustments.

A front plate can be attached with four M2.5 screws.

Specifications

Angular range ± 4°

Angular resolution 3 arc seconds

Configuration Right-hand, left-hand or horizontal mounting

Base mounting M4 (#8-32) clearance holes



POP012 12.5 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



POP025 25 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



POP050 50 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



POP075 75 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



POP100 100 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



POP150 150 mm long, 1" diameter Stainless Steel Pillar Post





- A 1" diameter stainless steel pillar posts for general mounting applications.
- M4 tapped at one end to accept optical mounts
- M6 tapped at other end to mount on optical table
- A through hole is provided to allow tightening when mounted directly to optical tables
- Can also be used as extensions for PPP pedestal posts
- POP pillar posts can be converted to pedestal style pillar posts with the addition of our BAS101 pedestal base
- adaptor



BAS101 Pedestal Base Adaptor





- Pedestal base adaptor to convert the POP range of 1" pillar posts to 1" pedestal pillar posts
- Can also be used to convert the POH post holders into
- pedestal style allowing the use of TCL clamping forks



PPP025 25 mm long, 1" diameter Stainless Steel Pedestal Pillar Post





- A 1" diameter stainless steel pedestal post for direct mounting of optical components
- Tapped M4 at both ends
- Use with table clamping forks TCL011 or TCL012 to position post anywhere on an optical table
- Height can be extended with the POP range of posts
- A through hole is provided to allow tightening



PPP050 50 mm long, 1" diameter Stainless Steel Pedestal Pillar Post





- A 1" diameter stainless steel pedestal post for direct mounting of optical components
- Tapped M4 at both ends
- Use with table clamping forks TCL011 or TCL012 to position post anywhere on an optical table
- Height can be extended with the POP range of posts
- A through hole is provided to allow tightening



PPP075 75 mm long, 1" diameter Stainless Steel Pedestal Pillar Post





- A 1" diameter stainless steel pedestal post for direct mounting of optical components
- Tapped M4 at both ends
- Use with table clamping forks TCL011 or TCL012 to position post anywhere on an optical table
- Height can be extended with the POP range of posts
- A through hole is provided to allow tightening



PPP100 100 mm long, 1" diameter Stainless Steel Pedestal Pillar Post





- A 1" diameter stainless steel pedestal post for direct mounting of optical components
- Tapped M4 at both ends
- Use with table clamping forks TCL011 or TCL012 to position post anywhere on an optical table
- Height can be extended with the POP range of posts
- A through hole is provided to allow tightening



Component Mounting: 1" Pillars & Pedestal Posts: Post Spacers

ESP003 3 mm Spacer for 1" Posts



- A 1" diameter stainless steel post spacer for use with the PPP & POP range of posts
- Can be used singly or in combination to provide intermediate heights between the standard sizes
- The spacers have an M4 through hole





Component Mounting: 1" Pillars & Pedestal Posts: Post Spacers

ESP005 5 mm Spacer for 1" Posts







- A 1" diameter stainless steel post spacer for use with the PPP & POP range of posts
- Can be used singly or in combination to provide intermediate heights between the standard sizes
- The spacers have an M4 through hole



Component Mounting: 1" Pillars & Pedestal Posts: Post Spacers

ESP007 7 mm Spacer for 1" Posts





- A 1" diameter stainless steel post spacer for use with the PPP & POP range of posts
- Can be used singly or in combination to provide intermediate heights between the standard sizes
- The spacers have an M4 through hole



Component Mounting: 1" Pillars & Pedestal Posts: Post Spacers

ESP009 9 mm Spacer for 1" Posts





- A 1" diameter stainless steel post spacer for use with the PPP & POP range of posts
- Can be used singly or in combination to provide intermediate heights between the standard sizes
- The spacers have an M4 through hole



Component Mounting: 1" Pillars & Pedestal Posts: 1" Post Clamps

OPC410 1" Post Clamp for M4 Components





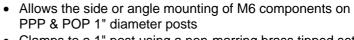
- Allows the side or angle mounting of M4 components on PPP & POP 1" diameter posts
- Clamps to a 1" post using a non-marring brass tipped set screw
- Two mounting M4 holes: one tapped and one counterbored
- Can be also be used in creating 3D structures



