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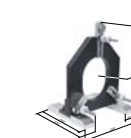
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 Universal Mirror Mount / Platform 840-0140-T online	 Large Aperture Optical Mount 840-0150-T online	 Flipping Mirror / Beamsplitter Mount 840-0155 page 7.45	 Flipping Mirror / Beamsplitter Mount 840-0155-04 page 7.46	 Miniature Flipping Mirror / Beamsplitter Mount 840-0155-06; -09 page 7.46	 Prism Holders 840-0160; -0170 page 7.47
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 Multi-Axis Tilt Platform 850-0010 online	 Kinematic Bases 850-0020; -0022 online	 Magnetic Kinematic Base 850-0030 online	 Single Axis Tilt Stage 850-0040 online	 Adjustable Laser / Laser Head Holder 850-0095 online	 Adjustable Height Platform 850-0200 online
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Vacuum Compatible Translation System 860-0051XYZ
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Fine Closed Screw
870-0030
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Micrometer Screws
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Thin Micrometers
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High-Resolution
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Mini Micrometers
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Medium (width 50 mm)
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Vacuum Compatible
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960-0060V
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Motorized Translation
Stage **960-0065**
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Motorized Translation
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Motorized Translation
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Motorized Rotation Stages
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Motorized Rotation Stages with SM System
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Universal Motorized Rotation Stage
960-0190
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Motorized Vertical Translation Stage
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Large Motorized Rotation Stage
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Narrow Motorized Translation Stage with DC Motor
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Narrow Motorized Translation Stage with Vacuum Compatible DC Motor
961-0060V
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Motorized Screws
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Motorized Actuator
970-0050
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Compact Motorized Actuator
970-0060
[online](#)



Motorized Actuator
970-0065
[online](#)



Ultra-High Resolution Compact Motorized Actuator (DC Motor)
970-0067
[online](#)



Ultra-High Resolution Compact Motorized Actuator with Vacuum Compatible DC motor
970-0067V
[online](#)



Motorized Fiber Coupling Stage
970-0070
[online](#)



Motorized Translation Stage
970-0080
[online](#)



Motorized Translation Stage
970-0085
[online](#)



Motorized Rotation and Tilt Stage
970-0090
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Stepper & DC Motor Controller
980-0045-USB
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Power Supplies
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Optical Systems

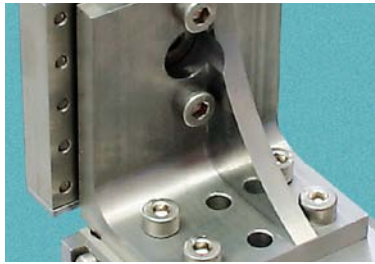
Beam Expanders

F-Theta Lenses

Variable Attenuators
for Linearly Polarized Laser Pulses

Gauss-to-Top Hat Beam Shaping lenses



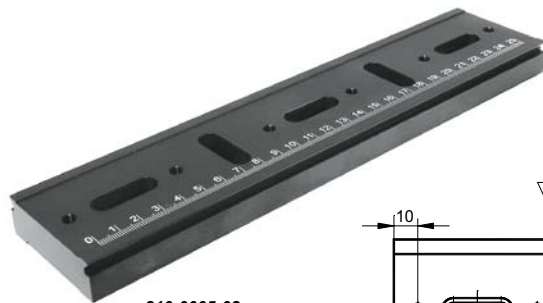


Brackets & Rails

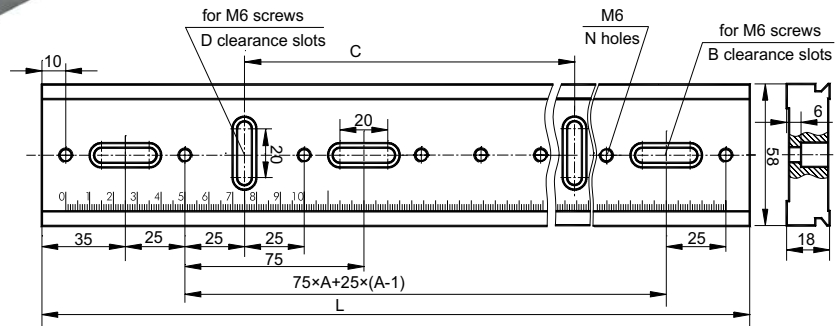
810-0005 ALUMINIUM OPTICAL RAILS

- Easy sliding and fixing
- Scale engraved
- Material: black anodized aluminium
- High stability

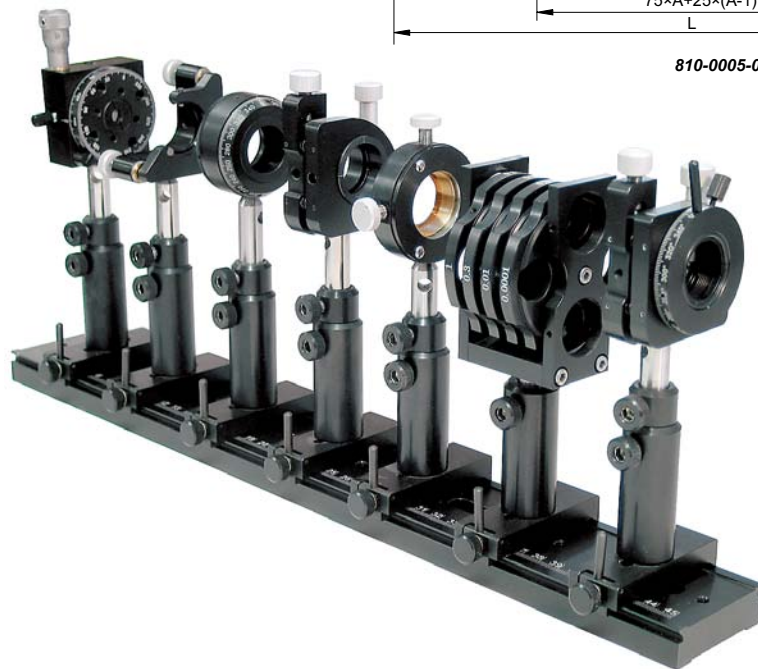
Code	Length, mm	A	N	B	D	C, mm	Weight, kg	Price, EUR
810-0005-01	150	-	3	2	1	-	0.36	64
810-0005-02	270	2	6	3	2	100	0.66	88
810-0005-04	470	4	12	5	2	300	1.16	109
810-0005-06	670	6	18	7	2	500	1.65	149
810-0005-08	800	7	22	8	2	600	2.00	225
810-0005-10	1000	9	28	10	2	800	2.40	295



810-0005-02



810-0005-04; 810-0005-06



For drawings of other Aluminium Optical Rail models please visit www.eksmaoptics.com

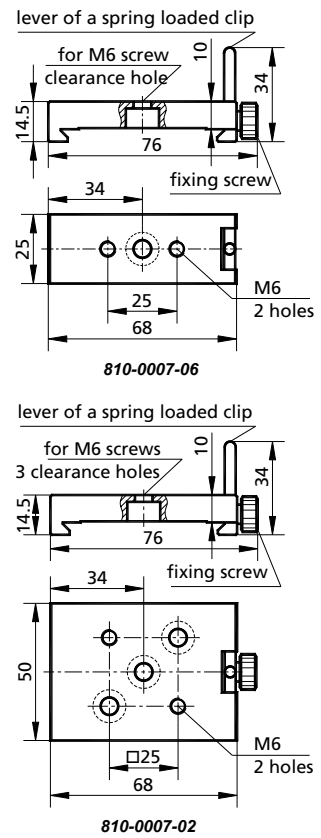
810-0007 ALUMINIUM RAIL CARRIERS

- Two locking options: by integrated spring clip, and by a fixing screw
- Quick and easy sliding
- Material: black anodized aluminium

Components are attached to the carriers by M6 screws from beneath or from the top through M6 mounting holes. To release and to move, or to lift the carrier firmly, use the fixing screw. Rather than grinding against, and damaging the rail with its tip, the screw gently clamps to the rail the wide tenon of the clip. The clip is preloaded by a spring. Its lever is removable (on a thread).



Code	Weight, kg	Price, EUR
810-0007-02	0.09	64
810-0007-06	0.05	57



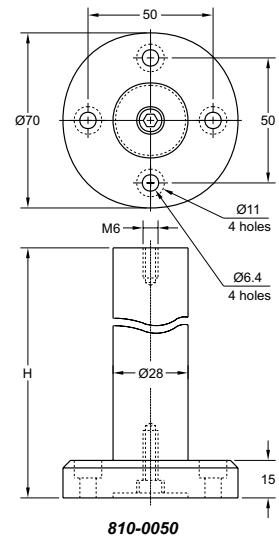
810-0040 • 810-0050 LARGE RODS



Large rod with rod base 810-0051 Large rod without rod base 810-0040

Code	Description	Height (H), mm	Weight, kg	Price, EUR
810-0040	Large Rod	300	1.42	31
810-0042	Large Rod	400	1.90	61
810-0050	Large Rod with black oxidized steel base	315	1.85	41
810-0051	Large Rod with stainless steel base	315	1.85	48
810-0052	Large Rod with black oxidized steel base	415	2.33	71
810-0053	Large Rod with stainless steel base	415	2.33	78

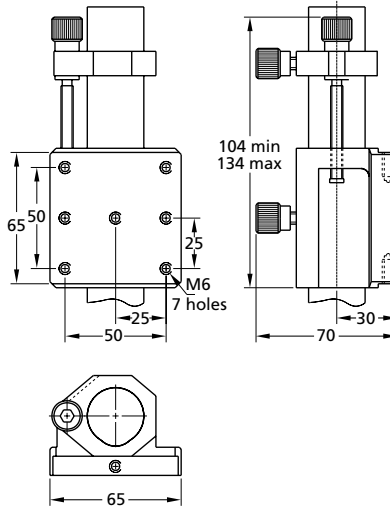
The main use of model 810-0040 precision grounded stainless steel rod is vertical positioner mounting. The 810-0050 is a large rod with a rod base. These rods could be stably mounted on any surface with M6 tapped holes on 25 mm centers.



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810-0060

VERTICAL POSITIONER



Complementary Products

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810-0050	7.10
810-0051	7.10
810-0060	7.11
810-0080	online
810-0090	online
820-0070	7.19
820-0090	7.19
840-0020	7.33
840-0115	7.41
092-0015	1.24

The 810-0060 positioner has one mounting surface with M6 tapped holes. It provides coarse and smooth vertical positioning of mounted components. Regulating screw thread is M6 × 0.5 mm. The 820-0090 base and the 810-0080, 810-0090 angle brackets can be fastened to the edge or to the mounting surface of positioner.
Finish: black oxidized steel.

Code	Weight, kg	Price, EUR
810-0060	1.00	61

Mounting option:
Large Rod with Rod Base 810-0051
Vertical Positioner 810-0060
Movable Base 820-0090



Mounting option – Periscope:
Large Rod with Rod Base 810-0050,
Large Rod Mounting Clamp 810-0061,
Movable Base 820-0090,
Kinematic Mirror and Beamsplitter Mount 840-0020,
Adapter for Mirror at 45° 840-0115 (2 pcs.),
Vertical Positioner 810-0060,
Movable Base 820-0070 (2 pcs.),
Mirrors 092-0015

Mounting option – Periscope:
Large Rod with Rod Base 810-0050,
Kinematic Mirror and Beamsplitter Mount 840-0020,
Adapter for Mirror at 45° 840-0115 (2 pcs.),
Vertical Positioner 810-0060 (2 pcs.),
Movable Base 820-0070 (2 pcs.),
Mirrors 092-0015

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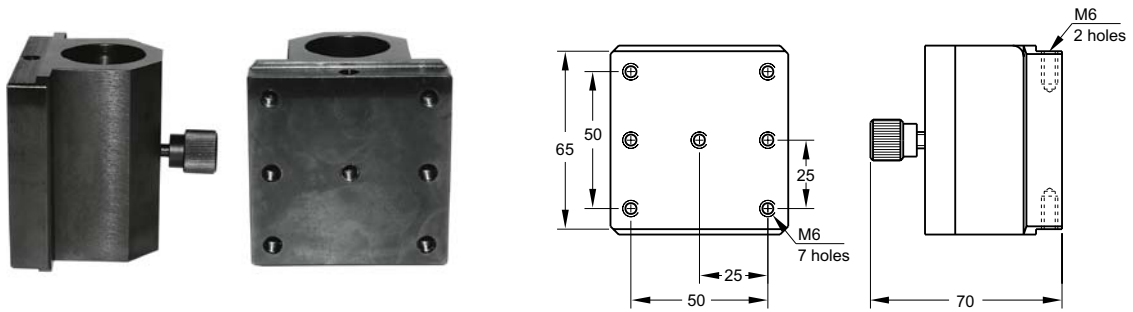
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810-0061

LARGE ROD MOUNTING CLAMP



The Mounting Large Rod Clamp 810-0061 has one mounting surface with M6 holes. It provides coarse vertical positioning of mounted components along the large rod 810-0040 or 810-0050. 820-0090 and 820-0060 bases and 810-0080, 810-0090 angle brackets can be fastened to the edge or to the mounting surface of positioner.
Finish: black oxidized steel.

Complementary Products

Code	Page
810-0040	7.10
810-0050	7.10
810-0080	online
810-0090	online
820-0060	7.18
820-0090	7.19
860-0010 XYZ	7.57
860-0110	7.80

Code	Weight, kg	Price, EUR
810-0061	1.00	49

Mounting option:
Large Rod with
Rod Base 810-0050,
Large Rod Mounting
Clamp 810-0061,
Movable Base
820-0090,
Tilt/Rotation
Stage 860-0110



Mounting option:
Large Rod with
Rod Base 810-0050,
Large Rod Mounting
Clamp 810-0061,
Movable Base 820-0090,
Compact Translation
Stages 860-0010 XYZ



Mounting option: Large
Rod with Rod Base
810-0050, Large Rod
Mounting Clamp
810-0061 and
Kinematic Mirror and
Beamsplitter Mount
840-0020, Movable
Base 820-0060



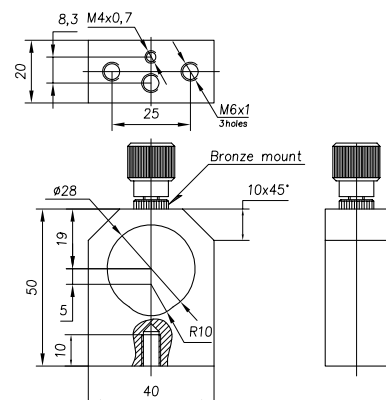
810-0062A

LARGE ROD SMALL MOUNTING CLAMP (ALUMINIUM)



Large Rod Small Mounting Clamp 810-0062 has one mounting surface with 3 M6 holes and 1 M4 hole. It provides coarse vertical positioning of mounted components along the Large Rod 810-0040 or 810-0050. Optical mounts can be fastened using movable base 820-0060.
Material: black anodized aluminium.

Code	Weight, kg	Price, EUR
810-0062A	0.07	22

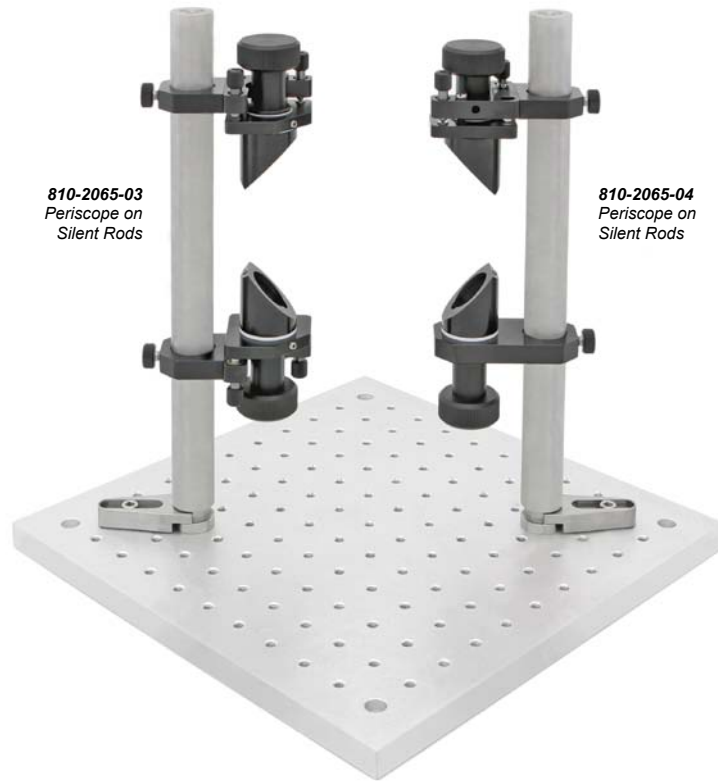


810-0065

PERISCOPE ON SILENT RODS

- Precise azimuth control
- Precise angles control
- 1" optics mounts
- Stable and adjustable

These research and industrial grade periscope assemblies are useful tools for changing beam path direction and elevation. Periscope uses a kinematic mount to create the most stable and flexible system available. While 810-2065-03 allows same functionality on top and bottom optics holders, the 810-2065-04 comes with adjustable top while bottom is rigid and offers rotation only. Optics rest against two contact lines formed at the interface and are firmly held by a plastic securing screw. Adapter easily accommodates any 1" optics.

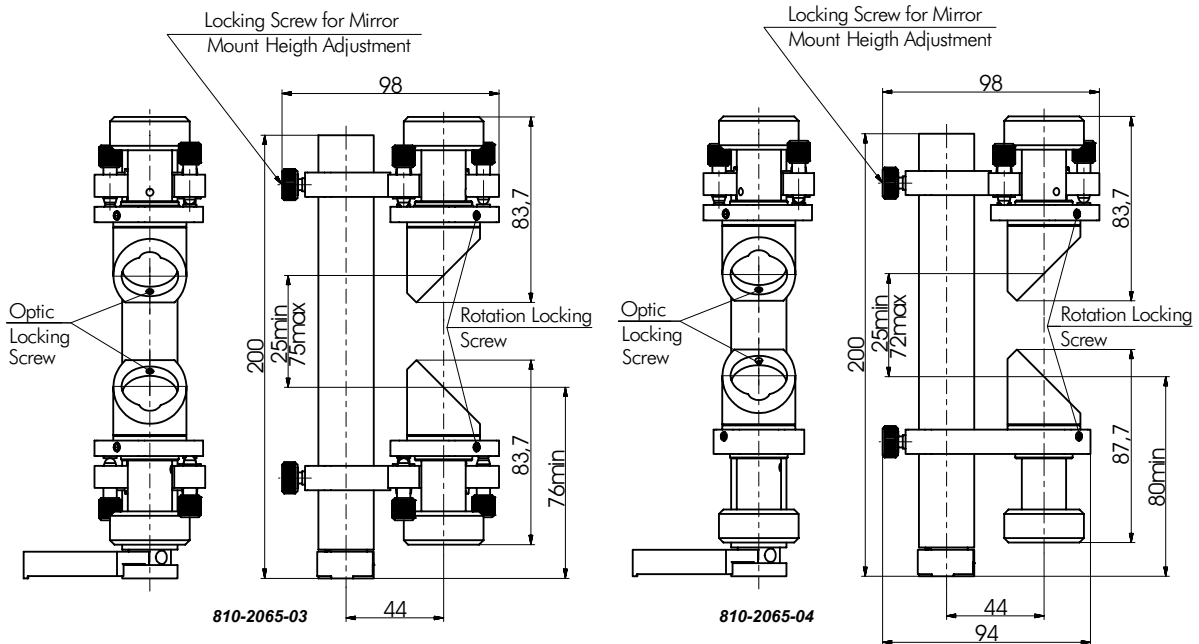


810-2065-03
Periscope on
Silent Rods

810-2065-04
Periscope on
Silent Rods

SPECIFICATIONS

Optics Diameter	Ø1" (Ø25.4 mm)
Minimum Thickness of Optics	4.5 mm
Angular Adjustment Range	±4.5 °
Rotation	360 °



Code	Height, mm	Price, EUR
810-2065-03	200	259
810-2065-04	200	240

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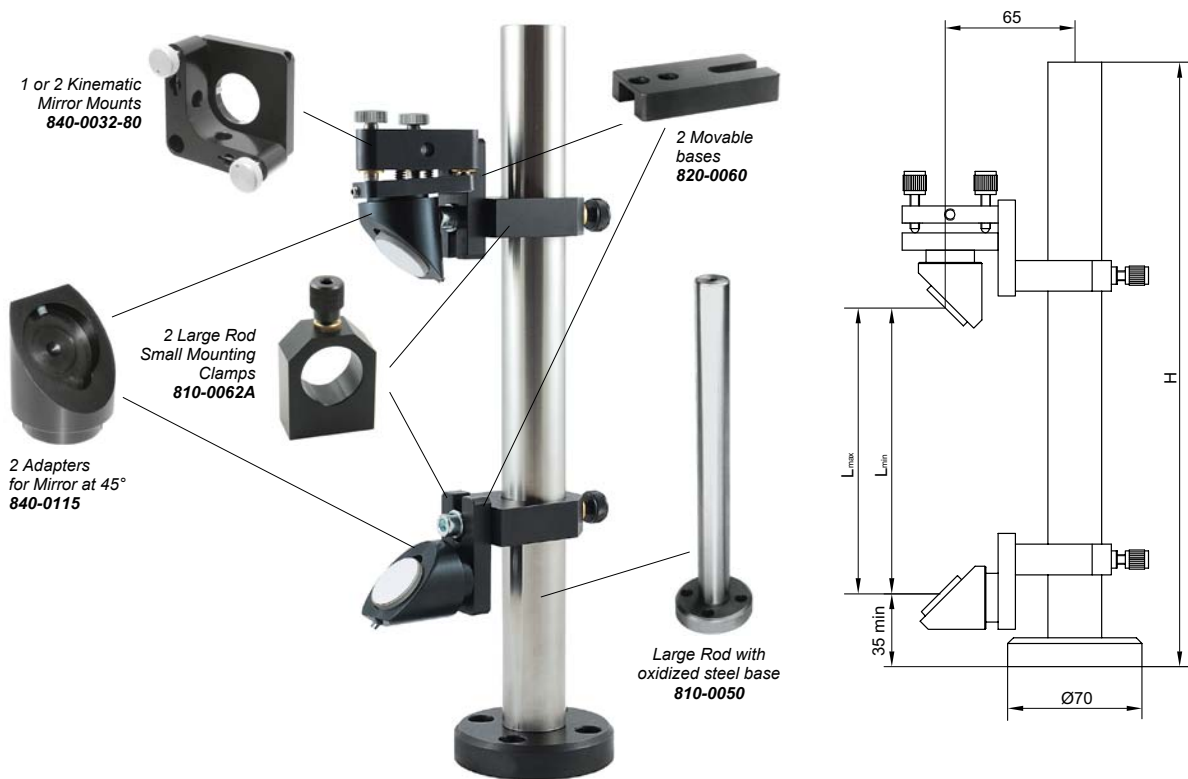
OPTICAL
POSITIONERS

TRANSLATION &
ROTATION STAGES

MOTORIZED
POSITIONERS

810-0067

PERISCOPE ON LARGE RODS



EKSMA OPTICS offers periscope assemblies on large rods that enable to easily adjust the height and change the direction of a laser beam. The periscope assembly consists of two adapters for mirrors at 45° 840-0115 where mounted optics face each other. Mounting Clamps 810-0062A allow to adjust the distance between mirrors for a position needed.