Component Mounting: 1" Pillars & Pedestal Posts: 1" Post Clamps

OPC610 1" Post Clamp for M6 Components





- Clamps to a 1" post using a non-marring brass tipped set screw
- Two mounting M6 holes: one tapped and one counterbored
- Can be also be used in creating 3D structures





POS020 20 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders Bases

Table Clamps & Table Clamping Forks



POS030 30 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders Bases

Table Clamps & Table Clamping Forks



POS040 40 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POS050 50 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POS075 75 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POS100 100 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POS150 150 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POS200 200 mm long, ½" diameter Stainless Steel Post



- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders Bases

Table Clamps & Table Clamping Forks



POS250 250 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders Bases

Table Clamps & Table Clamping Forks



POS300 300 mm long, ½" diameter Stainless Steel Post





- Precision ground ½" diameter Stainless Steel
- Removable M4 stud screw in the top
- M6 tapped hole in the base
- Through hole provided to allow tightening

Accessories

Post Holders

Bases

Table Clamps & Table Clamping Forks



POH025 25 mm long Holder for ½" diameter Posts





- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



POH040 40 mm long Holder for ½" diameter Posts





- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



POH050 50 mm long Holder for ½" diameter Posts



- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



POH075 75 mm long Holder for ½" diameter Posts





- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



POH100 100 mm long Holder for ½" diameter Posts



- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



POH150 150 mm long Holder for ½" diameter Posts



- Designed to hold our POS range or any other ½" diameter post
- Can be attached to any of our BAS range of bases
- Converts to pedestal style with a BAS101 adaptor
- Mounts directly on optical tables via the M6 tapped hole
- Internal relief cut design provides two line-contacts for stable positioning of the post
- Easy positioning is enabled by the spring-loaded
- thumbscrew

Accessories

Spring Loaded Thumbscrew THS001



EPC001 90° Post Clamp





- Mount two POS posts or any other ½" posts at 90° to one another
- Orthogonal adjustment allows positioning of the posts horizontally and vertically
- Internal relief cut design provides two line-contacts for stable positioning
- Brass thumbscrews with 4 mm hex sockets



EPC002 End Post Clamp





- Horizontally mount a POS or any other ½" post atop another at a fixed height
- M4 tapped hole for attachment to the vertical post
- Internal relief cut design provides two line-contacts for stable positioning
- Brass thumbscrew with 4 mm hex socket



EPC003 Swivel Post Clamp





- Mount two POS or any other $\frac{1}{2}$ " posts at any angle to one another
- Friction bearing design allows full non-slip 360° movement that can then be locked into position
- Internal relief cut design provides two line-contacts for stable positioning
- Brass thumbscrews with 4 mm hex sockets



THS001 Spring Loaded Thumbscrew



The THS001 is designed for use with POH post holders and POS stainless steel posts. It is made of brass to prevent marring and has a spring loaded plunger to allow single handed adjustment of the post prior to final tightening.



THS002 Thumbscrew





The THS002 is a brass locking thumbscrew incorporating a 4 mm hex socket for use with the POH range of post holders and EPC post clamps. It can be used to firmly lock POS stainless steel posts in place without marring.



BAS001 One Sided Base



- Imperial/Metric optical table compatible
- Accepts M6 or ¼"-20 cap screws



One sided base for mounting our POH range or other post holders. The base has a clearance hole, to allow post holders to be attached by M6 or $\frac{1}{4}$ "-20 soc cap screws.

All bases are compatible with Imperial or Metric optical tables and are machined specifically for stable mounting.

Specifications

Dimensions

25 x 57.5 x 9.2 mm



BAS002 Two Sided Base



- Imperial/Metric optical table compatible
- Accepts M6 socket cap screws



Two sided base for mounting the POH range of post holders. The base has an M6 clearance hole, to allow post holders to be attached by M6 soc cap screws.

All bases are compatible with Imperial or Metric optical tables and are machined specifically for stable mounting.