The assemblies are available with one or two kinematic mirror mounts that have an adjustment range of 9° and sensitivity of 3 arcsec. Other kinematic mirrors for periscope (for example 840-0033 with 3 adjustment screws) are available under request.

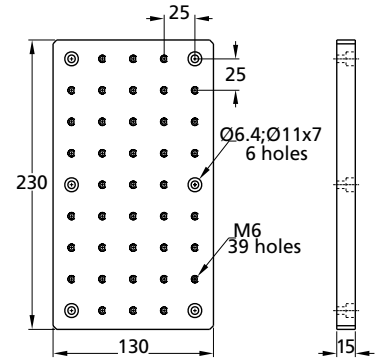
For periscope assemblies of height lower than 300 mm, please see Periscope on Silent Rods 810-0065.

Description	Code	Height (H), mm	Distance between mirrors (L _{min} ...L _{max}), mm	Weight, kg	Price, EUR
Periscope on Large Rod with oxidized steel base	810-5067	315	35...250	2.25	210
Periscope on Large Rod with stainless steel base	810-5167	315	35...250	2.25	217
Periscope on Large Rod with black oxidized steel base	810-5267	415	35...350	2.73	240
Periscope on Large Rod with stainless steel base	810-5367	415	35...350	2.73	247
Periscope on Large Rod with oxidized steel base and two Kinematic Mirror Mounts	810-5066	315	35...250	2.34	275
Periscope on Large Rod with stainless steel base and two Kinematic Mirror Mounts	810-5166	315	35...250	2.34	282
Periscope on Large Rod with black oxidized steel base and two Kinematic Mirror Mounts	810-5266	415	35...350	2.82	305
Periscope on Large Rod with stainless steel base and two Kinematic Mirror Mounts	810-5366	415	35...350	2.82	312

Periscope assembly consists of:

- Large Rod with oxidized or stainless steel base, **810-0050**
- Two adapters for mirrors at 45°, **840-0115**
- Two Mounting Clamps, **810-0062A**
- Two Movable Bases, **820-0060**
- One or two Kinematic Mirror Mounts, **840-0032-80**

810-0070 LARGE TABLE BASE



The model 810-0070 Large Table Base could be used in the same way as standard table bases as well as could be mounted above the optical table (on large rods or on the side of the table). This allows to transfer subassemblies from main optical surface. Finish: black oxidized steel.

Code	Weight, kg	Price, EUR
810-0070	3.33	49

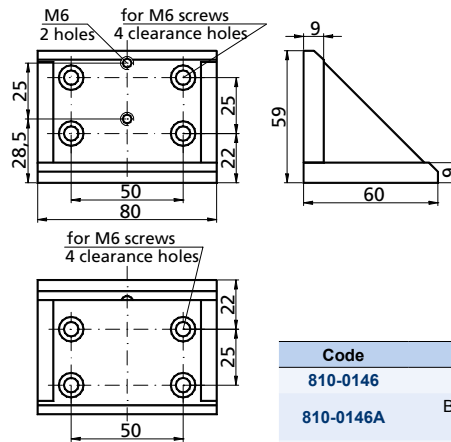
Complementary Products

Code	Page
810-0050	7.10

810-0146 ANGLE BRACKET



810-0146



810-0146SS

- Steel, Stainless Steel or Black Anodized Aluminium
- Designed to be used with:
 - Stable Steel Translation Stages 860-0052
 - Stable Aluminium Translation Stages 860-0053

Code	Material	Weight, kg	Price, EUR
810-0146	Steel	0.24	55
810-0146A	Black anodized aluminium	0.16	49
810-0146SS	Stainless steel	0.24	55

Complementary Products

Code	Page
860-0052	7.59
860-0053	7.60



860-0053 XYZ



860-0052-SS XYZ



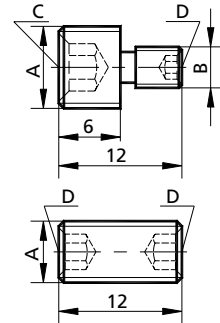
860-0052 XYZ

Base Mounts & Accessories

795-0016 THREAD ADAPTERS



Thread Adapters 795-0016 are used to connect components when precise orientation in plane is not required. Some adapters have different threads on ends. So, you can connect components with M4 and M6 threaded holes. Material: stainless steel. Metric/imperial thread adapters are available on request.



Model	A	B	C	D	Price, EUR
795-0016-43	M4	M3	2	1.5	2.25
795-0016-63	M6	M3	3	1.5	2.25
795-0016-64	M6	M4	3	2	1.5
795-0016-84	M8	M4	4	2	2.25
795-0016-81	8-32	1/4-20	2	3	2.25

Model	A	B	C	D	Price, EUR
795-0016-44	M4	-	-	2	1.5
795-0016-66	M6	-	-	3	1.5
795-0016-85	8-32	-	-	2	1.5
795-0016-11	1/4-20	-	-	3	1.5

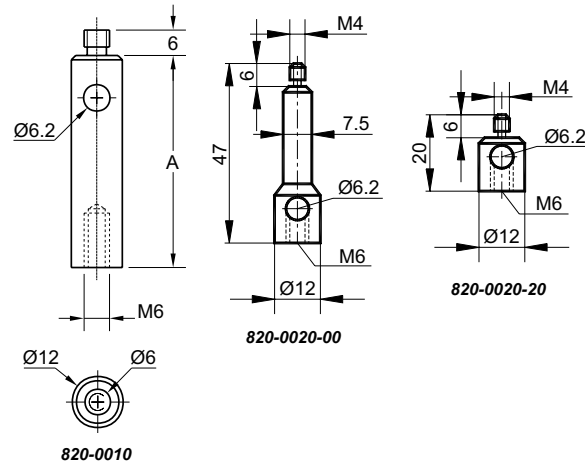
C and D denote hex key sizes.

820-0010 • 820-0020 STANDARD RODS



820-0010 stainless steel rods of 12 mm diameter have M6 male threads on the top and M6 tapped holes on the bottom. It allows to mount all accessories directly on

the rod, or to fix the rod directly on movable bases, translators, or to connect the rods. Cross hole at the top of the rod is very convenient for rigid fastening.



The rod 820-0020-00 is especially designed for Precision Mirror Mount (eg. 840-0060) as well as for other Mount with mounting holes M4. Rod 820-0020 has M4 male thread for the top and M6 thread hole on the bottom.

Complementary Products

Code	Page
820-0040	7.17
820-0051	7.18
840-0060	online
820-0225	7.23

Code	Height, mm (A)	Weight, kg	Price, EUR
820-0010-00	25.4	0.02	4.4
820-0010-01	38.1	0.03	4.8
820-0010-02	50	0.04	5.2
820-0010-03	75	0.06	5.6
820-0010-04	100	0.08	6.0
820-0010-06	150	0.13	6.9
820-0010-08	200	0.18	7.9
820-0020-00	41	0.02	10.0
820-0020-20	14	0.01	6.0

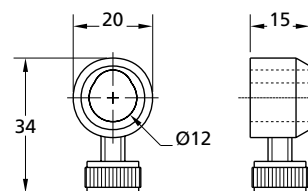
820-0030

COLLAR



The 820-0030 collar allows to fix model 820-0010 standard rods at desirable height and to rotate the rod without changing height.

Finish: black anodized aluminium.



Code	Weight, kg	Price, EUR
820-0030	0.01	6.4

Complementary Products

Code	Page
820-0010	7.16

820-0040

ROD TRANSLATORS



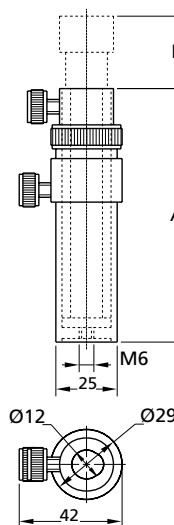
820-0040-04

820-0040-02

The model 820-0040 Rod Translators provide stable mounting, vertical translation and fixing of model 820-0010 rods in place. One round turn of knurled collet produces 2 mm linear translation of rod with no rotation.

Both the rod and translator bore are double-bored to form two line contacts in the inner wall for rigid lock down. Coarse and precision adjustments are fixed by thumbscrews.

Finish: black oxidized steel.



Code	Height A, mm	Translation range B, mm	Weight, kg	Price, EUR
820-0040-02	67	16	0.22	41
820-0040-04	105	50	0.30	46

Complementary Products

Code	Page
820-0010	7.16

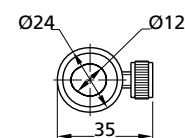
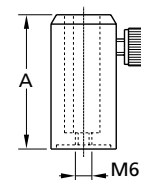
820-0050

ROD HOLDERS



The model 820-0050 rod holders provide convenient and reliable model 820-0010 rod mounting and positioning at fixed height. To eliminate rod wobble, the inside diameter of rod holders is double-bored, providing two full-length contacts in the holder wall to support the rod along its entire length. Model 820-0050 holders can be mounted directly to a table by model 820-0260 screw as well as on bases, fixing by M6 bolts.

Finish: black anodized aluminium.



Code	Height A, mm	Weight, kg	Price, EUR
820-0050-00	25.4	0.02	10.0
820-0050-01	38.1	0.04	10.9
820-0050-02	50	0.05	11.8
820-0050-03	75	0.06	12.5
820-0050-04	80	0.07	12.7
820-0050-06	100	0.08	13.2
820-0050-08	150	0.11	17.3

Complementary Products

Code	Page
820-0010	7.16
820-0260	7.24

820-0051 ROD HOLDER WITH BASE ADAPTER



Complementary Products

Code	Page
820-0010	7.16
820-0125	7.20

Rod holder with base adapter 820-0051 provides convenient mounting of the rod 820-0010 to an optical table using table clamp 820-0125. This combination ensures the the positioning and alignment of various optical mounts using our Standard Rods 820-0010.



Table clamp 820-0125

Code	Height A, mm	Weight, kg	Price, EUR
820-0051-00	38.1	0.06	16.0
820-0051-01	50.8	0.08	16.9
820-0051-02	62.7	0.09	17.8
820-0051-03	87.7	0.10	18.5
820-0051-04	92.7	0.11	18.7
820-0051-06	112.7	0.13	19.2
820-0051-08	162.7	0.16	23.3

820-0055 FIXED PEDESTALS

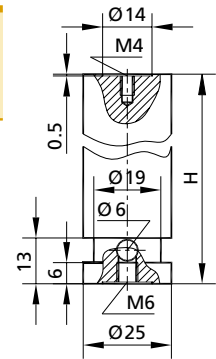


- Solid (Ø25 mm) stainless steel rod
- Random positioning
- Exceptional stability

Code	Height H, mm	Weight, kg	Price, EUR
820-0055-05	25	0.08	16
820-0055-10	50	0.17	18
820-0055-15	75	0.26	20
820-0055-20	100	0.36	22
820-0055-30	150	0.55	24
820-0055-40	200	0.72	28

Complementary Products

Code	Page
795-0016	7.16
820-0125	7.20



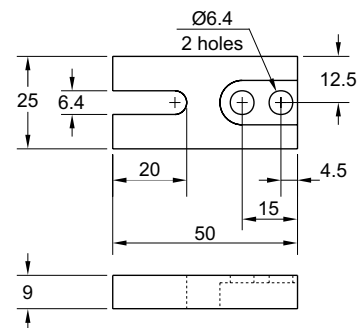
820-0060 MOVABLE BASE



The 820-0060 movable base is especially convenient for close space situations. Its primary use is to position rods and small riser blocks.

Finish: anodized aluminium.

Code	Weight, kg	Price, EUR
820-0060	0.03	7.3



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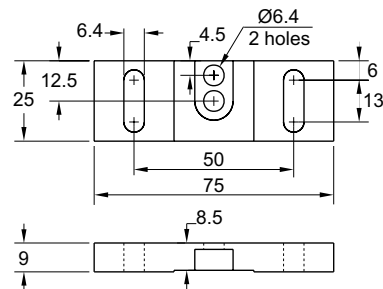
820-0070

MOVABLE BASE



The 820-0070 movable base has 13 mm translation range. It is useful for small rod holders and riser blocks mounting.
Finish: anodized aluminium.

Code	Weight, kg	Price, EUR
820-0070	0.04	8.6



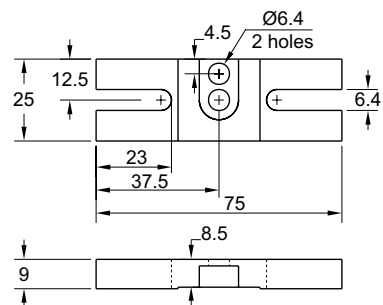
820-0080

MOVABLE BASE



The 820-0080 movable base provides translation of mounted rod holders, translators over 13 mm range with rigid lockdown.
Finish: anodized aluminium.

Code	Weight, kg	Price, EUR
820-0080	0.04	7.7



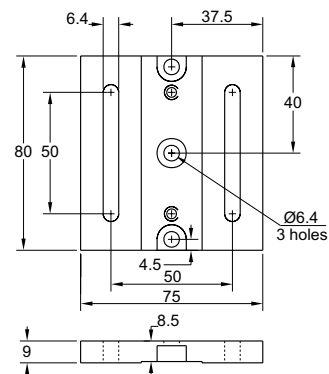
820-0090

MOVABLE BASE



The 820-0090 movable base provides 50 mm longitudinal translation of one or two mounted rod holders, translators or riser blocks.
Finish: black anodized aluminium.

Code	Weight, kg	Price, EUR
820-0090	0.12	12.7



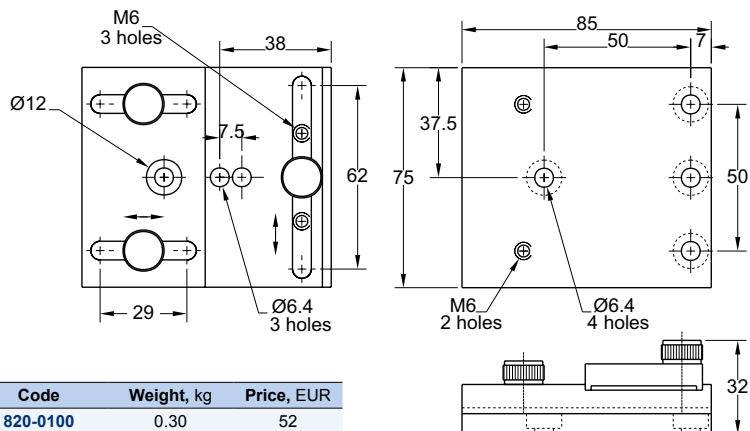
820-0100

MOVABLE BASE



The 820-0100 adjustable base provides separate X-Y adjustment. It is cost-effective solution of non-critical two axes positioning of rod holders, translators and riser blocks.
Finish: black anodized aluminium.

Code	Weight, kg	Price, EUR
820-0100	0.30	52



820-0110 TABLE BASES

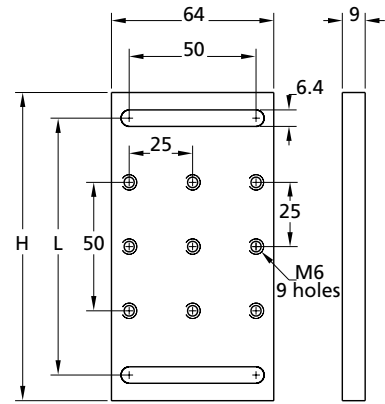


820-0110-02



820-0110-04

The 820-0110-02 and 820-0110-04 standard table bases with 9 and 12 threaded M6 holes respectively allow positioning of all basemounted accessories with M6 tapped holes or male threads anywhere on a table fixing by M6 screws or 820-0230-02 and 820-0230-04 table clamps. Two slots, with 100 or 125 mm distance allow longitudinal positioning along a line of holes in the table.
Finish: black oxidized steel.



820-0110-02

Code	H, mm	L, mm	Weight, kg	Price, EUR
820-0110-02	120	100	0.48	13.0
820-0110-04	145	125	0.57	16.4

Complementary Products

Code	Page
820-0230-02	7.23
820-0230-04	7.23

820-0120 BASE PLATES WITH ECCENTRIC CLAMP



820-0120-02

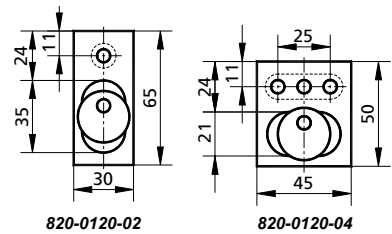
820-0120-06

820-0120-04



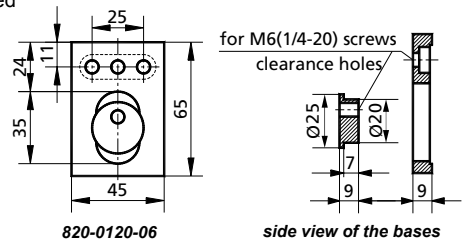
Bases 820-0120 are used to clamp posts and post holders in random positions.
Attach a post to the base using a M6 screw. Set the position. The base rotates around the clamp through 360° and translates within 10 mm. Fix the clamp with a M6 screw.
The base is made of black anodized aluminium.

Code	Weight, kg	Price, EUR
820-0120-02	0.11	11
820-0120-04	0.12	12
820-0120-06	0.15	15



820-0120-02

820-0120-04



820-0120-06

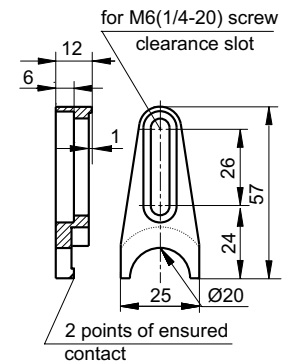
side view of the bases

820-0125 TABLE CLAMP



820-0125 Table Clamp is used for convenient and fast mounting of 795-0010 rods, 820-0055 pedestals or 820-0051 Rod Holders with Base Adapter on optical tables or breadboards.
Material: stainless steel.

Code	Weight, kg	Price, EUR
820-0125	0.05	15



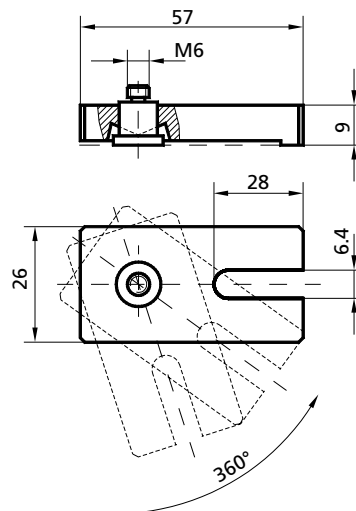
Complementary Products

Code	Page
795-0010	online
795-0016	7.16
820-0051	7.18
820-0055	7.18



820-0130

BASE PLATE WITH ROTARY CLAMP



Rotary Clamp 820-0130 is used to fasten components at random positions where they can not be fastened directly to the optical table.

Screw a post or post holder onto the clamp's knob. Then locate the component at the required position. While the knob is firmly attached to the component, it al-

lows the plate to rotate freely. Position the plate's slot over a tapped hole and screw it down to clutch the knob. The component will remain stable.

Material: steel with chemical black finish.

Code	Weight, kg	Price, EUR
820-0130	0.08	8

820-0150

COMPACT MAGNETIC BASES

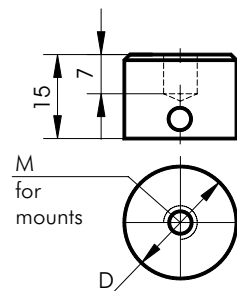


820-0150-08



820-0150-02

Small components may be quickly positioned on ferromagnetic optical tables and breadboards or translation stages using Compact Magnetic Bases 820-0150.



Code	D, mm	M	Holds load up to, kg	Weight, kg	Price, EUR
820-0150-02	19	M6	5	0.03	10
820-0150-04	19	M4	5	0.03	10
820-0150-06	27	M6	10	0.06	16
820-0150-08	27	M4	10	0.06	16

820-0180

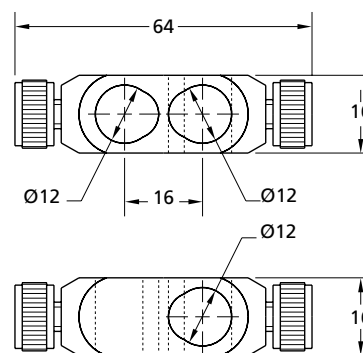
ROD CLAMP



The 820-0180 clamp mounts two standard rods at right angle with respect to each other.

Finish: black anodized aluminium.

Code	Weight, kg	Price, EUR
820-0180	0.02	18



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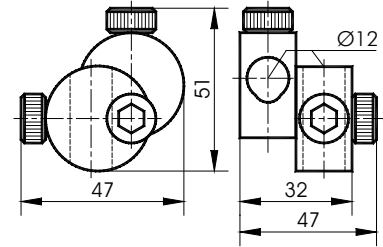
TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

820-0190 ROD CLAMP



The 820-0190 clamp mounts two standard rods at desirable angle with respect to each other. The construction of clamp allows positioning of one rod without loosening of other.
Finish: black anodized aluminium.

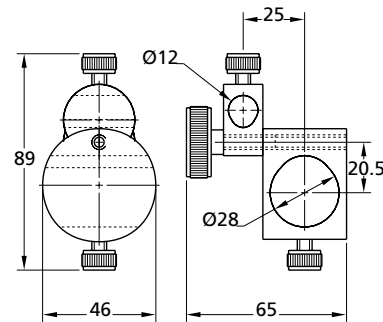


Code	Weight, kg	Price, EUR
820-0190	0.11	25

820-0200 ROD CLAMP



The 820-0200 clamp holds standard and large rods at desirable angle with respect to each other.
Finish: black anodized aluminium.



Code	Weight, kg	Price, EUR
820-0200	0.12	26

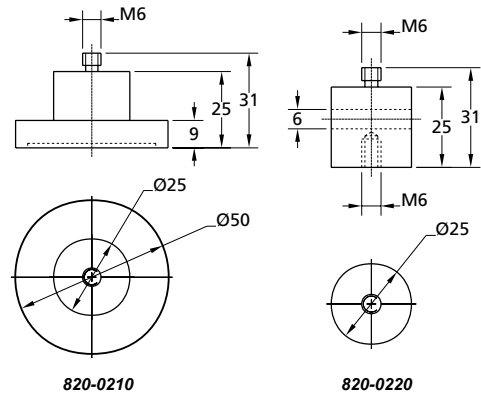
820-0210 · 820-0220 SOLID BASE HEIGHT EXTENDERS



820-0210

820-0220

The 820-0210 solid base provides mounting of components at fixed optical axis height. It adds 25 mm height for every component to be mounted on. The 820-0220 height extender adds another 25 mm. After positioning solid base can be reliably fixed to a table with 820-0230-02 or 820-0230-04 clamps. Finish: black anodized aluminium.



Code	Weight, kg	Price, EUR
820-0210	0.06	10.5
820-0220	0.03	7.3

Complementary Products

Code	Page
820-0230	7.23

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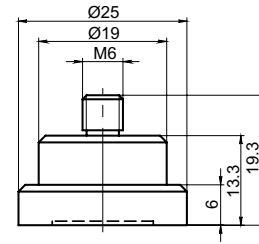
820-0225

ROD HOLDERS BASE ADAPTER



820-0225 Rod Holders Base Adapter can be fixed to 820-0050 Rod Holders transforming them to pedestal-style mount 820-0051 Rod Holders with Base Adapter or fixed to 820-0010 Standard Rod enabling them to be compatible with the 820-0125 Table Clamp.

Material: Stainless Steel.



- Designed to be used with Rod Holders 820-0050

Complementary Products

Code	Page
820-0010	7.16
820-0050	7.17
820-0125	7.20



Code	Weight, kg	Price, EUR
820-0225	0.04	6

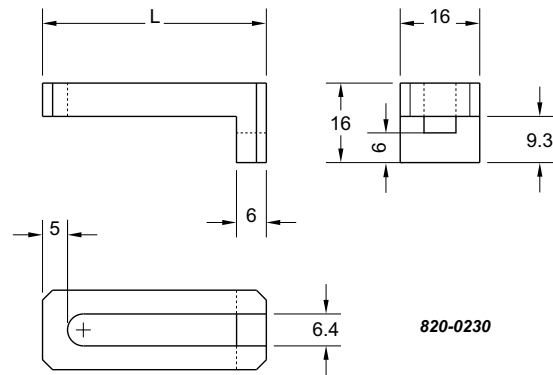
820-0230

TABLE CLAMPS



820-0230-02

820-0230-04



The 820-0230-02 and 820-0230-04 clamps provide fixing of movable bases and other components to a surface with M6 tapped holes. It is useful when direct mounting of components is not practical. Finish: black oxidized steel.

Code	L, mm	Weight, kg	Price, EUR
820-0230-02	45	0.026	6
820-0230-04	60	0.03	8

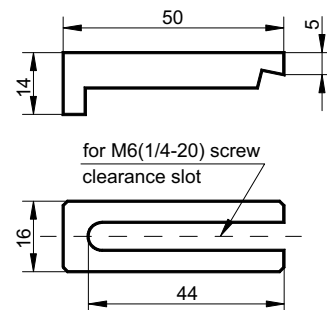
820-0240

TABLE CLAMP



Using Table Clamps 820-0240 you can position most base mounted components at any angle on the table and not to be limited by mounting hole pattern of the optical table. For using clamps the device is positioned so that the slot of the clamp is over the base and a screw can be inserted into a tapped hole. Tightening this screw can generate sufficient force for most mounting applications.

Material: steel with chemical black finish.



Code	Weight, kg	Price, EUR
820-0240	0.03	10

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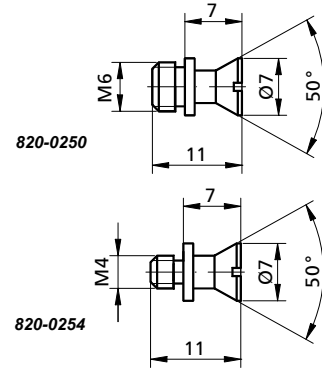
TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

820-0250 • 820-0254 CONNECTING CONES



Connecting Cones are particularly useful for connecting elements when specific orientation plane is required, e.g. Narrow Translation Stages 860-0060-02 (860-0060-04) joined for X-Y-Z motion. Connecting cone is made of black finished steel and has M6 (M4) thread at one end and 50° cone in another. A component is fastened to the cone using an additional fastening screw.



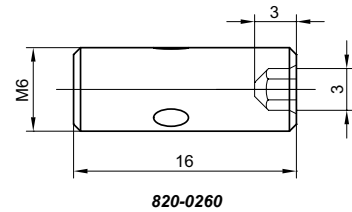
Code	Thread	Weight, kg	Price, EUR
820-0250	M6	0.01	4.5
820-0254	M4	0.01	4.5

820-0270 HEX KEY

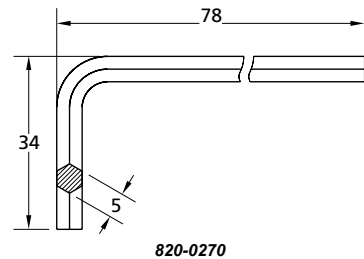
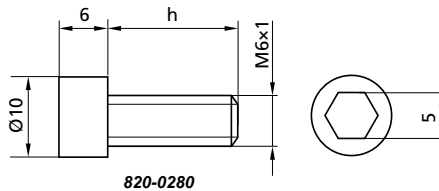
820-0260 • 820-0280 SCREWS



The "L" shaped 820-0270 hex key is very convenient in all mounting situations. The 820-0260 screw is very useful for mounting of rods, rod holders, large rod 810-0040 directly to the table top or where M6-M6 connection is required. M6-M4 adapters are also available.



Code	Weight, kg	Price, EUR
820-0260	0.005	0.73
820-0270	0.020	0.73



Code	Length h, mm	Package	Price, EUR
820-0280-01	10	10 pcs	0.8
820-0280-02	16	10 pcs	0.9
820-0280-03	20	10 pcs	1
820-0280-04	25	10 pcs	1.1
820-0280-05	30	10 pcs	1.2
820-0280-06	45	10 pcs	1.3
820-0280-07	50	10 pcs	1.4

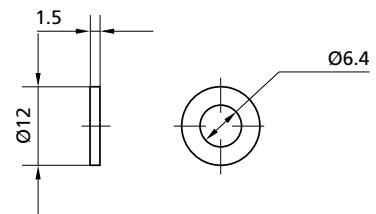
These hex socket head cap screws are available in different lengths.

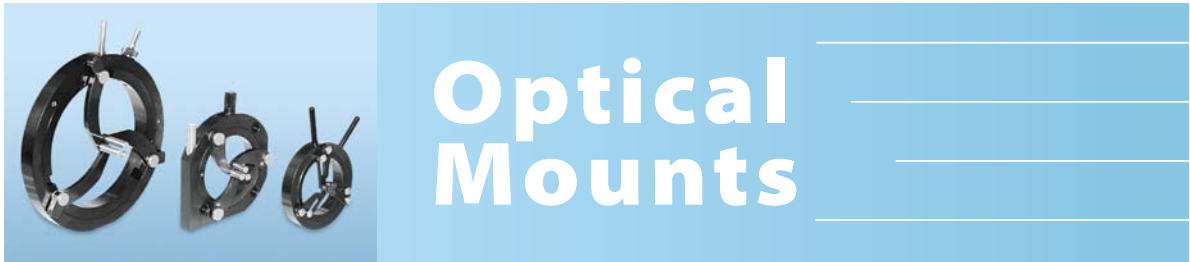
820-0290 WASHER



A Washer is made of black finished steel and is used for protecting of surfaces from scratches and provides more stable tightening.

Code	Package	Price, EUR
820-0290	10 pcs	0.3





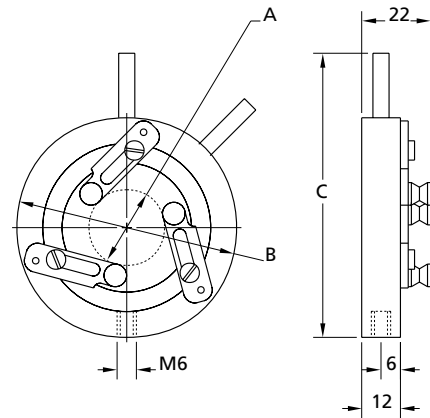
830-0010 • 830-0020 SELF-CENTRING LENS MOUNTS



830-0020



830-0010



The model 830-0010 and model 830-0020 self-centring lens mounts reliably centre and safely hold round optics and cylindrical components. Holding by three rods with V-groove tips provide easy and secure optics accommodation with high relocation repeatability.

Model 830-0010 and 830-0020 mounts may be attached to series 820-0010 standard rods and then with series 820-0050 rod

holders or series 820-0040 rod translators be located on the table. Alternatively, sets of riser blocks and movable bases provide a selection of convenient, various axes height and direct location to table.

Model 830-0010 accommodates optics up to 40 mm and model 830-0020 up to 60 mm in diameter.

Finish: black anodized aluminium.

Code	Amin, mm	Amax, mm	B, mm	C, mm	Weight, kg	Price, EUR
830-0010	8	40	68	88	0.10	91
830-0020	8	60	88	108	0.13	95

Complementary Products

Code	Page
820-0010	7.16
820-0040	7.17
820-0050	7.17
820-0160	online

830-0025 SELF-CENTERING LENS/OPTICS MOUNTS



830-0025-04

830-0025-02

830-0025-40

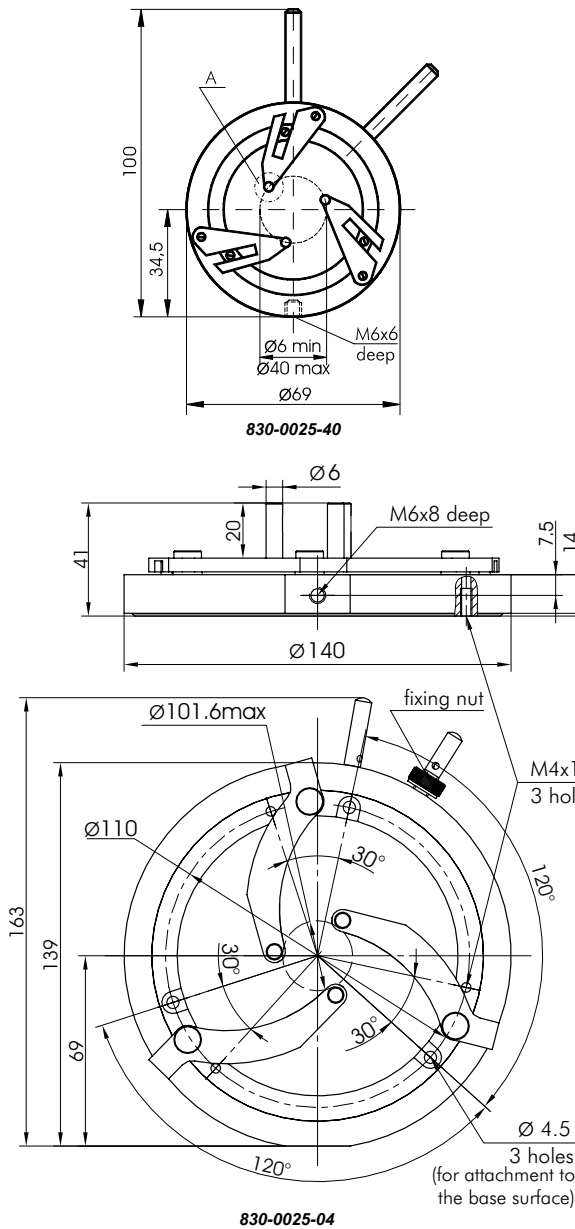
- Automatically centers and holds optics
- Easy insertion and removal of optics
- 3 M4 holes for fixing to flat object
- Reverse operation on request
- Can be motorized
- 40 mm, 4" and 2" optics mount

Self-Centering Lens/Optics Mounts reliably centres and securely holds round optics and cylindrical objects. This device is particularly valuable when lenses of different diameters are being used interchangeably, as repeated centering at constant height is necessary.

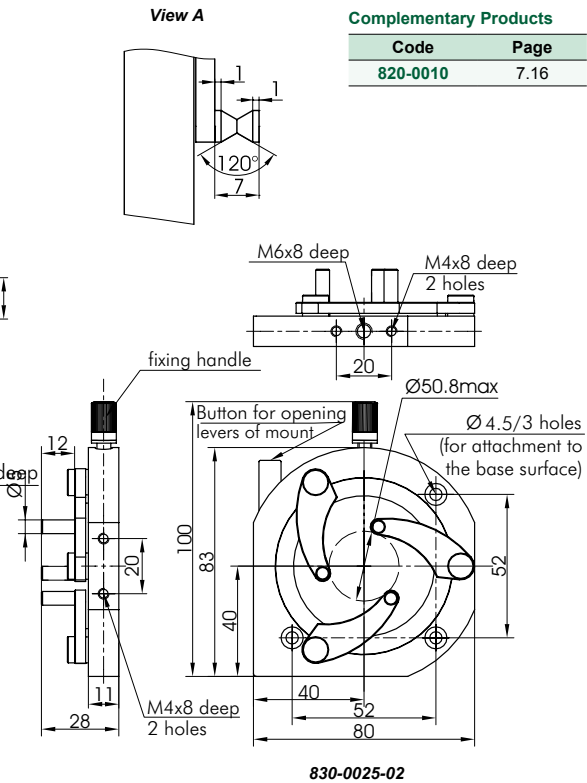
When released the three arms grip the lens, automatically centering the lens within the holder. Unlike other models, 830-0025 gripping mechanism controlled by pressing vertical piston down the socket. Because of such design mount can be easily motorized.

The mount can be modified on request for reverse operation – mount is closing while pushing vertical piston down. This way mount can be used to hold rings and hollow cylinders from inside.

Code	Description	Weight, kg	Price, EUR
830-0025-40	for 40 mm optics	0.07	75
830-0025-02	for 2" (50.8 mm) optics	0.19	99
830-0025-04	for 4" (101.6 mm) optics	0.38	140



830-0025-04



830-0025-02

SELECTION GUIDE

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OPTICAL MOUNTS

OPTICAL POSITIONERS

TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

830-0027

SELF-CENTERING LENS/OPTICS MOUNTS

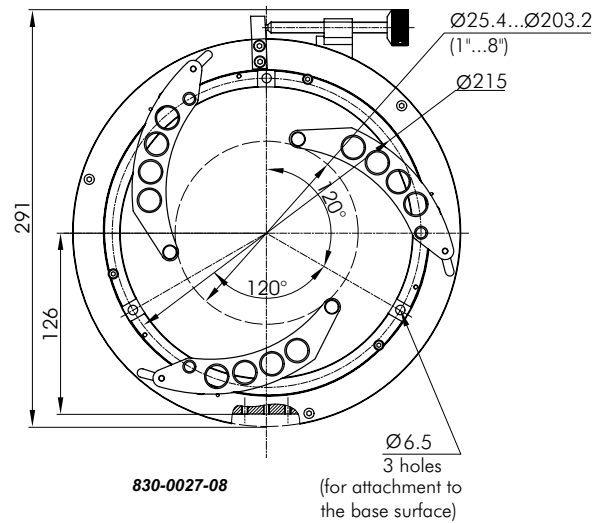
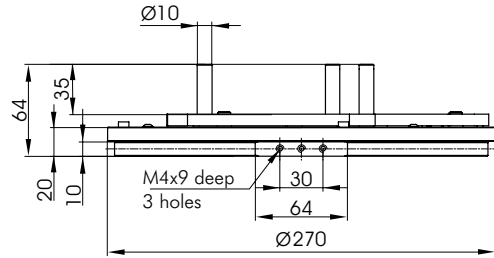


Self-Centering Optics Mount 830-0027 reliably centres and securely holds round optics and cylindrical objects. This device is particularly valuable when lenses of different diameters are being used interchangeably and repeated centering at constant height is necessary. The Self-Centering Optics Mount 830-0027-08 accommodates optics up to 8 inch (203.2 mm); 830-0027-12 – up to 12 inch (305 mm) and is oversized to provide easy finger access for inserting and removing optics. Optical elements are fixed and centered at the same time by adjusting driving screw at the top of the device. Heavy optical components are secured by wedged rods.

- For optics up to 8" or up to 12" in diameter
- Adjustable range from 1" (25.0 mm) to 8" (203 mm)
- 3 mounting holes Ø6.5 mm are made for mounting to flat object
- Reverse operation – holding hollow objects from inside
- Made of black anodized aluminium and black oxidation steel

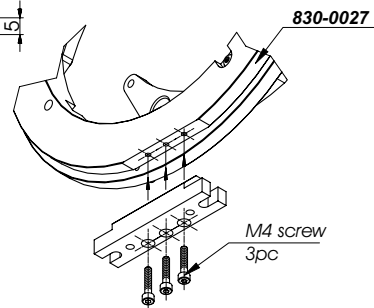
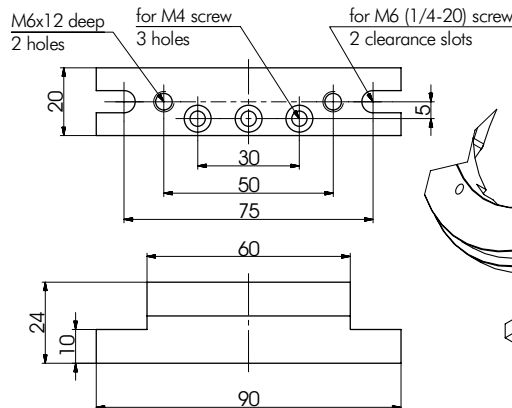
Catalogue number	Description	Weight, kg	Price, EUR
830-0027-08	8"; without base plate	1.8	365
830-0027-08B	8"; with a base plate	1.85	400
830-0027-12	12"; without base plate	7.35	2155
830-0027-12B	12"; with a base plate	7.55	2190

For Vacuum Compatible Self-Centering Optics Mount of 8" or Self-Centering Mount of 12" datasheets please visit www.eksmaoptics.com



830-0027-08

Base plate for 830-0027-08



Our recommended Base Plate is used to fix 830-0027 to optical table or other suitable bases. Mounting base plates of different shapes can be manufactured under customer request. Default package does not include Base Plate and it must be ordered separately.

SELECTION GUIDE

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830-0030

ADJUSTABLE LENS MOUNTS

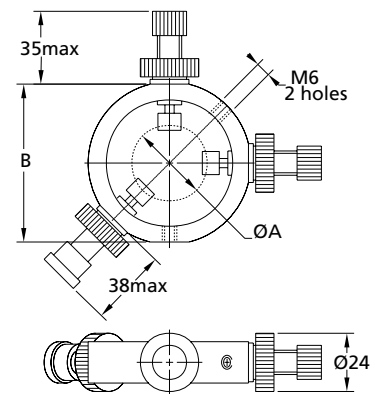


830-0030-02

820-0010

The 830-0030 series adjustable lens mounts provide convenient, precise optics centering and repeatable removal and replacing. Lenses are positioned and locked in place by three rigid shaft assemblies with V-groove tips. Each individually adjustable shaft incorporates a sliding sleeve for rough positioning and diameter setting and collet fix sleeve in place. A thumbscrews at the end of two orthogonal sleeves then provide fine X-Y position adjustment within 3 mm range.