Specifications

Dimensions

25 x 76 x 9.2 mm



BAS003 Twin slotted base



- Imperial/Metric optical table compatible
- Accepts M6 socket cap screws



Twin slotted base for mounting the POH range of post holders. The base has an M6 clearance hole, to allow post holders to be attached by M6 soc cap screws.

All bases are compatible with Imperial or Metric optical tables and are machined specifically for stable mounting.

Specifications

Dimensions

50 x 76 x 9.2 mm



BAS101 Pedestal Base Adaptor





- Pedestal base adaptor to convert the POP range of 1" pillar posts to 1" pedestal pillar posts
- Can also be used to convert the POH post holders into
- pedestal style allowing the use of TCL clamping forks



KFM101 Flip Mount



- Tapped M4 for component mounting
- M6 counterbore mounting hole
- Compact design, only 12.7 mm thick
- · Ball on hard pad indexing
- Repeatedly returns to the same position
- Designed to mount on the POP and PPP series of 1" posts



The KFM101 is a kinematic flip mount designed to move optics from the beam path and return them repeatedly to the same position.



BKA301 Kinematic Magnetic Base Assembly



- Accurate & repeatable placement
- Array of M4 & M6 mounting holes
- Ergonomic design



The BK range of kinematic bases provide a removable and replaceable platform for mounting of optical components. Hardened steel balls locate in kinematic slots on the base providing accurate, repeatable placement. The plate is held in place by 4 high strength magnets.

The finger friendly design of the $75 \times 75 \times 25$ mm (3 x 3 x 1 inch) base features rounded edges and cut-outs to allow the top to be easily removed and replaced without trapping fingers.

Mounting is by either a central M6 ($\frac{1}{4}$ -80) counterbored clearance hole or by parallel slots. The top plate has an array of both M6 and M4 holes for mounting the full range of posts, post holders and optical component mounts.

Accessories

Additional BKT301 top plates and BKB301 bases are available separately.



BKT301 Kinematic Magnetic Base Top Plate



- Easy and repeatable swapping
- Array of M4 & M6 mounting holes



BKT301 is a 75 x 75 mm (3 x 3") top plate for use in conjunction with the BKB301 base plate. Together they make up the BKA301 kinematic base assembly.

This top plate is available separately to facilitate easy and repeatable swapping of two or more components in a beam path.

The top plate has an array of both M6 and M4 holes for mounting the full range of posts, post holders and optical component mounts.

Accessories

Additional BKB301 bases are available separately.



BKB301 Kinematic Magnetic Base Bottom Plate



- Easy and repeatable swapping
- Central M6 (1/4"-80) clearance hole
- Parallel clearance slots



The BKB301 is a 75 x 75 mm (3 x 3") bottom plate for use in conjunction with the BKT301 top plate. Together they make up the BKA301 kinematic magnetic base assembly.

This bottom plate is available separately to facilitate easy and repeatable positioning of a mounted component in different positions in a single beam path or separate experimental set-up.

The base can be mounted by either a central M6 (1/4"-80) clearance hole or parallel clearance slots.

Accessories

Additional BKT301 top plates are available separately.



TCL001 Table Clamp



- Imperial or Metric compatible
- Used when a base is not near suitable holes on an optical
- table



Table clamps are used for holding the BAS range of bases when suitable holes are not available on the optical table. They are imperial or metric compatible.

Specifications

Size 18 x 19 x 50 mm

Accessories

1" Pillar Posts

1" Pedestal Posts

Bases

Posts

Post Holders



TCL002 Compact, Variable Height Table Clamp



- Imperial or Metric compatible
- Used when a base is not near suitable holes on an optical
- table



Table clamps are used for holding the BAS range of bases when suitable holes are not available on the optical table.

The TCL002 has an M6 screw thread and a clearance slot to accept either an M6 or $\frac{1}{4}$ "-20 bolt, so they are imperial or metric compatible.

Specifications

Size

12.6 x 10 x 50 mm

Accessories

1" Pillar Posts

1" Pedestal Posts

Bases

Posts

Post Holders



TCL011 Short Fork Table Clamp



- For PPP pedestal pillar posts or adapted POH post holders
- Used when a base is not near suitable holes on an optical
- table



Table clamps are designed to secure accessories to the optical table when suitable holes are not available.