Mounting holes on the support ring provide easy attachment to all mounting elements. Finish: black anodized aluminium.



Code	Amin, mm	Amax, mm	B, mm	Weight, kg	Price, EUR
830-0030-02	20	45	65	0.21	107
830-0030-04	40	65	85	0.23	114
830-0030-06	60	85	105	0.25	121

Complementary Products

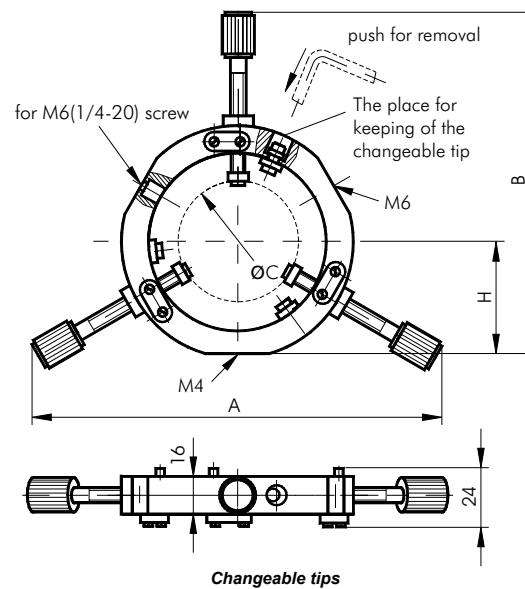
Code	Page
820-0010	7.16

830-0035

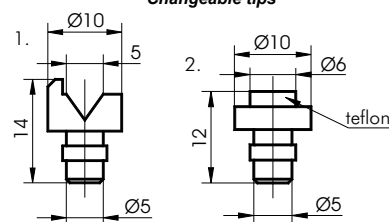
UNIVERSAL ADJUSTABLE LENS/OPTICS MOUNTS



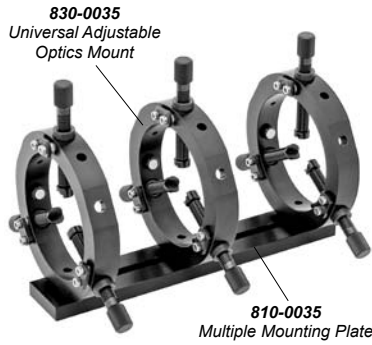
- Holding of cylindrical objects of various diameters
- Three mounting options
- Convenient storage of tips which are not used at the moment
- Quick coarse positioning and diameter setting possibility
- Made of black anodized aluminium



Changeable tips



Continued 830-0035



Complementary Products

Code	Page
810-0035	online

Universal Adjustable Lens/Optics Mounts 830-0035-04 and 830-0035-02 are used to accommodate any round objects of any thickness, like lenses, mirrors or lasers. Three support shafts of holder are assembled with non-rotating V-groove aluminium universal interchangeable tips for lenses mirrors, etc. While not in use the new non-abrasive flat teflon face aluminium tips for lasers are kept in special holes on aluminium support ring. Long objects like cylindrical laser heads can be held with two chucks.

Each individual adjustable shaft of holder incorporates threaded thumbscrew, sliding sleeve and fixation tool for rough positioning and diameter setting. It is enough to give only a twist thumbscrew of the shaft to provide a fine adjustment travel. Three various mounting holes M4, M6, and Ø6.4 provides various and easy attachment possibilities to the Tables, Breadboards and Rod Holder system.

Code	A, mm	B, mm	C, mm	H, mm	Weight, kg	Price, EUR
830-0035-04	164-210	158-185	38-103	65.7	0.30	152
830-0035-02	134-164	124-141	10-66	49.1	0.25	99

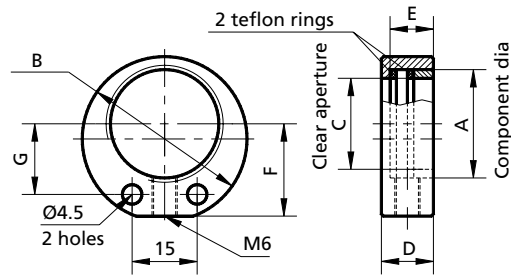
830-0037

OPTICAL COMPONENT MOUNTS

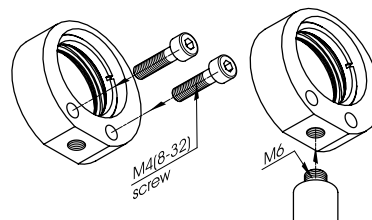


Optical Component Mounts 830-0037 can be used to hold round and thin optical elements of standard sizes. Mounts vary in dimensions so as to support diameters from 10 to 50 mm (0.5" to 2"). Original

design allows to decrease the mount's dimensions and weight. Mounting holes: one M6 and two Ø4.5mm. Material: black aluminium.



Code	A	B	C	D	E	F	G	Weight, kg	Price, EUR
830-0037-10	12.7 (0.5")	26	8	12	10	13.5	8.5	0.01	15
830-0037-20	20	33	17	12	10	18.8	13.8	0.02	18
830-0037-25	25.4 (1")	38	23	12	10	21.3	16.3	0.02	17
830-0037-40	40	53	37	18	16	28.8	23.8	0.04	22
830-0037-50	50.8 (2")	65	48	18	16	34.8	29.8	0.05	24
830-0037-75	75	89	72	18	16	46.5	42	0.06	44

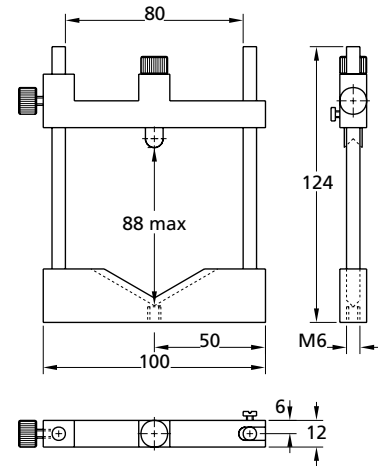


830-0040**VARIABLE LENS HOLDER**

Model 830-0040 Variable Lens Holder is designed to hold optics from 15 mm to 78 mm in diameter. The top spring-loaded clamp holds optics of any configuration within V-shaped mounting base. The kinematic clamp height fixing is convenient when optics is removed and replaced. Model 830-0040 holder is useful for thin lenses holding.

Finish: black oxidized steel.

Code	Weight, kg	Price, EUR
830-0040	0.36	48

**830-0050****OPTICS CLAMP**

The 830-0050 clamp is especially convenient for fast optical elements clamping on bases, translators, rotators and other surfaces with M6 and M4 tapped holes.

Rod material: Stainless steel.

Clamp finish: black anodized aluminium

Code	Price, EUR
830-0050	19

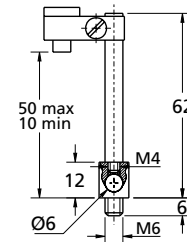
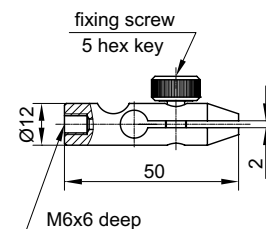
**830-0055****PLATE CLAMP**

Plate Clamp 830-0055 holds thin light-weight plates, like filters, transparencies, resolution targets and razor blades used in knife edge experiments.

These black anodized aluminium finished steel Clamps may be directly screwed for example to the mounting stud of a Mounting Post or to a Base Plate with Rotary Clamp 820-0130.

Code	Weight, kg	Price, EUR
830-0055	0.04	9



830-0060A
830-0070A

FILTER HOLDERS

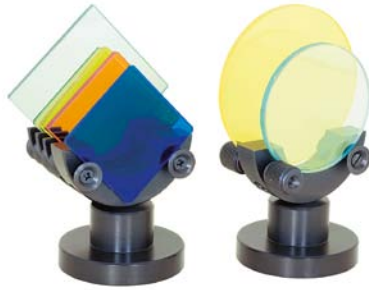


830-0060A

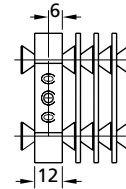
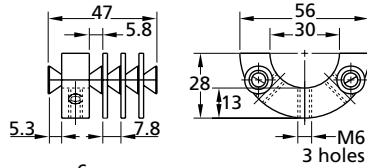
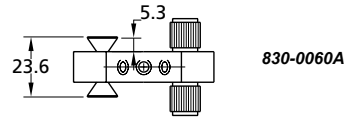
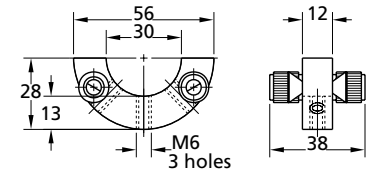
830-0070A

Model 830-0060A and 830-0070A Filter Holders are designed to locate plate optics with maximum clear aperture. Each plate is held separately to prevent scratching and is registered by dovetailed pins for easy relocation. Holders are useful for quick adjustment of combination of coloured or natural density filters.

Model 830-0060A holder holds up to two, while model 830-0070A up to five optics plates with dimensions 40×40 mm (max 80×80 mm) or Ø40 mm (max Ø80 mm) and thickness up to 4.5 mm in vertical position. Finish: black anodized aluminium.



Code	Weight, kg	Price, EUR
830-0060A	0.09	20
830-0070A	0.12	22



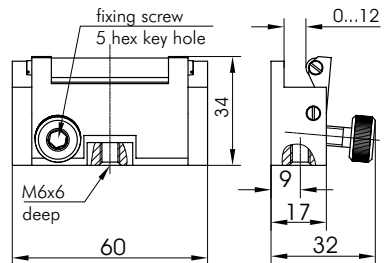
830-0075

UNIVERSAL PLATE HOLDER



Universal Plate Holder 830-0075 holds long and thick components, and can fix elements from 0 to 12 mm in width. M6 hole for mounting on posts provided in base.

Code	Weight, kg	Price, EUR
830-0075	0.07	53



830-0100 • 830-0101
830-0110 • 830-0111

RECTANGULAR OPTICS HOLDER



830-0110

830-0100

Rectangular optics holders 830-0100 and 830-0110 provide easy and safe mounting of rectangular optics.

- Guiding pins ensure correct and reliable positioning of optical components
- M6 holes on two sides allow horizontal or vertical mounting

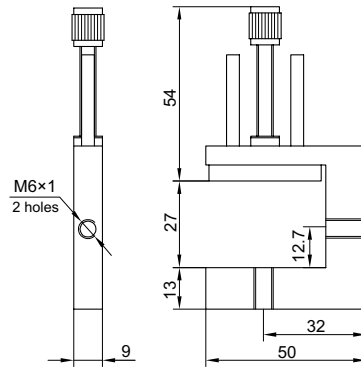
830-0101, 830-0111 have additional 1 mm raised edge for optics to stop against. Ideal for mounting rectangular windows and plano-concave cylindrical lenses.

You may put lens flat side on raised edges and lock with fixing bolt.

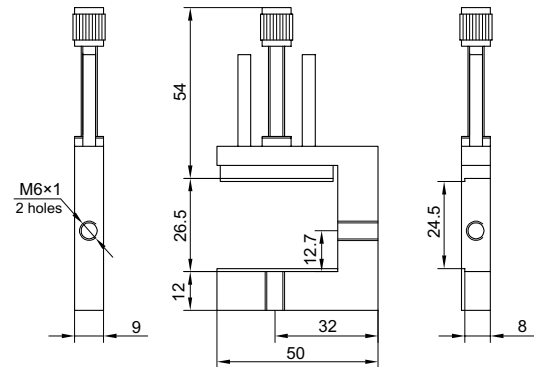
Finish: Black anodized aluminium.



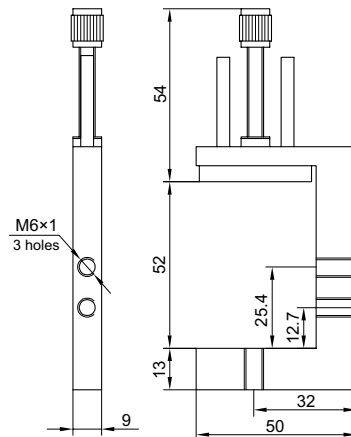
830-0110 and 830-0100 with lenses



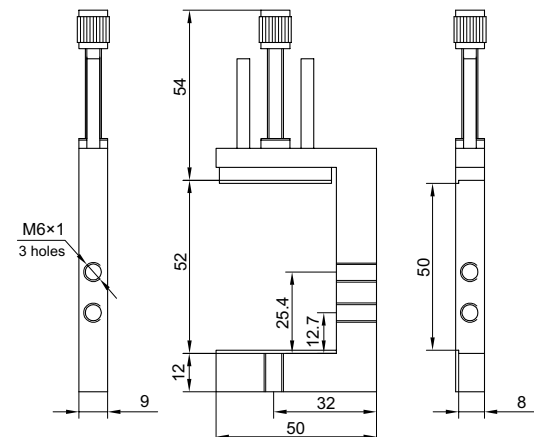
830-0100



830-0101



830-0110



830-0111

Code	Suitable for optics height, mm	Weight, kg	Price, EUR
830-0100	0–26	0.05	28
830-0101	2–26	0.05	29
830-0110	24.5–51	0.06	29
830-0111	26.5–51	0.06	30



Optical Positioners

840-0010 • 840-0020 840-0030

KINEMATIC MIRROR AND BEAMSPLITTER MOUNTS (STEEL)



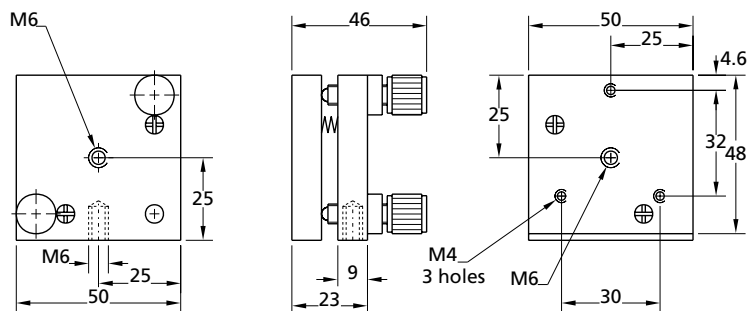
840-0010

840-0010-04

The compact model 840-0010 mirror, model 840-0020 and 840-0030 mirror/beamsplitter mounts provide fine and smooth angular alignment of mounted elements. They are designed for stable orientation of mirrors, beamsplitters, prisms and other optical components.

Models 840-0020 and 840-0030 offer gentle, 3-point (plastic type pads and plastic ended screw for fixation) support of 22-26 mm dia optics.

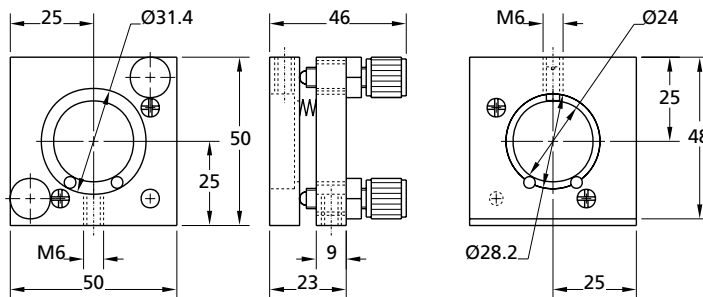
Mirrors can be directly bonded to the model 840-0010 mount. Alternatively, model 840-0010 mount could be used as precision kinematic tilt stage which is mounted on series 820-0010 standard rods in series 820-0050 rod holders or series 820-0040 rod translators.



840-0010



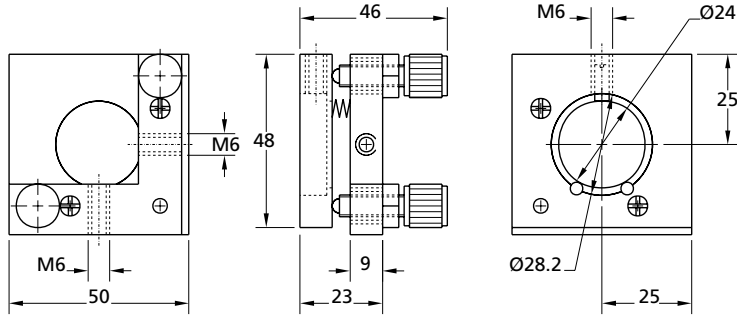
840-0020



840-0020



840-0030-02



840-0030

Model 840-0010, 840-0020 and 840-0030 mounts could be attached to the table using a number of fixed-height riser blocks and movable bases as well. These provide the most stable, rigid mounting possible. Mounts provide $\pm 6^\circ$ range of orthogonal adjustments with 8 arc-seconds resolution. Model 840-0030 mount provides maximum clear aperture for beamsplitter applications at not-normal incidence angles.

Models 840-0010, 840-0020, 840-0030 are completed with steel screws M6 \times 0.5 mm and brass collar with an outer thread M10 \times 1 mm for mounting.

Additionally, model 840-0010-02, model

840-0020-02 and model 840-0030-02 mounts are completed with model 870-0010 precise screws.

840-0010-04, 840-0020-04 and 840-0030-04 options come with model 870-0020 micrometer screws with reading marks.

Finish: black oxidized steel.



Mounting option:
Kinematic Mirror and Beamsplitter Mount 840-0020, Glan Laser Polarizing Prism in M2P mount, Solid Base Height Extender 820-0210



Mounting option:
Movable Base 820-0080, Rod Holder 820-0050-04, Standard Rod 820-0010-02, Kinematic Mirror and Beamsplitter Mount 840-0020 and Adapter for Beamsplitter at 45° 840-0116

Code	Weight, kg	Price, EUR
840-0010	0.36	56
840-0010-02	0.42	108
840-0010-04	0.42	118
840-0020	0.26	63
840-0020-02	0.32	115
840-0020-04	0.32	125
840-0030	0.22	67
840-0030-02	0.28	119
840-0030-04	0.28	129

Complementary Products

Code	Page	Code	Page
820-0010	7.16	840-0020	7.33
820-0050	7.17	840-0116	7.41
820-0060	7.18	870-0010	online
820-0080	7.19	870-0020	online
820-0210	7.22		

Mounting option:
Movable Base 820-0080, Rod Holder 820-0050-04, Standard Rod 820-0010-02, Kinematic Mirror Mount 840-0010 and Optics Clamp 830-0050



Mounting option:
Movable Base 820-0060, Riser Block 820-0170-02 and Kinematic Mirror Mount 840-0010

840-0032
840-0033

KINEMATIC MIRROR, BEAMSPLITTER MOUNTS
(ALUMINIUM)

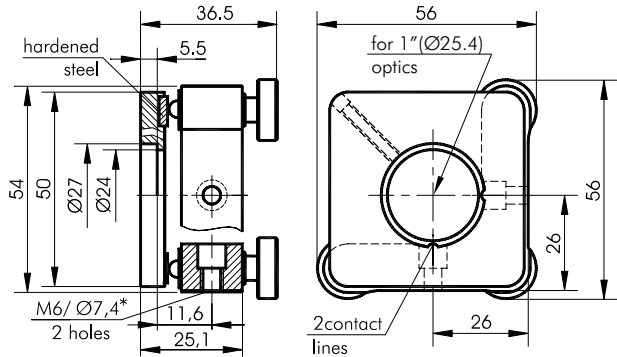


840-0033-80

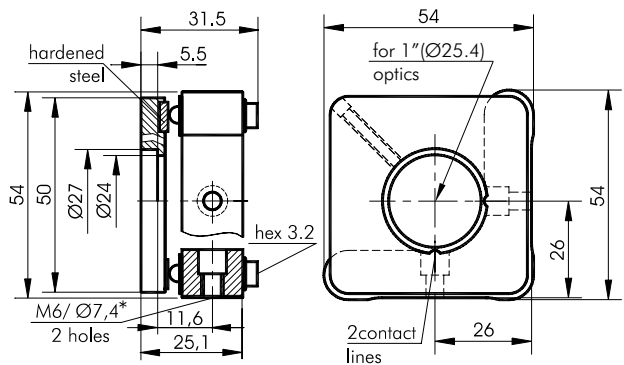


840-0032-80

- Precise and handy adjustment, angular in two orthogonal planes, and linear
- Stable vertical mounting
- Adjustment range of 9° or 5 mm
- Sensitivity of 3 arcsec or 1 μm
- Weight 0.09 kg
- Available motorized version 940-0060
- Available 2 inch version



840-0033-80 comes with three Adjustment Screws 870-0080



840-0033-90 comes with three Adjustment Screws 870-0090

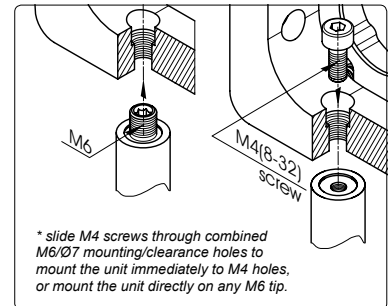
Kinematic Mirror/Beamsplitter Mounts 840-0032 and 840-0033 are designed for precise alignment of various optical elements to desired angular and linear orientation. Models with 2 or 3 screws are available. The base of the mount has holes Ø8.7 mm for driving screws of your choice (see section 870). As a standard, we fit Fine Screws 870-0080 or 870-0090. Each screw has a hardened steel ball tip.