Accessories

1" Pillar Posts

1" Pedestal Posts

Bases

Posts

Post Holders



TCL012 Long Fork Table Clamp



- For PPP pedestal pillar posts or adapted POH post holders
- Used when a base is not near suitable holes on an optical
- table



Table clamps are designed to secure accessories to the optical table when suitable holes are not available.

These clamping forks are for holding PPP pedestal pillar posts or POH post holders that have been fitted with a BAS101 pedestal base adaptor. Imperial or metric compatible.

Accessories

1" Pillar Posts

1" Pedestal Posts

Bases

Posts

Post Holders



OLM050 1/2" (12.7 mm) Lens Mount

- Holds ½" (12.7 mm) diameter optics up to 5 mm thick
- M4 post mounting hole





The lens is held in place by a threaded retaining ring. One retaining ring is included with each mount and additional retaining rings can be ordered separately as part code ORR050. The mount has a flat mating surface with M4 threaded mounting hole for post mounting.

Specifications

Beam height 15 mm
Clear aperture 11.5 mm



OLM100 1" (25.4 mm) Lens Mount



- Holds 1" (25.4 mm) diameter optics up to .75 mm thick
- M4 post mounting hole



The lens is held in place by a threaded retaining ring. One retaining ring is included with each mount and additional retaining rings can be ordered separately as part code ORR100. The mount has a flat mating surface with M4 threaded mounting hole for post mounting.

Specifications

Beam height 22 mm Clear aperture 24 mm



OLM200 2" (50.8 mm) Lens Mount



- Holds 2" (50.8 mm) diameter optics up to 7.5 mm thick
- M4 post mounting hole



The lens is held in place by a threaded retaining ring. One retaining ring is included with each mount and additional retaining rings can be ordered separately as part code ORR200. The mount has a flat mating surface with M4 threaded mounting hole for post mounting.

Specifications

Beam height 35 mm
Clear aperture 48 mm



OLM300 3" (76.2 mm) Lens Mount



- Holds $\frac{1}{2}$ " (76.2 mm) diameter optics up to 9 mm thick
- M4 post mounting hole



The lens is held in place by a threaded retaining ring. One retaining ring is included with each mount and additional retaining rings can be ordered separately as part code ORR300. The mount has a flat mating surface with M4 threaded mounting hole for post mounting.

Specifications

Beam height 50 mm
Clear aperture 72 mm



ORR050 1/2" Lens Retaining Ring

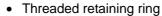


- Threaded retaining ring
- Fits OLM050 ½" lens mount





ORR100 1" Lens Retaining Ring











ORR200 2" Lens Retaining Ring

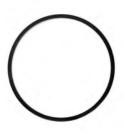


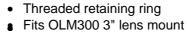
- Threaded retaining ring
- Fits OLM200 2" lens mount





ORR300 3" Lens Retaining Ring









Component Mounting: Fixed Holders: Rotation Mount

ROT011 1" Rotation Mount



- Post mountable rotation mount
- Lockable 360° continuous rotation
- Holds 1" (25.4 mm) diameter optics up to 11.4 mm thick



The ROT011 rotation mount provides a simple method of post mounting 1" (25.4 mm) diameter linear polarisers and waveplates. The mount utilises a pair of precision thrust bearings to give smooth continuous 360° rotation that can be locked at the desired angle.

The optic is held in place by a threaded retaining ring and one is included with each mount. Additional ORR100 retaining rings are available separately.

The mount has a flat mating surface with M4 threaded hole for post mounting.

Specifications

Optic Size 1" (25 mm) diameter

Optic thickness 11.4 mm
Rotation range 360°
Graduations 2°
Sensitivity 1°

Beam height27.8 mmClear aperture23 mmMount height56 mmMount thickness15 mm



MID012 12 mm Iris Diaphragm



- Laser engraved scale
- Post mountable iris diaphragm
- Continuously variable aperture



The MID012 post mountable iris diaphragm provides a continuously variable aperture up to 12 mm. The aperture is lever operated with the nominal aperture size being indicated by a laser engraved scale. It is supplied with a fixed M4 stud for mounting to the POP, POS or PPP ranges of posts.