The mounts have a one inch mounting hole with Ø24 mm clear aperture.

840-0032, 840-0033 may be mounted on one side or another, e.g. to swap left/right hand side of access to the drive relative to the beam. It mounts to an M6 screw or directly to mounting posts on their M6 tips. Put a M4 screw through the combined Ø7/M6 hole to fasten the mount to units with M4 holes.

Material: Aluminium.

Finish: Black anodized (by default) or any other color on request.



* slide M4 screws through combined M6/Ø7 mounting/clearance holes to mount the unit immediately to M4 holes, or mount the unit directly on any M6 tip.

Code	Description	Price, EUR
840-0032-80	2 screws	65
840-0032-90	2 hex screws	59
840-0033-80	3 screws	75
840-0033-90	3 hex screws	72

Complementary Products

Code	Page
870-0080	online
870-0090	online
940-0060	7.89

PRECISION AND HIGH STABILITY L-SHAPED STEEL OPTICAL MOUNTS

- Special flat spring for improved stability, versatility and durability
- Kinematics, orthogonal angular adjustments
- Tilt/tip 9° range with 5 arcsec sensitivity
- Left or right hand mounting
- Vertical and horizontal mounting

Highly Stable Precision L-shaped Optical Mounts are designed on the basis of two-angle adjustment mount, and are made of steel with black chemical finishing. Special figure spring is used in these mounts for two purposes:

- It provides pre-loading against the tips of two precise driving screws for elimination of backlash.
- It ensures the absence of the roll coordinate.

The Highly Stable Precision L-shaped Optical Mounts have two M10×1 threaded mounting holes for mounting of the actuators. M6 tapped holes on the sides provide a wide variety of mounting configurations, either horizontal or vertical. A special L-shaped design of the mounts provides maximum clear aperture.

840-0036

STABLE STEEL MIRROR/BEAMSPLITTER MOUNTS

- Special flat spring for improved stability versatility and durability
- Suitable for 1", 2", 3", 4", 6" optics
- 6° range
- Kinematics, orthogonal angular adjustments
- Left or right hand mountable
- Vertical and horizontal mounting

Special holders with two Teflon dowel pads and Teflon fixing screw. The mount is ideal for precision adjustment of 1" (25.4 mm), 2" (50.8 mm), 3" (76.2 mm), 4" (101.6 mm) or 6" (152.4 mm) mirrors or beamsplitters.

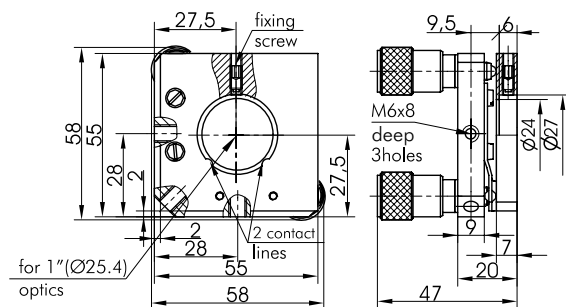
The mount comes with 870-0030 screw as a standard. You may choose different screws. If you order the mount with alter-

native screws, please specify this in order, by appending the screw code name to the mount code.

Models for 1", 2" and 3" optics made entirely of black anodized steel (back and front plates). Models for 4" and 6" optics use front plate made of black anodized aluminium.

	840-0036-01	840-0036-02	840-0036-03	840-0036-04	840-0036-06
Optics diameter	1" (25.4 mm)	2" (50.8 mm)	3" (76.2 MM)	4" (101.6 mm)	6" (152.4 mm)
Mechanism	kinematic				
Drive type	knob				
Adjustments	Ox, Oy				
Special features	center mount				
Angular range	8°	8°	6°	5°	4°
Sensitivity 0.5 mm fine thread	6 arcsec	6 arcsec	5 arcsec	4 arcsec	3 arcsec
Sensitivity 0.25 mm fine thread	3.4 arcsec	3.4 arcsec	2.3 arcsec	1.8 arcsec	1.5 arcsec
Material	Steel	Steel	Steel	Steel	Base - steel, front - aluminium
Mounting thread	M6 (3 holes)	M6 (3 holes)	M6 (5 holes)	M6 (4 holes)	M6 (6 holes)
Mounting	post, baseplate				
Optic Thickness	universal				
Optical axis height	27.5 mm	40 mm	53 mm	65 mm	96 mm
Adjustment screw	870-0030 (0.5 mm fine thread)				
Mounting thread for fine screw ¹	M10×1				
Weight, kg	0.07	0.18	0.44	1.04	1.4
Price, EUR	89	114	147	177	266

¹ Micrometer can be replaced with fine screw.



840-0036-01

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MOUNTS

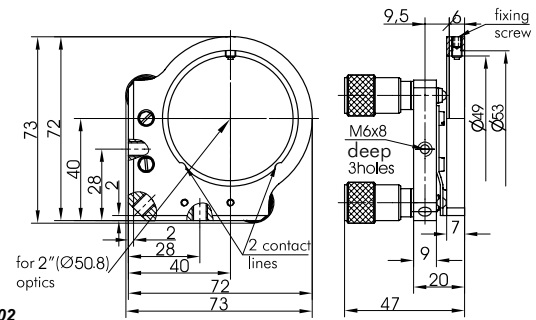
OPTICAL
POSITIONERS

TRANSLATION &
ROTATION STAGES

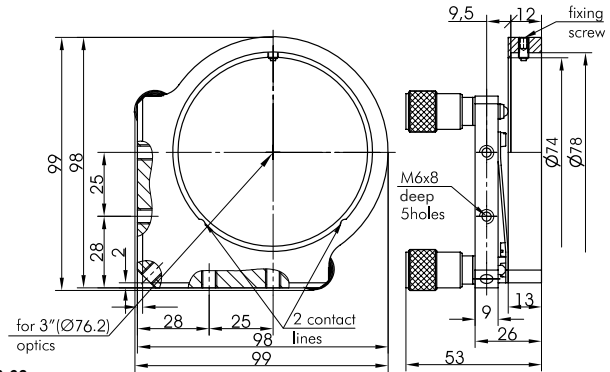
MOTORIZED
POSITIONERS



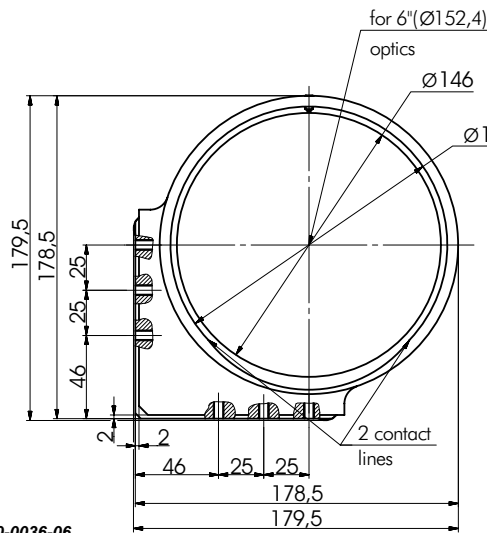
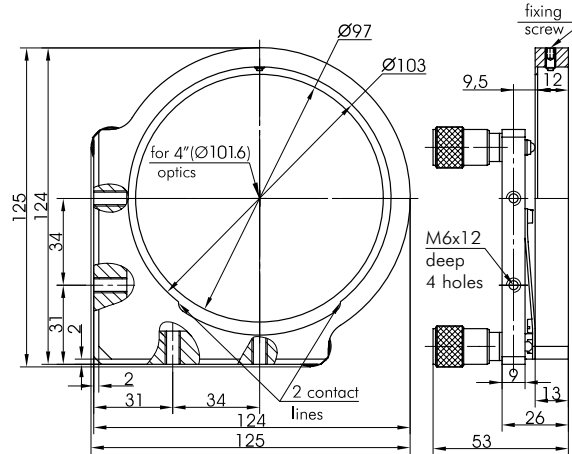
840-0036-02



840-0036-03



840-0036-04

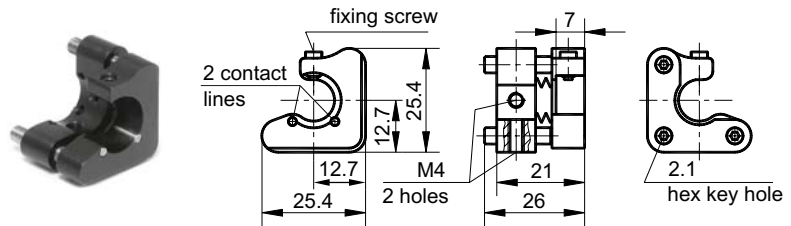


840-0036-06

840-0054

MINIATURE KINEMATIC MIRROR / BEAMSPLITTER MOUNT

- For Ø12.7 mm optics (0.5 inch)
- Kinematic
- Clear edge design
- Hex key drive
- Tilt/tip range 14°
- Sensitivity 8 arcsec
- Material: black anodized aluminium
- Weight 0.03 kg
- Mirror version available



Code	Type	Accepts optics, mm	Clear aperture, mm	Price, EUR
840-0054		Ø12.7 (0.5 inch)	Ø10.2	60
840-0054-02	Mirror version	Ø12.7 (0.5 inch)	Ø10.2	60

Note: Mirror version is a right hand version of the standard model

840-0056

KINEMATIC MIRROR / BEAMSPLITTER MOUNTS

- 1", 2", 3" optics mounts
- Tilt range 9° (about two axes)
- Travel range 4 mm
- Sensitivity of 3 arcsec and 1 µm
- Mounting on either of 2 sides
- Two models: round and square aperture
- Kinematic
- Clear edge design
- A screw pulses via seat of hardened stainless steel
- "Mirror" version available
- Material: black anodized aluminium
- Available motorized version 940-0060

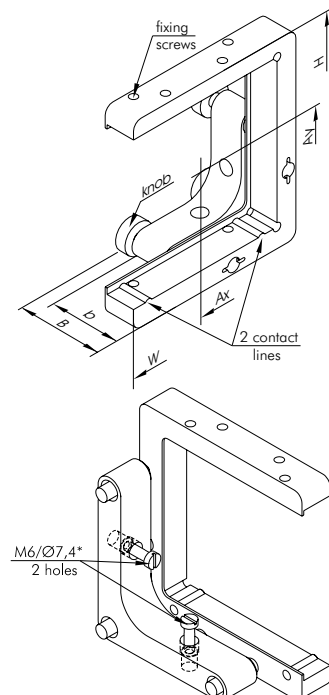
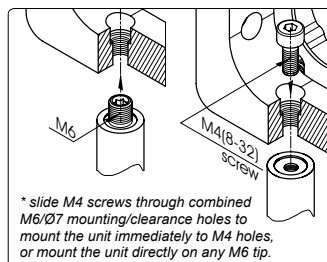


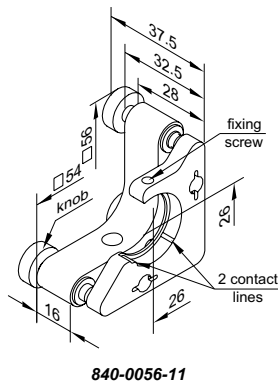
Kinematic Mirror / Beamsplitter Mounts 840-0056 are used for precise angular and linear alignment of optical elements. We provide two types of kinematic mirror/beam splitter mounts: for round optical elements (840-0056-11; 840-0056-12; 840-0056-13) and for square optical elements (840-0056-21; 840-0056-22; 840-0056-23).

840-0056 has a resting flange to stop the optics. One fixing screw (two in "square" mounts) secures the optics against 2 contact lines, which make 2 contact points. To prevent damage to the optics, the tip of the fixing screw is made of plastic.

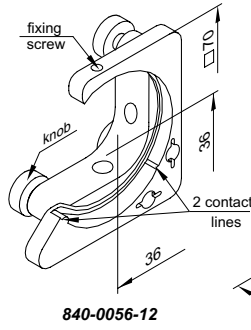
Square mounts 840-0056-20 additionally have 4 fixing screws for thin optics. They have conic tips to work as wedges to clutch a thin plate of optics to the resting flange. For thick optics square mounts have 2 screws rather than one.

A platform is preloaded by two strong coil springs, ensuring tight kinematic fit. A thick base adds to stability. This allows to eliminate part of the mount, keeping clear one edge of the optics. Useful in schemes where beams go very close to each other. As standard, mounts come with screws 870-0080. See section 870 for the alternative screws. You may order the mounts with 2 or 3 adjustment screws. The prices are given of kinematic mirror/beam splitter mounts with 3 driving screws.

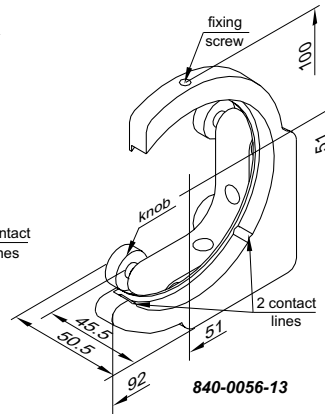




840-0056-11



840-0056-12



840-0056-13

Code	Description	Price, EUR
840-0056-11	for 1" optics	75
840-0056-12	for 2" optics	115
840-0056-13	for 3" optics	166

Code	H, mm	W, mm	B, mm	b, mm	Ax, mm	Ay, mm	Price, EUR
840-0056-21	56	56	37.5	32.5	26	26	87
840-0056-22	72.5	64	37.5	32.5	37.4	38.2	129
840-0056-23	102.5	92.5	50.5	45.5	53.6	55.4	182

840-0057

MOUNTS WITH HARD SEATS

- Original stabilized L-shaped flat spring
- 1" and 2" optics mounts
- Precise (sensitivity of 3 arcsec and 1 μm)
- Stable, with hard steel or sapphire seats under adjustment screws
- Tilt range of 5° in two orthogonal planes
- Travel range 4 mm
- Vertical mounting on either of two sides
- "Mirror" versions available
- Material: black anodized aluminium

840-0057-13SH



840-0057-23S



Mounts 840-0057 have 1" (840-0057-1) or 2" (840-0057-2) mounting hole. A fixing screw secures the optics against 2 contact lines, which make 2 contact points. To prevent damage to the optics, the tip of the fixing screw is made of plastic.

On one side the edge of the optics stays clear. So you can use the optics close to the edge in schemes where beams are very closely situated to one another.

You may order mounts with 2 and 3 adjustment screws.

Each screw has a hardened steel ball tip. It pushes the aluminium platform against a hard seat. This results in increased durability, stability, and fine motion.

M6/Ø7.4 mounting/clearance holes are centered against the center of the mounted optics.

The platform has an original L-shaped flat spring. It performs two functions: preloading the platform, and reducing its drift. The high tension spring and the thick base of the unit increase its stability. This allowed to eliminate a part of the mount, keeping clear one side of the optics.

840-0057-12SHM

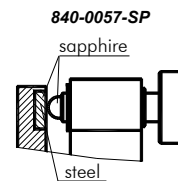


Code	840-0057-12	840-0057-22
	840-0057-13	840-0057-23
Tilt/tip range	5°	5°
Sensitivity	5(3) arcsec	5(3) arcsec
Travel range	4 mm	4 mm
Sensitivity	1(0.5) μm	1(0.5) μm
Optics diameter	≤ Ø25.4 mm	≤ Ø50.8 mm
Clear aperture	24 mm	45 mm

Code	Optics size	Screws	Weight, kg	Price, EUR
840-0057-12	1"	2	0.09	67
840-0057-13	1"	3	0.10	75
840-0057-22	2"	2	0.14	99
840-0057-23	2"	3	0.15	115

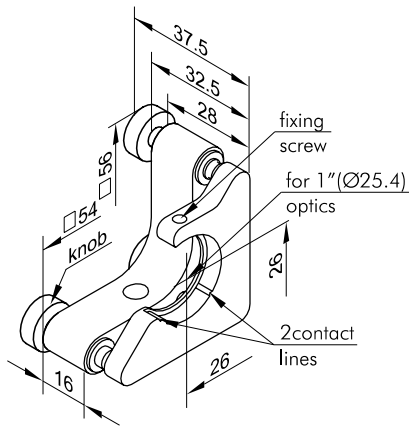
Examples of codes	Screws
840-0057-13S	3
840-0057-12S	2
840-0057-22SH	2 hex
840-0057-13SPH	3 hex

"S" – a screw pushes via a seat of hardened stainless steel
 "SP" – a screw pushes via a seat of sapphire
 "M" – "Mirror" version
 "H" – hex screws. Removable hex knobs are available separately.

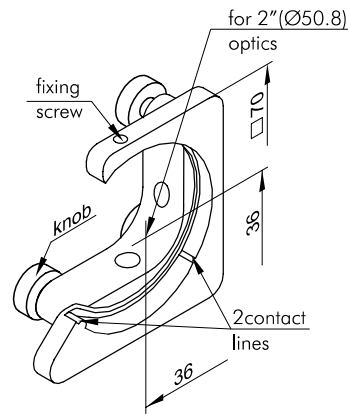


840-0057-S

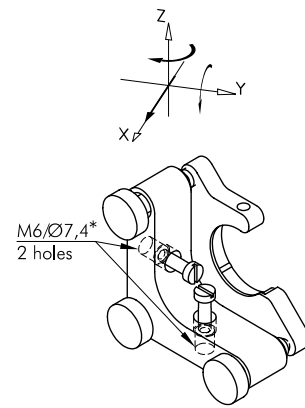
A screw pushes via a seat of hardened stainless steel or sapphire.



840-0057-13S
uses three Fine Screws 870-0080 (with knobs).
840-0057-13SH uses three Fine Screws
870-0080 (without knobs) to reduce risk of
tampering (hex key included).



840-0057-23S
uses three Fine Screws 870-0080 (with knobs).
840-0057-23SH uses three Fine Screws
870-0080 to reduce risk of tampering (hex key
included).



* slide M4(8-32) screws through combined
M6/Ø7.4 mounting/clearance holes to mount
the unit immediately to M4(8-32) holes, or
mount the unit directly on any M6 tip

840-0058-01

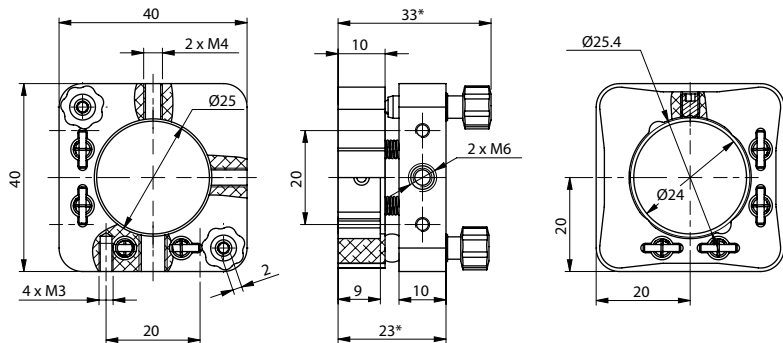
COMPACT KINEMATIC MIRROR / WINDOW MOUNT



Compact Kinematic Mirror/Window Mount 840-0058-01 is designed for precise angular alignment of optical elements. It is suitable for first surface mirrors, rear mirrors, output couplers and windows.

840-0058-01 has a resting flange to stop the optics. One fixing screw secures the optics against two hard rests, which make two contact points. To prevent damage

to the optics, the tip of the fixing screw is made of plastic. The platform is preloaded by four strong springs, ensuring tight kinematic fit. Compact design (outer size just 40×40mm) is an advantage where the space is tight. Three types of holes (M6, M4 and M3) on the edge of the mount make it universal when choosing suitable rod or post.



- 1" optics mount – fits Ø25.4 mm and Ø25.0 mm optics of ≥25 mm thickness
- Tilt range about two axis – ±5°
- Sensitivity – 3 arcsec
- Mounting: M6, M4, M3 fixing holes on either of two sides
- Hexagon socket head cap screws – 2 mm hex key can be used for alignment
- Material: black anodized aluminum

Code	Equipment	Weight, kg	Price, EUR
840-0058-01	Empty mount for optics Ø25.4 mm	0.05	59
082-2840-i0-45M58	Mount 840-0058-01 with UVFS flat mirror HR>99% @ 280-400 nm, AOI = 0-45 deg	0.06	152
082-4075-i0-45M58	Mount 840-0058-01 with UVFS flat mirror HR>99% @ 400-750 nm, AOI = 0-45 deg	0.06	140
082-7511-i0-45M58	Mount 840-0058-01 with UVFS flat mirror HR>99% @ 750-1100 nm, AOI = 0-45 deg	0.06	143
092-1010M58	Mount 840-0058-01 with UVFS flat UV Enhanced Aluminium coated mirror R _{ave} >85% @ 210-400 nm, AOI = 0-45 deg	0.06	120
092-0015M58	Mount 840-0058-01 with BK7 flat Protected Aluminium coated mirror R _{ave} >86% @ 300 nm - IR, AOI = 0-45 deg	0.06	77
092-0025M58	Mount 840-0058-01 with BK7 flat Protected Silver coated mirror R _{ave} >96% @ 400 nm - IR, AOI = 0-45 deg	0.06	95
092-0030M58	Mount 840-0058-01 with BK7 flat Protected Gold coated mirror R _{ave} >98% @ 900 nm - IR, AOI = 0-45 deg	0.06	98

840-0115 • 840-0116 ADAPTER FOR MIRROR AND BEAMSPLITTER AT 45°

- Suitable for dichroic mirrors and beamsplitters operating at AOI 45°

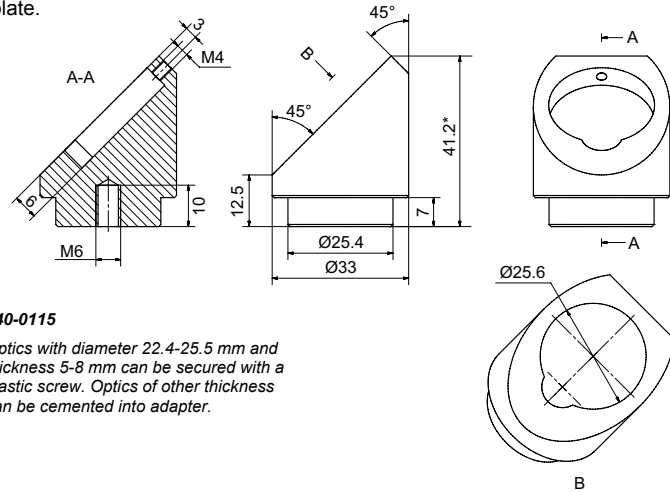
With the help of this Adapter optics is firmly held by a plastic securing screw and it rests against two contact lines formed at the interface. Adapter easily accommodates any optical mount designed for 1" optics or can be attached to any mount using a baseplate.

For fine adjustment adapter can be mounted into kinematic mirror mount 840-0020. Such combination provides 6° range of orthogonal adjustments with 8 arc-seconds resolution.



840-0115

Suitable for high reflection mirrors operating at AOI 45°



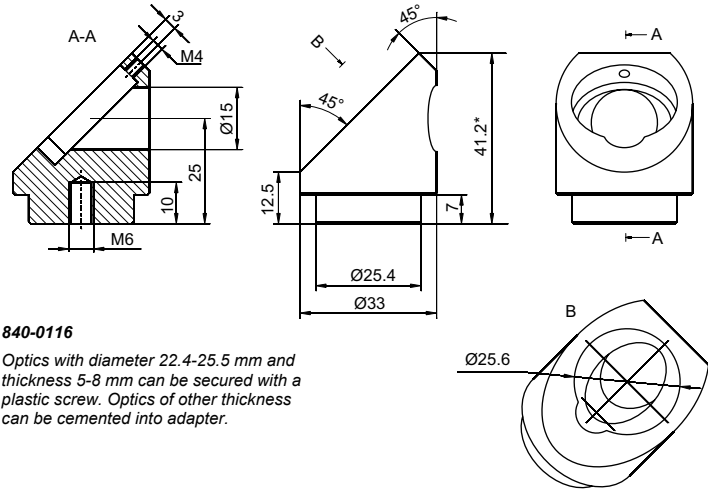
840-0115

Optics with diameter 22.4-25.5 mm and thickness 5-8 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.



840-0116S

Suitable for dichroic mirrors and beamsplitters operating at AOI 45°



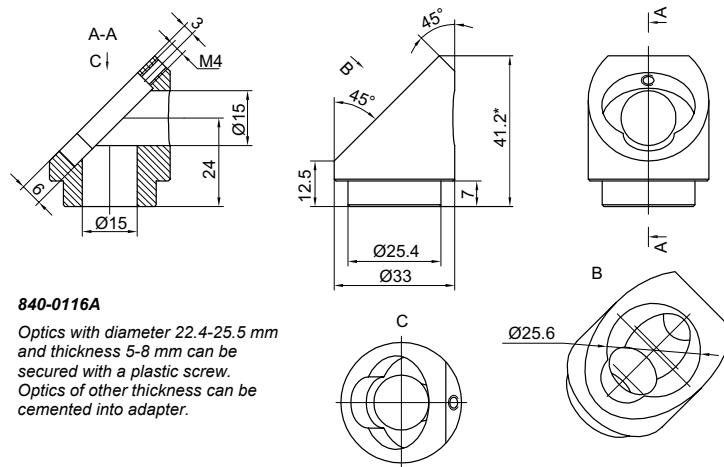
840-0116

Optics with diameter 22.4-25.5 mm and thickness 5-8 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.



840-0116A

Suitable for dichroic mirrors, beamsplitters and beam combiners operating at AOI 45°



840-0116A

Optics with diameter 22.4-25.5 mm and thickness 5-8 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.

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OPTICAL MOUNTS

OPTICAL POSITIONERS

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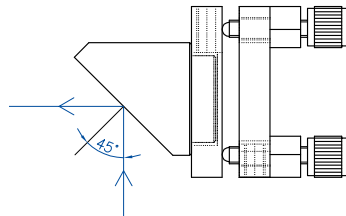
MOTORIZED POSITIONERS

Code	Item	Finish	Weight, kg	Price, EUR
840-0115	adapter for mirror at 45°	black anodized aluminium	0.05	25
840-0116	adapter for beamsplitter at 45°	black anodized aluminium	0.05	25
840-0116A	adapter for beamsplitter at 45° with additional aperture	black anodized aluminium	0.05	26
840-0116S	adapter for beamsplitter at 45°	black oxidized steel	0.13	35

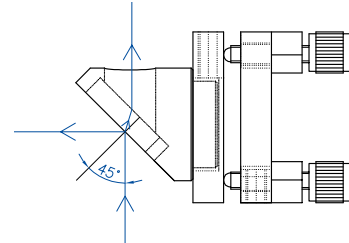
Light directions using one of adapters. View from top



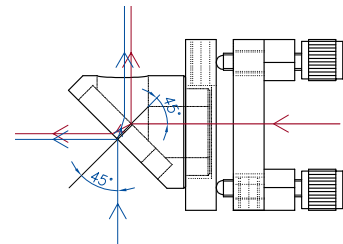
840-0115
with mirror



Light directions using 840-0115 adapter



Light directions using 840-0116 adapter



Light directions using 840-0116A adapter

Complementary Products

Code	Page
820-0010	7.16
820-0050	7.17
820-0070	7.19
820-0080	7.19
840-0020	7.33



Mounting option:
Movable base 820-0080, rod holder 820-0050-04, standard rod 820-0010-02, kinematic mirror and beamsplitter mount 840-0020 and adapter for beamsplitter at 45° 840-0116.



Mounting Option:
Adapter for Beamsplitter 840-0116A, Kinematic Mirror/Beamsplitter Mount 840-0056, Rod Holder 820-0050-04, Standard Rod 820-0010-02, Movable Base 820-0070.

840-0117 • 840-0118 ADAPTERS FOR POLARIZER AT 56°

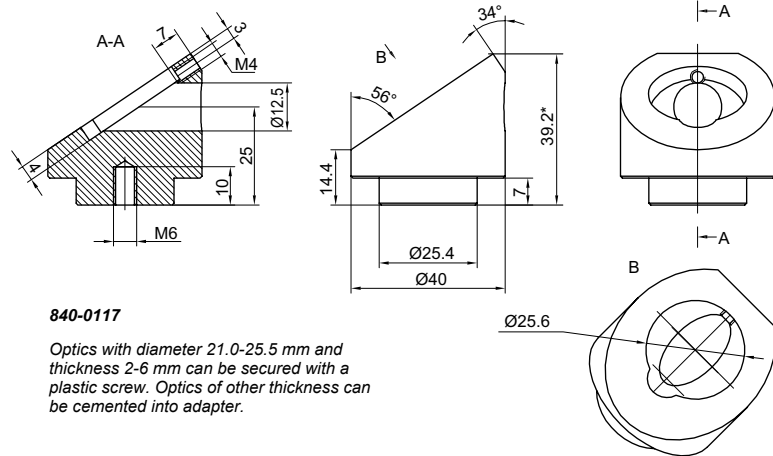
- Suitable for thin film laser polarizers at 56°

Optics is firmly held by a plastic securing screw and it rests against two contact lines formed at the interface. Adapter easily accommodates any optical mount designed for 1" optics or can be attached to any mount using a baseplate.

For fine adjustment adapter can be mounted into kinematic mirror mount 840-0020. Such combination provides 6° range of orthogonal adjustments with 8 arc-seconds resolution.



840-0117

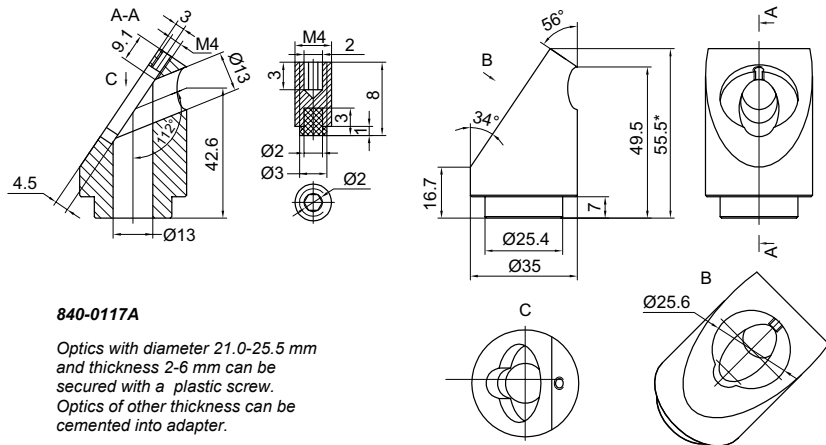


840-0117

Optics with diameter 21.0-25.5 mm and thickness 2-6 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.



840-0117A

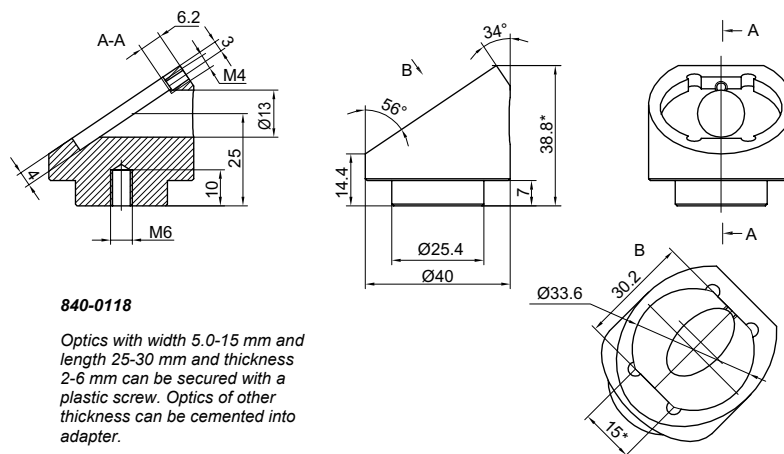


840-0117A

Optics with diameter 21.0-25.5 mm and thickness 2-6 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.



840-0118



840-0118

Optics with width 5.0-15 mm and length 25-30 mm and thickness 2-6 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.

SELECTION GUIDE

BRACKETS & RAILS

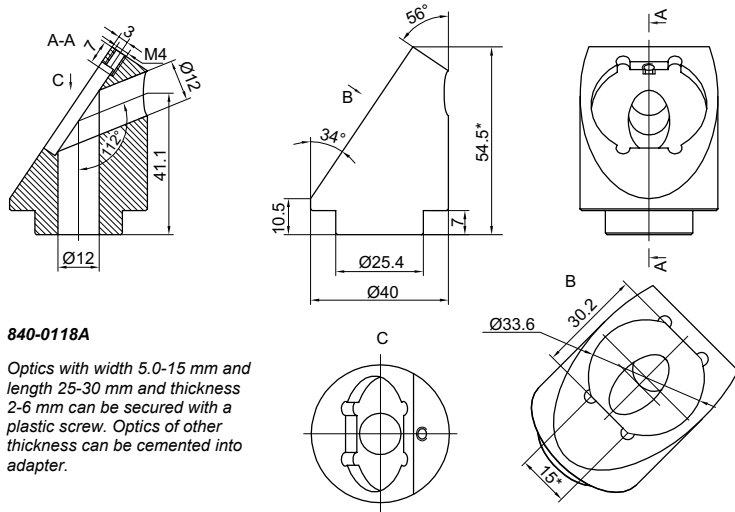
BASE MOUNTS & ACCESSORIES

OPTICAL MOUNTS

OPTICAL POSITIONERS

TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS



840-0118A

Optics with width 5.0-15 mm and length 25-30 mm and thickness 2-6 mm can be secured with a plastic screw. Optics of other thickness can be cemented into adapter.



Mounting option:
 Adapter for Round Polarizer 840-0117,
 Kinematic mirror and beamsplitter mount 840-0020,
 Standard rod 820-0010-02,
 Collar 820-0030,
 Rod translator 820-0040-02,
 Movable base 820-0060.



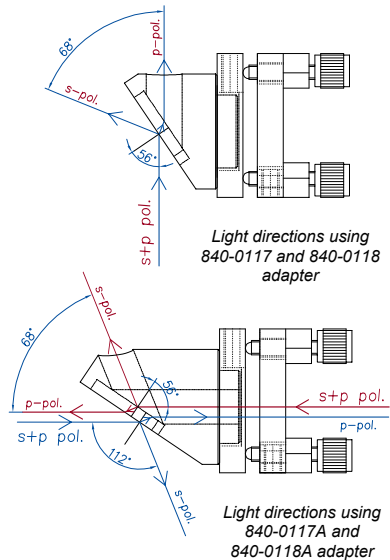
Mounting Option:
 Adapter for Round Polarizer 840-0117A,
 Kinematic Mirror and Beamsplitter Mount 840-0020,
 Solid Base Height Extender 820-0210.

Code	Item	Finish	Weight, kg	Price, EUR
840-0117	adapter for round polarizer at 56°	black anodized aluminium	0.05	27
840-0117A	adapter for round polarizer at 56° with additional aperture	black anodized aluminium	0.09	28
840-0117-2	adapter for round polarizer at 56°. For optics of Ø50.8 mm	black anodized aluminium	0.22	39
840-0118	adapter for rectangular polarizer at 56°	black anodized aluminium	0.05	28
840-0118A	adapter for rectangular polarizer at 56° with additional aperture	black anodized aluminium	0.09	29



Mounting Option:
 Adapter for Round Polarizer 840-0117,
 Mirror/Beamsplitter Mount 840-0056,
 Rod Holder 820-0050-04,
 Standard Rod 820-0010-02,
 Movable Base 820-0070.

Light directions using one of adapters. View from top



Complementary Products

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820-0010-02	7.16
820-0030	7.17
820-0040-02	7.17
820-0050	7.17
820-0060	7.18
820-0070	7.19
820-0210	7.22
840-0020	7.33
840-0199	7.53

840-0155

FLIPPING MIRROR / BEAMSPLITTER MOUNT

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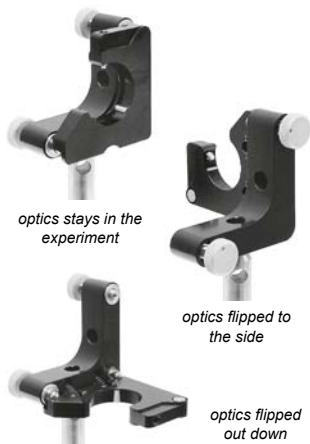
MOTORIZED
POSITIONERS



840-0155-01
(left hand version)



840-0155-01M
(right hand "Mirror" version)



optics stays in the
experiment

optics flipped to
the side

optics flipped
out down

- Flips optics in and out of the experiment
- Kinematic design
- Precise and handy angular adjustment in two orthogonal planes
- Stable vertical mounting
- Made of black anodized aluminium
- Mirror version available

Use the Flipping Mount 840-0155 to place optics in and out of the optical scheme. Flip the platform out and back again – it sits on the adjustment screws in a repeated position. Precise alignment of various optical elements to desired angles is done by 2 adjustment screws.

3 seats form 3 kinematic points for definite position of the platform. The seats are made of hardened steel. This increases the service life, as they counter the hardened steel tips of adjustment screws and pivot balls.

Mount 840-0155 has a 1" mounting hole with Ø24 mm clear aperture. A fixing screw secures the optics against 2 contact lines, which make 2 contact points. To prevent damage to the optics, the tip of the fixing screw is made of plastic. On one side the edge of the optics stays clear. So you can use the optics close to the edge in schemes where you work with a beam very closely situated to another beam.

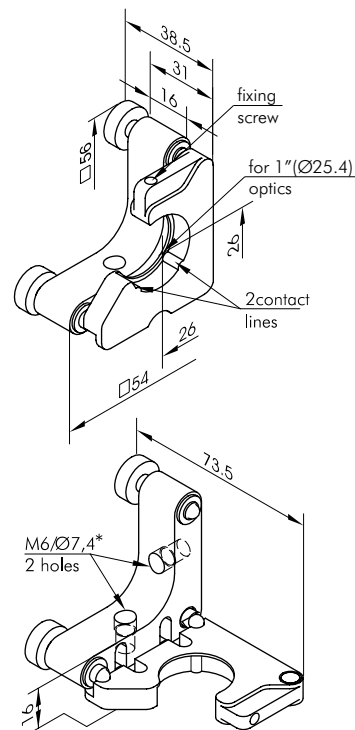
Ultra-Fine Adjustment Screws 870-0080 come as standard (one screw has its tips modified to form a kinematic point).

Depending on which side you mount the unit, flip the platform either vertically or horizontally. By flipping out vertically, the optics goes beneath the common level of the optical scheme. Still one leg of the base, with a adjustment screw on it, stays up. Yet this would not obstruct the optical path, as it would not when the optics was flipped in. Legs protruding upwards ease access to the adjustment screws, with less risk of obscuring the beam. There is no need to design the legs extended down, so as to clear the space totally.

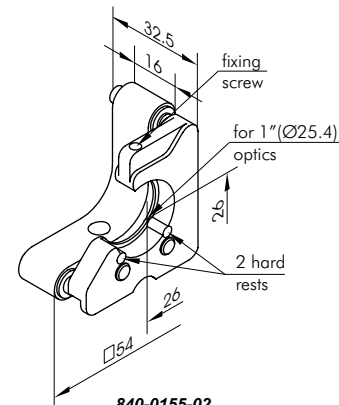
SPECIFICATIONS

Fine screw thread	M6×0.25
Optics diameter	1"
Clear aperture	24 mm
Repeatability	20 µrad
Adjustment range	8°
Sensitivity	3 arcsec
Weight	0.09 kg

Code	Price, EUR
840-0155-01	135
840-0155-01M	135
840-0155-02	127
840-0155-02M	127



840-0155-01
uses Ultra-Fine Screws 870-0080
(with knobs) through combined
M6/Ø7 mounting holes



840-0155-02
uses Fine Hex Adjustment Screws
(without knobs), hex key included

840-0155-04 FLIPPING MIRROR / BEAMSPLITTER MOUNT



840-0155-04

- Flip optics in and out of the optical scheme
- Kinematic design
- Maximum optics thickness 7 mm
- Clear edge design
- Hex key drive optional
- Material: black anodized aluminium
- Mirror version available

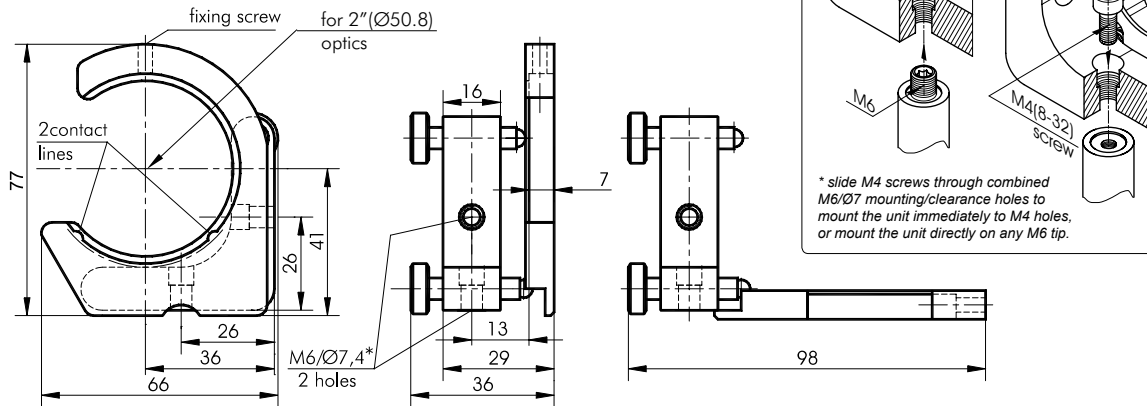


840-0155-05

SPECIFICATIONS

Fine screw thread	M6x0.25
Optics diameter	50.8 mm (2")
Clear aperture	49 mm
Repeatability	20 µrad
Tilt/tip range	8°
Sensitivity	3 arcsec

Code	Description	Price, EUR
840-0155-04	for Ø50.8 mm optics; screws with knobs	155
840-0155-05	for Ø50.8 mm optics; with hex screws	147

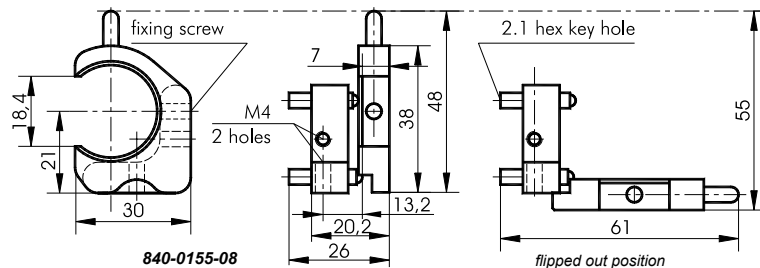


**840-0155-06
840-0155-07
840-0155-08
840-0155-09** **MINIATURE FLIPPING MIRROR / BEAMSPLITTER MOUNT**

- Flip optics in and out of the optical scheme
- Repeatability 20 µrad
- Tilt/tip range 9°
- Sensitivity 8 arcsec
- For Ø12.7 and Ø25.4 mm (0.5" and 1") optics
- Clear edge design suits schemes where beam passes close to optics' edge
- Kinematic design
- High stability
- Hex key drive
- Material: black anodized aluminium
- Weight 0.02 kg
- "Mirror" versions available



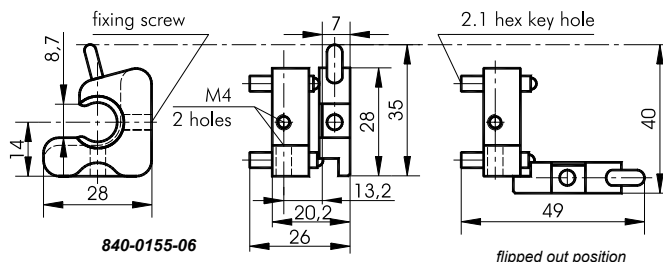
840-0155-08



840-0155-08



840-0155-06



840-0155-06

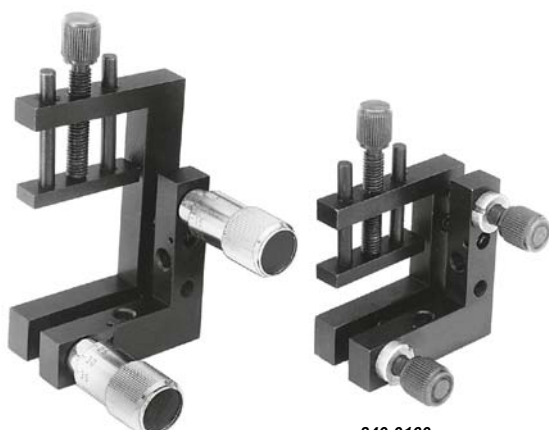
flipped out position

Model	Type	Accepts optics	Clear aperture, mm	Price, EUR
840-0155-06		Ø12.7 mm (0.5 inch)	Ø10.2	99
840-0155-07	Mirror version	Ø12.7 mm (0.5 inch)	Ø10.2	99
840-0155-08		Ø25.4 mm (1 inch)	Ø24	104
840-0155-09	Mirror version	Ø25.4 mm (1 inch)	Ø24	104

Note: Mirror version is a right hand version of the standard.