Specifications



MID025 25 mm Iris Diaphragm



- Laser engraved scale
- Post mountable iris diaphragm
- Continuously variable aperture



The MID025 post mountable iris diaphragm provides a continuously variable aperture up to 25 mm. The aperture is lever operated with the nominal aperture size being indicated by a laser engraved scale. It is supplied with a fixed M4 stud for mounting to the POP, POS or PPP ranges of posts.

Specifications

Maximum aperture 25 mm (1")

Minimum aperture 1 mm

Optical axis height 23 mm



MID036 36 mm Iris Diaphragm



- Laser engraved scale
- Post mountable iris diaphragm
- Continuously variable aperture



The MID036 post mountable iris diaphragm provides a continuously variable aperture up to 36 mm. The aperture is lever operated with the nominal aperture size being indicated by a laser engraved scale. It is supplied with a fixed M4 stud for mounting to the POP, POS or PPP ranges of posts.

Specifications

 $\begin{array}{lll} \text{Maximum aperture} & 36 \text{ mm } (1 \% \text{"}) \\ \text{Minimum aperture} & 2 \text{ mm} \\ \text{Optical axis height} & 29.5 \text{ mm} \\ \end{array}$



MID050 50 mm Iris Diaphragm



- Laser engraved scale
- Post mountable iris diaphragm
- Continuously variable aperture



The MID050 post mountable iris diaphragm provides a continuously variable aperture up to 50 mm. The aperture is lever operated with the nominal aperture size being indicated by a laser engraved scale. It is supplied with a fixed M4 stud for mounting to the POP, POS or PPP ranges of posts.

Specifications

Maximum aperture50 mm (2")Minimum aperture3.5 mmOptical axis height39.5 mm



Component Mounting: Fixed Holders: Fixed Mirror Holders

FMH050 1/2" (12.7 mm) Fixed Mirror Holder



- Imperial and metric compatible
- Post mountable by M4 (#8-32) clearance hole



The FMH050 fixed mirror mount is designed for holding 0.5" (12.7 mm) diameter optics. The optic is held in place with a nylon tipped grubscrew and the mount has a flat mating surface with M4 threaded hole for post mounting.

Specifications

Beam height 15 mm Clear aperture 12 mm



Component Mounting: Fixed Holders: Fixed Mirror Holders

FMH100 1" (25.4 mm) Fixed Mirror Holder



- Imperial and metric compatible
- Post mountable by M4 (#8-32) clearance hole



The FMH100 fixed mirror mount is designed for holding 1" (25.4 mm) diameter optics. The optic is held in place with a nylon tipped grubscrew and the mount has a flat mating surface with M4 threaded hole for post mounting.

Specifications

Beam height 22 mm Clear aperture 24 mm



Component Mounting: Fixed Holders: Fixed Mirror Holders

FMH200 2" (50.8 mm) Fixed Mirror Holder



- Imperial and metric compatible
- Post mountable by M4 (#8-32) clearance hole



The FMH200 fixed mirror mount is designed for holding 2" (50.8 mm) diameter optics. The optic is held in place with a nylon tipped grubscrew and the mount has a flat mating surface with M4 threaded hole for post mounting.

Specifications

Beam height 35 mm
Clear aperture 48 mm



Component Mounting: Fixed Holders: Filter Holder

EFH001 Stackable Filter Holder



- Holds 2" (50 mm) square filters up to 4 mm thick
- Imperial and metric compatible
- Post mountable by M4 (#8-32) clearance hole
- Stackable



The EFH001 post mountable filter holder is ideal for holding square filters. The optic is held in place by two spring clips. The holders can be stacked together using the two through holes on the front (suitable for M4).



VBA101 Post Mounted Vee Mount



- Holds cylindrical items up to 27 mm diameter
- M4 threaded hole for post mounting
- Rubber pad on arm
- Standard height 27 mm
- Extension rods available



The VBA101 V-mount provides a simple method for post mounting cylindrical objects up to 27 mm diameter. The optic being held in place with the supplied CAA101 clamp arm.



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February 1st 2012





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