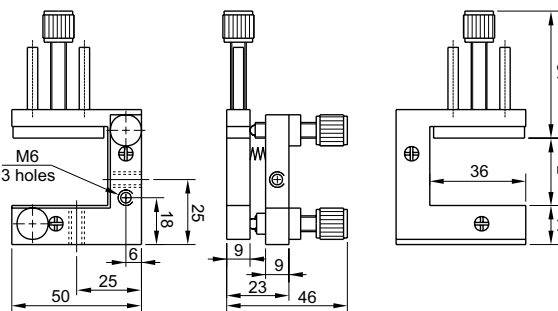
840-0160
840-0170

PRISM HOLDERS



840-0170-04

840-0160



840-0160

Prism holders 840-0160 and 840-0170 provide easy and safe mounting of prism type optics. Precision kinematic adjustment around two orthogonal axes ranges within $\pm 6^\circ$.

The screw position locks ensure right and reliable optical components position fixing. Precise screws provide 8 arcsec adjustment resolution. The model 840-0160 accepts optics 0–26 mm of height.

The model 840-0170 accepts 24.5–51 mm

height optics. Additionally models 840-0160-02 and 840-0170-02 are completed with model 870-0010 precise screws. 840-00160-04 and 840-0170-04 options come with model 870-0020 micrometer screws with reading marks.

The models 840-0160 and 840-0170 are completed with steel screws M6×0.5 mm and brass collar with an outer thread M10×1 mm.

Finish: black oxidized steel.

Complementary Products

Code	Page
870-0010	online
870-0020	online
870-0071	online

Code	Optics L height, mm	Adjustment screw	Weight, kg	Price, EUR
840-0160	0+26	870-0071	0.22	63
840-0160-02	0+26	870-0010	0.28	115
840-0160-04	0+26	870-0020	0.28	125
840-0170	24.5+51	870-0071	0.24	65
840-0170-02	24.5+51	870-0010	0.30	117
840-0170-04	24.5+51	870-0020	0.30	127

840-0180

POLARIZER HOLDERS



840-0180-A1

840-0180-A2

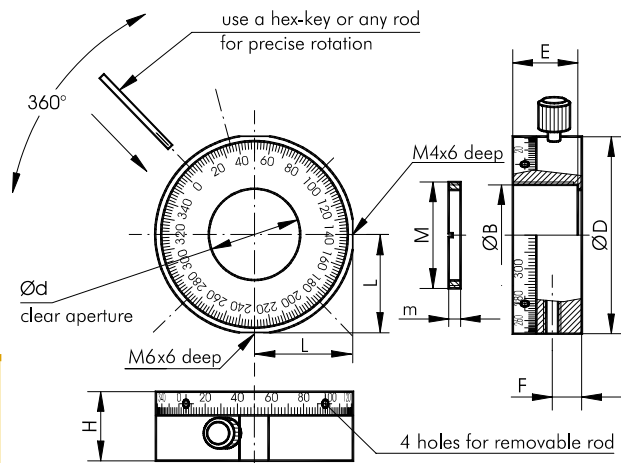
840-0180-A3

- For Ø1", Ø2" and Ø3" optics
- Accepts optics up to 13 mm thick
- Continuous 360° rotation with 2° scale gradation
- Lockable
- Roller bearings design
- 2 graduation scales that may be useful in little space applications
- M6 and M4 threaded holes for mounting on posts or bases
- Material: black anodized aluminum

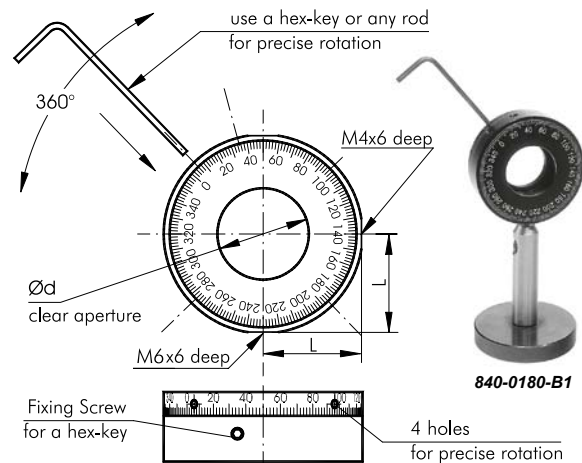
Polarizer Holders 840-0180-A are ideal for positioning rotation sensitive optics such as polarizers or waveplates. Holders are offered for optics of 1", 2" or 3" diameter. Optics is placed inside central aperture, where it is securely held in place by a threaded retaining ring. The position is indicated on two 360° angular scales, with gradation of 2°. Where space doesn't allow to read one scale, you always will be able to view another.

The base of a holder has M6 and M4 threaded holes for mounting on posts or bases.

840-0180-A has a removable rod to rotate the platform by any of its 4 holes.



840-0180-A1, 840-0180-A2



840-0180-B1, 840-0180-B2

Polarizer Holders 840-0180-B are the same as 840-0180-A, except that their fixing screw is tightened with a hex-key (included), and it does not stand out from the surface.

Like in 840-0180-A, the platform is rotated by any rod or the same hex key.

The holders are made of black anodized aluminium.

Code	D, mm	E, mm	H, mm	B, mm	d, mm	L, mm	M, mm	F, mm	m, mm	Weight, kg	Price, EUR
840-0180-A1	51	16.5	17.5	25.5	23	25	M27×1	7.5	2.5	0.08	69
840-0180-B1	51	16.5	17.5	25.5	23	25	M27×1	7.5	2.5	0.08	69
840-0180-A2	82	19	20	51.5	48	40.5	M53×1	9.5	2.5	0.18	138
840-0180-B2	82	19	20	51.5	48	40.5	M53×1	9.5	2.5	0.17	138
840-0180-A3	115	24.5	26.5	76.9	72	57	M78×1	12	3.5	0.46	210
840-0180-B3	115	24.5	26.5	76.9	72	57	M78×1	12	3.5	0.46	210

840-0186

HIGH PRECISION ROTATION POLARIZER, WAVEPLATE MOUNT



840-0186-01

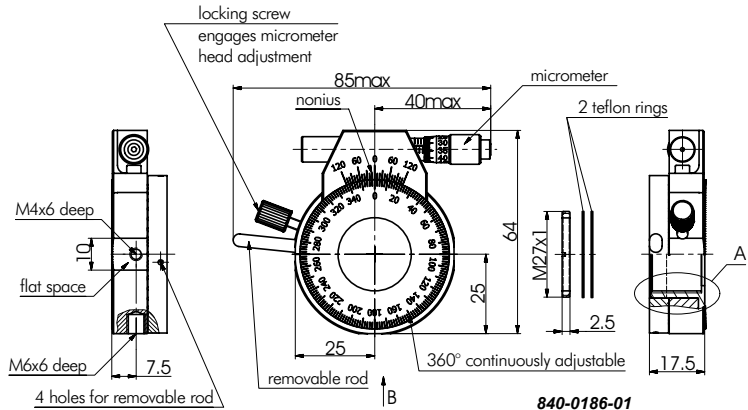


840-0186-11

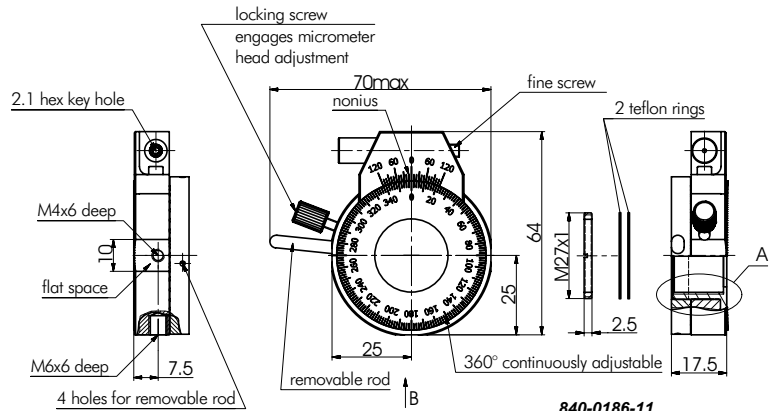
- 360° Continuous rotation
- Sensitivity 1 arcmin
- Compact design with roller bearings
- Direct read 2° graduations on main dial
- When locked, micrometer driven ±5° of fine rotation
- Ideal for 1" polarization optics
- One retaining ring included
- Optics thickness (max): 13 mm

High Precision Rotation Mount 840-0186 is ideal for positioning rotation sensitive optics such as polarizers or waveplates. The most common requirement for polarizers is to rotate them about their optical axis. Mounts accept optics of 1" in diameter. Optics are placed inside central aperture, where it is securely held in place by a threaded retaining ring. The position is indicated on 360° angular scale with graduation of 2°. Once mount is fixed in desired position it can be fine adjusted within 5°

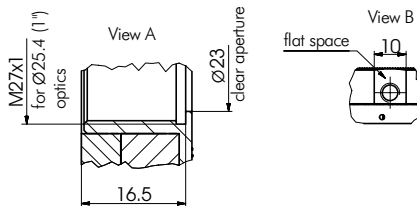
range with 1 arcmin accuracy. Micrometer screw 870-0055 is used, which can be optionally replaced with 870-0095 fine hex adjustment screw. The base and side of the polarizer holder has M6 threaded holes for mounting on posts or bases. Surface around mounting holes is flattened so the mount stays rigid once fixed on a mounting post or any other flat base. 840-0186 has a removable rod to rotate the platform by any of its 4 holes.



840-0186-01



840-0186-11



Code	Description	Price, EUR
840-0186-01	for 1" optics. With micrometer 870-0055	215
840-0186-11	for 1" optics. Fine hex adjustment screw	185

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OPTICAL POSITIONERS

TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

840-0190

POLARIZER HOLDER



- For Ø1" optics
- Can be used as an optical mount and rotation stage
- Accepts optics up to 9 mm thick
- Continuous 360° rotation with 2° scale gradation
- Lockable
- Roller bearings design
- Material: black anodized aluminum

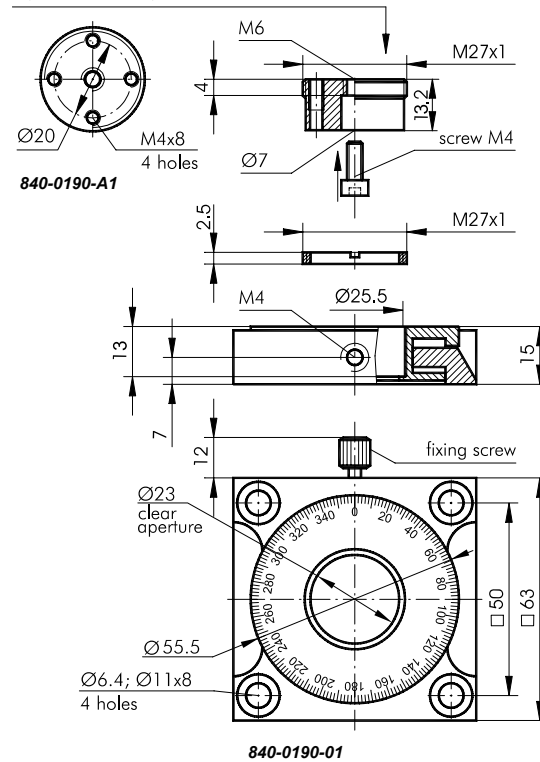
Base of 840-0190 has beveled sides for fingers to rotate the platform by its knurled edge.

840-0190 Polarizer Holder can be transformed into a rotation stage with a complementary insert platform 840-0190-A1, which should be ordered separately.

The platform has a pattern of M4 holes and a central Ø7-to-M6 hole for mounting of components. If you need to fasten a unit with a M4 mounting hole to the central hole, you can slip an M4 screw through this Ø7-to-M6 combined hole.

Code	Weight, kg	Price, EUR
840-0190-01	0.12	78
840-0190-A1	-	6

top view of insert platform



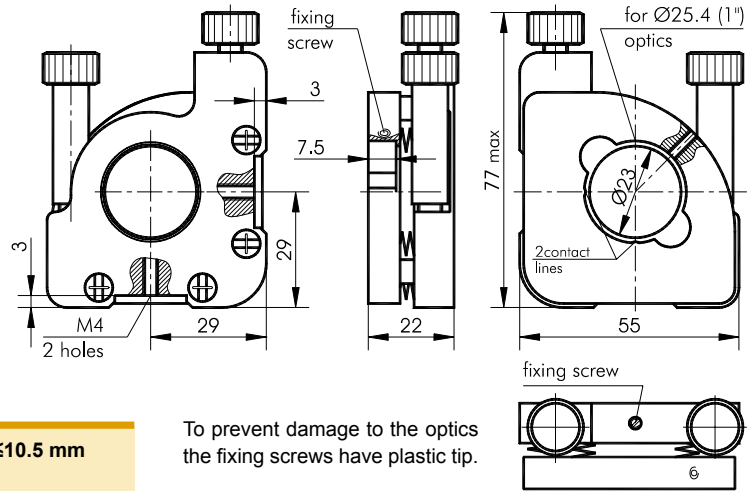
Mounting option:
Polarizer Holder, 840-0190
Insert Platform, 840-0190-A1
Standard Rod, 820-0010
Rod Holder, 820-0050
Flipping Mirror / Beamsplitter
Mount, 840-0155-01



Mounting option:
Polarizer Holder, 840-0190
Insert Platform, 840-0190-A1
Standard Rod, 820-0010
Rod Holder, 820-0050
Polarizer Holder, 840-0185

840-0192

KINEMATIC DOUBLE OPTICAL MOUNT OF SIDE DRIVE



- For Ø25.4 mm (1 inch) optics, thickness ≤10.5 mm
- Clear aperture 23 mm
- Kinematic design
- Dimensions most compact among 1 inch optics mounts
- Tilt/tip range ±2°
- Sensitivity 3 arcsec
- Both tilt and tip controlled from aside the optical path
- Ideal for dense optical schemes
- Fine adjustment screws with 0.25 mm pitch
- Hardened seats under adjustment screws
- Fine screw thread: M6×0.25 mm
- Accepts two pieces of optics: on the platform (adjustable), and on the base (not adjustable)

To prevent damage to the optics the fixing screws have plastic tip.



front and rear view – the base has an aperture for the second optics (not adjustable)

Code	Weight, kg	Price, EUR
840-0192	0.1	90

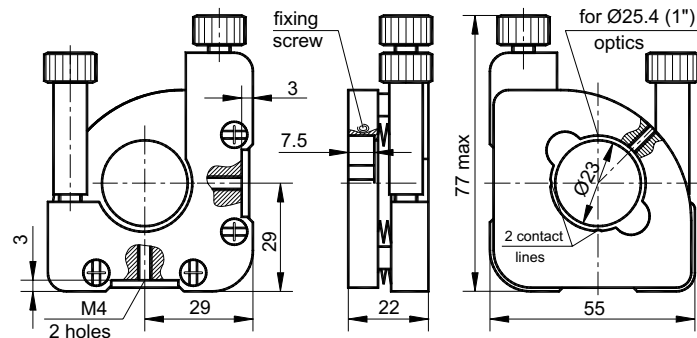
840-0193

KINEMATIC OPTICAL MOUNT OF SIDE DRIVE



- For Ø25.4 mm (1 inch) optics, thickness ≤10.5 mm
- Clear aperture 23 mm
- Kinematic design
- Dimensions most compact among 1 inch optics mounts
- Tilt/tip range ±2°
- Sensitivity 3 arcsec

- Fine Screw Thread M6×0.25 mm
- Both tilt and tip controlled from aside the optical path
- Ideal for dense optical schemes
- Fine adjustment screws with 0.25 mm pitch
- Hardened seats under adjustment screws



To prevent damage to the optics the fixing screw has a plastic tip.

Code	Weight, kg	Price, EUR
840-0193	0.12	87

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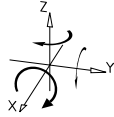
OPTICAL POSITIONERS

TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

840-0195

ADJUSTABLE POLARIZER HOLDER OF SIDE DRIVE



- Dimensions most compact among 1" optics mounts
- Both tilt and tip are controlled from aside the optical path
- Original stabilized L-shaped flat spring
- Fine adjustment screws with 0.25 mm pitch
- Hardened inserts under adjusters
- Accepts optics 25.4 mm (1") in diameter
- Accepts optics upto 10.5 mm thick
- Tilt/tip travel range $\pm 2^\circ$
- Roller bearings
- Lockable
- Continuous 360° rotation
- Horizontal and vertical mounting
- Mounting holes M4 on three sides

Complementary Products

Code	Page
810-0005	7.9
820-0010	7.16
820-0050	7.17

Adjustable Polarizer Holder 840-0195 is a 1 inch polarizer with an integrated adjustment of tilt and tip about two orthogonal axes within $\pm 2^\circ$. The design is the slimmest ever.

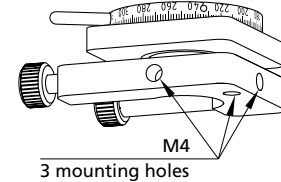
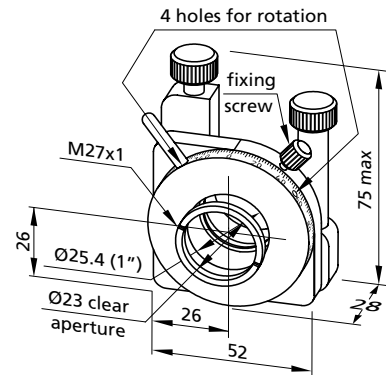
The polarizer platform is graduated in 2° on a 360° angular scale. The platform has a removable rod by which you rotate it continuously the whole 360° , without obscuring the aperture. You can use the rod on any of the 4 holes on the perimeter. The holder accepts $\varnothing 25.4$ mm optics. Optics is stopped by a rest-flange, and is secured by a threaded retaining ring with $\varnothing 23$ mm clear aperture. A tightening key for the retaining ring is available on request. Tilt and tip is done by two stainless steel fine adjustment screws with pitch of 0.25mm. The screws push rolling balls against hardened seats, ensuring smooth operation and sensitivity of 3 arcsec.

Large knobs ease the strain on your fingers. Both screws protrude from the top side, allowing easy access in dense schemes.

For tilting, the platform is preloaded against the base with L-shaped flat spring of our original design which renders great stability and eliminates induced polarization.

Three M4 tapped holes on the sides of the base and on its back allow horizontal or vertical mounting. The holder easily mounts on posts and bases.

Material: black anodized aluminium. L-shaped spring is made of high quality stainless spring steel.



3 mounting holes allow different mounting orientations, e.g. as a rotation stage.

SPECIFICATIONS

Fine screw thread	M6x0.25 mm
Tilt/tip range	$\pm 2^\circ$
Sensitivity	3 arcsec
Rotation range	360°
Scale gradation	2°
Optics accepted	
diameter	$\leq \varnothing 25.4$ mm
thickness	≤ 10.5 mm
Clear aperture	23 mm
Weight	0.13 kg

Code	Price, EUR
840-0195	155



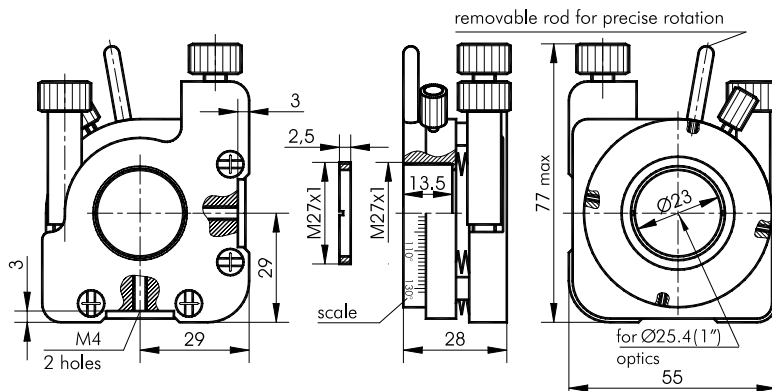
Mounting option:
Aluminium Optical Rails, 810-0005
Standard Rods, 820-0010
Rod Holders, 820-0050

840-0197

OPTICAL MOUNT OF SIDE DRIVE WITH ADJUSTABLE POLARIZER HOLDER

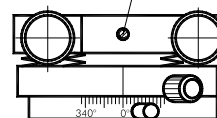


*back view
the base has an aperture
for the second optics
(not adjustable)*



- For Ø25.4 mm (1 inch) optics
- Clear aperture 23 mm
- Kinematic design
- Dimensions most compact among 1 inch optics mounts
- Tilt/tip range $\pm 2^\circ$
- Sensitivity 3 arcsec
- Both tilt and tip controlled from aside the optical path
- Ideal for dense optical schemes
- Fine adjustment screws with 0.25 mm pitch
- Hardened seats under adjustment screws
- Rotation range 360°
- Scale gradation 2°
- Accepts two pieces of optics:
 - on the platform (adjustable),
 - and on the base (not adjustable)

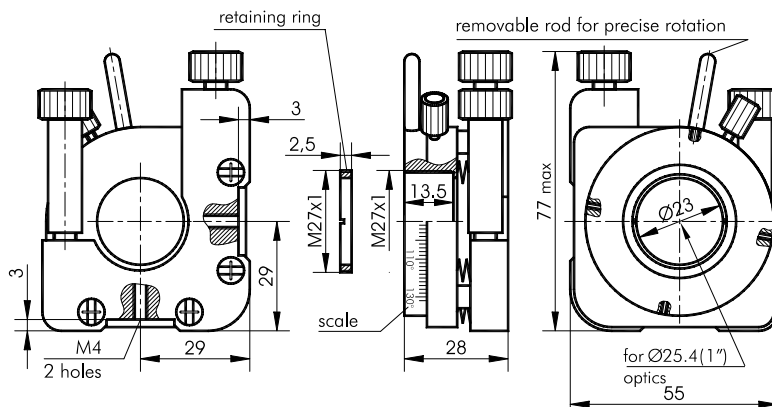
The screw for fixing optics in the base has a plastic tip. A retaining ring M27×1 to fix the optics is included. A tightening key for the retaining ring is available on request.



Code	Weight, kg	Price, EUR
840-0197	0.13	169

840-0199

KINEMATIC ADJUSTABLE POLARIZER HOLDER OF SIDE DRIVE



- For Ø25.4 mm (1 inch) optics
- Clear aperture 23 mm
- Kinematic design
- Dimensions most compact among 1 inch optics mounts
- Tilt/tip range $\pm 2^\circ$
- Sensitivity 3 arcsec
- Both tilt and tip controlled from aside the optical path
- Ideal for dense optical schemes
- Fine adjustment screws with 0.25 mm pitch
- Hardened seats under adjustment screws
- Rotation range 360°
- Scale gradation 2°

This kinematic mount accepts crystal housings of Ø25.4mm and thickness up to 10.5 mm. The housing is stopped by a rest-flange inside the central aperture of the platform, and is secured by a threaded retaining ring.

The rotation position (X axis) is indicated on 360° angular scale with a gradation of 2° . The rotation platform has a removable rod that allows continuous 360° rotation without obscuring the aperture.

Angular adjustment range of tilt/tip (Z, Y axes) is $\pm 2.5^\circ$. Two high resolution stainless steel vertical-drive screws with a pitch of 0.25 mm and "wedge and ball" mechanism

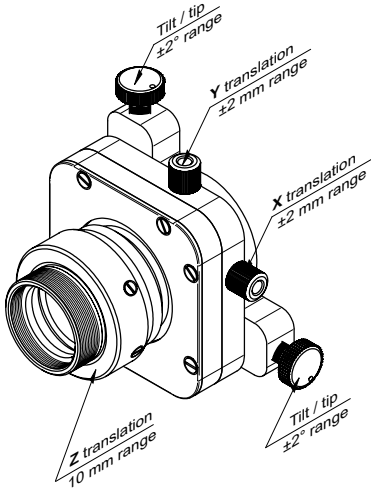
ensure smooth and precise angular tilt/tip adjustment with 3 arc sec sensitivity. For tilting, the platform it is preloaded against the base with high quality springs.

An extra M4 tapped hole on the side of the base allows you to operate the mount as a side-drive adjustment control mount. The mount is made of black anodized aluminium to help minimize reflections.

A retaining ring M27×1, two Teflon rings and a tightening key to fix the crystal ring housing is included.

Code	Weight, kg	Price, EUR
840-0199	0.12	165

840-0210 FIVE AXES KINEMATIC OPTICAL MOUNT



Five-axes mounts are considered as a combination of:

- side drive kinematic optical mount (840-0192 / 840-0193),
- Y-Z translation optical mount (990-0050),
- optical zoom option.

Five-axes optical mount 840-0210 consists of:

- top side regulation two-axes kinematic mirror mount with two screws (thread pitch 250 µm (100 TPI));
- two-axes translation stage with 2 mm travel range driven by two screws (thread pitch 250 µm (100 TPI));
- zoom providing 100 mm travel range.

SPECIFICATIONS

Fine screw thread	M6×0.25 mm
Optics diameter	Ø25.4 mm
Tilt/tip range	±2°
	screw thread pitch 250 µm (100TPI)
Sensitivity	3 arcsec
XY translation range	±2 mm
	screw thread pitch 250 µm (100TPI)
Sensitivity for XY translation	1 µm
Sensitivity for Z translation	1 µm
Z translation range	10 mm
Material	aluminium
Finishing: 840-0210	black anodized
840-0210-10	vacuum compatible
Weight	0.28 kg

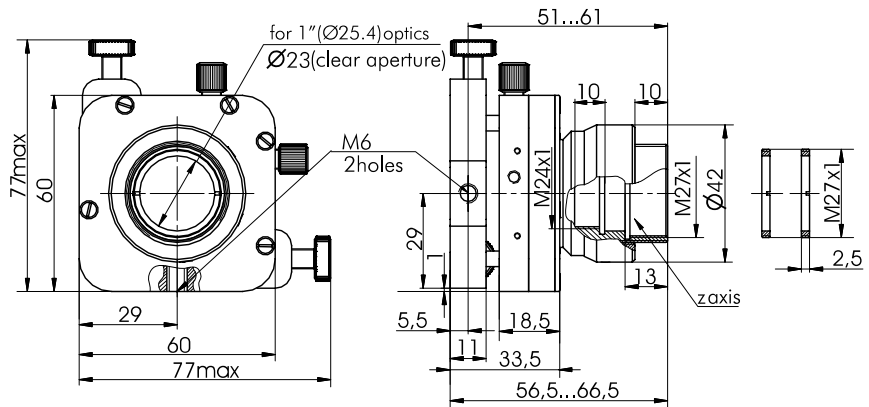
840-0210 holds 1 inch optics. The adapters may be purchased to mount optics of different diameters. Five-Axes Optical Mounts have M4 holes on the bottom to accommodate different mounting systems directly or through thread adapters.

Vacuum compatible model of the mount can be provided on request.

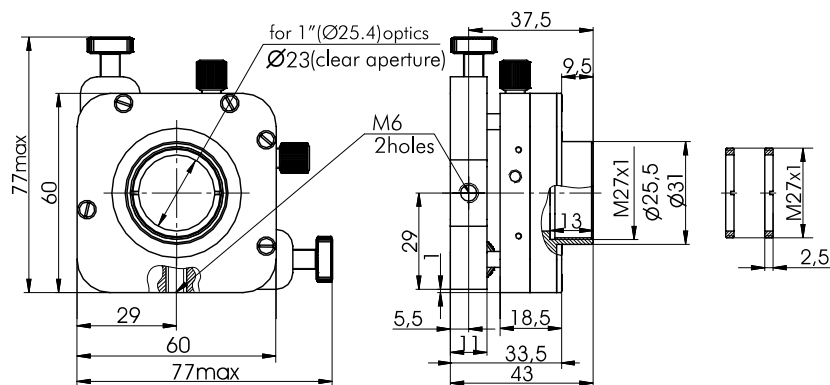
Complementary Products

Code	Page
840-0192	7.51
840-0193	7.51
990-0050	online

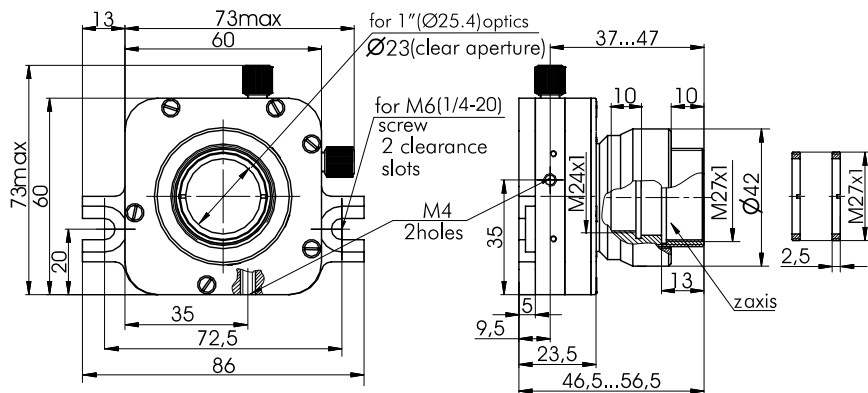
Five Axes Kinematic Optical Mount – 840-0210



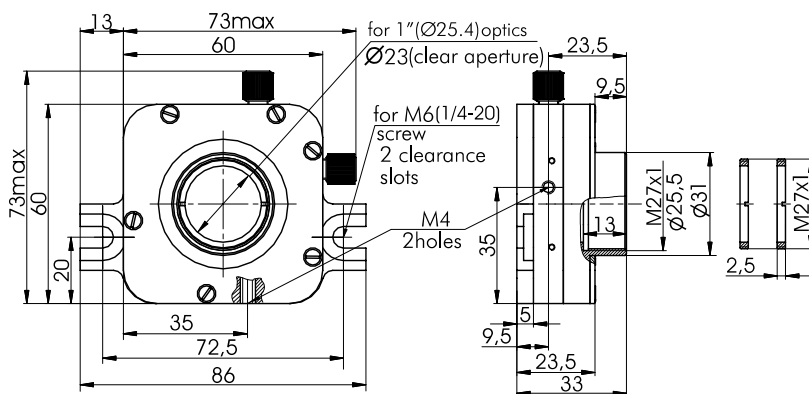
Four Axes Kinematic Optical Mount – 840-0209



Three Axes Translation Optical Mount – 840-0208



Two Axes Translation Optical Mount – 840-0207



Ordering Information

Code	Mount	Price, EUR
840-0210	Five Axes Kinematic Optical Mount: - Tilt/tip range; - XY translation range; - Z translation range	270
840-0209	Four Axes Kinematic Optical Mount: - Tilt/tip range; - XY translation range	257
840-0208	Three Axes Translation Optical Mount: - XY translation range; - Z translation range	213
840-0207	Two Axes Translation Optical Mount: - XY translation range	206

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840-0240

TWO AXES TRANSLATION POLARIZER HOLDER

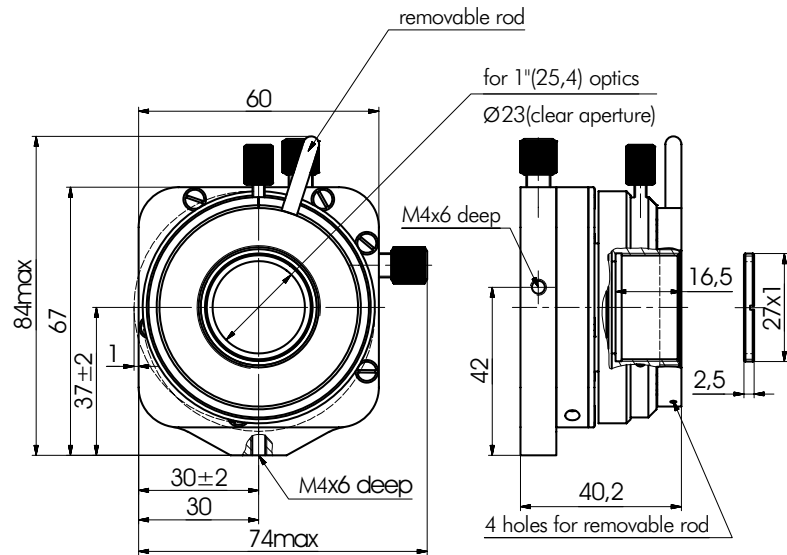


- For 1" or smaller optics
- Clear aperture $\varnothing 23$ mm
- Continuous 360° rotation
- Scale gradation 2°
- X-Y travel range 2 mm

Two Axes Translation Polarizer Holder 840-0240 accepts optics of 25,4 mm diameter or with additionally provided adapter can accommodate smaller than 1" (25,4 mm) optics. The rotation position (X axis) is indicated on 360° angular scale with a gradation of 2°. The rotation platform has a removable rod that allows continuous 360° rotation without obscuring the aperture. This removable rod can be fitted into any of the four holes (10°, 100°, 290°, 280°) on the perimeter of rotation platform.

Two axes (Y-Z) translation stage with 2 mm travel range is driven by two screws. Two axes translation polarizer holder has M4 hole on the bottom and can be fitted in different mounting systems. A retaining ring M27×1, two teflon rings and tightening key are included.

Code	Weight, kg	Price, EUR
840-0240	0.27	290





Translation & Rotation Stages

860-0010

COMPACT TRANSLATION STAGE



The model 860-0010 compact translation stage is well suited for positioning applications in laboratory experiments requiring linear motion within small space. Ball bearing rolling between opposing of hardened, polished steel rods provide smooth, accurate translating platform's ride.

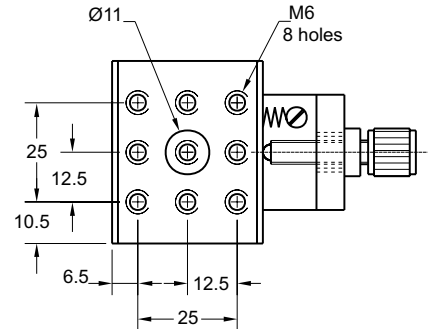
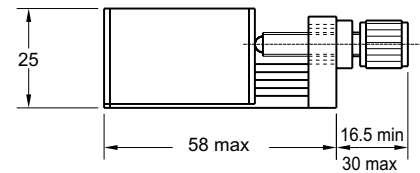
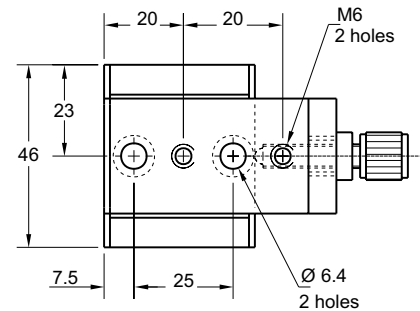
Model 860-0010 stages are designed to stack for X-Y motion. Vertical motion may be also added using model 810-0100

angle bracket. Model 860-0010 stage provides 13 mm travel with 5 μm resolution and max. 3 kg loading capacity. Max. straightness is ± 6 μm only.

Model 860-0010 is completed with steel screw M6×0.5mm and brass collar with an outer thread M10×1mm for mounting.

Additionally model 860-0010-02 is completed with model 870-0010 precise screw. 860-0010-04 option comes with model 870-0020 micrometer screw with reading marks.

Finish: black oxidized steel.

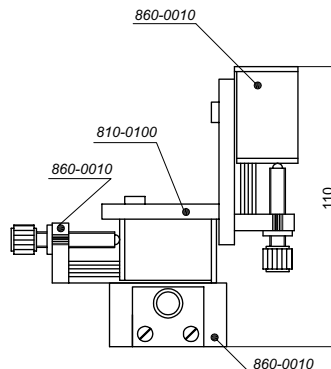
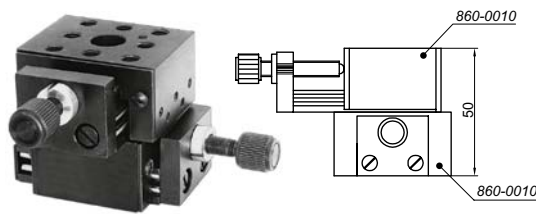


*Mounting option:
Large Rod with
Rod Base 810-0050,
Large Rod Mounting
Clamp 810-0061,
Movable Base 820-0090,
Compact Translation
Stages 860-0010 XYZ*

Code	Weight, kg	Price, EUR
860-0010	0.31	107
860-0010-02	0.34	133
860-0010-04	0.34	138

Complementary Products

Code	Page
810-0050	7.10
810-0061	7.12
810-0100	online
820-0090	7.19
870-0010	online
870-0020	online



860-0051 TRANSLATION STAGE



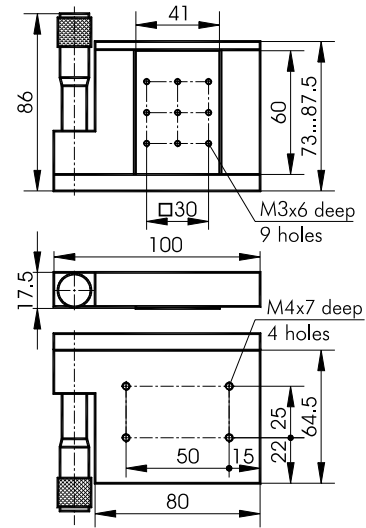
- Micrometer drive
- X-Y-Z configuration available

SPECIFICATIONS

Travel range	15 mm
Sensitivity	1 μm
Scale graduation	10 μm
Tracking accuracy	2 μm
Load capacity:	
horizontal	10 kg
vertical	5 kg
Weight	0.41 kg

Vacuum compatible Translation System 860-0051V-XYZ is available at www.eksmaoptics.com

Code	Price, EUR
860-0051	249

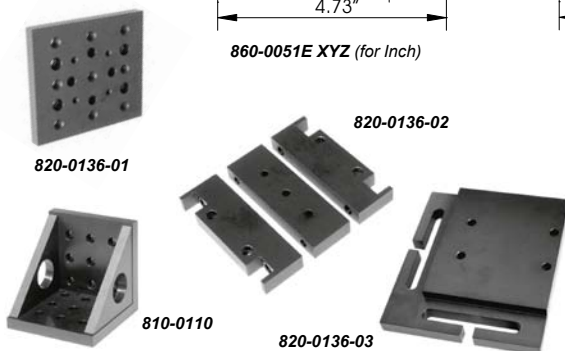
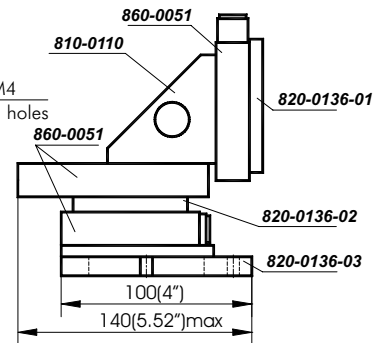
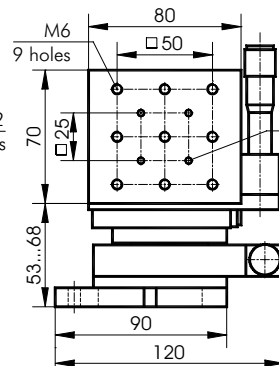
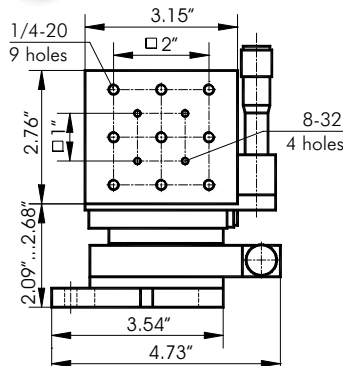
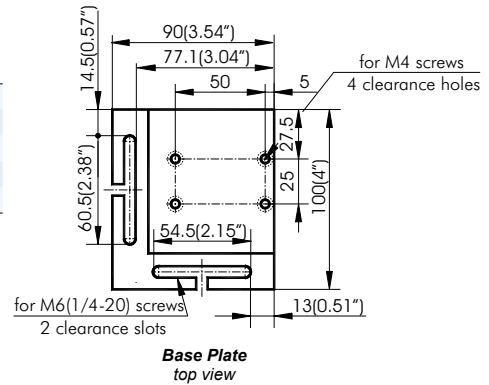


XYZ Translation System – 860-0051 XYZ



SPECIFICATIONS

Travel range	15 mm
Sensitivity	1 μm
Scale graduation	10 μm
Tracking accuracy	2 μm
Load capacity	5 kg



The stages are assembled of:

- 3 pieces of 860-0051
- 1 piece of 820-0136-02
- 1 piece of 820-0136-01
- 1 piece of 820-0136-03
- 1 piece of 810-0110

Code	Weight, kg	Price, EUR
860-0051E XYZ	1.35	747
860-0051M XYZ	1.35	747

860-0052

STABLE STEEL TRANSLATION STAGE



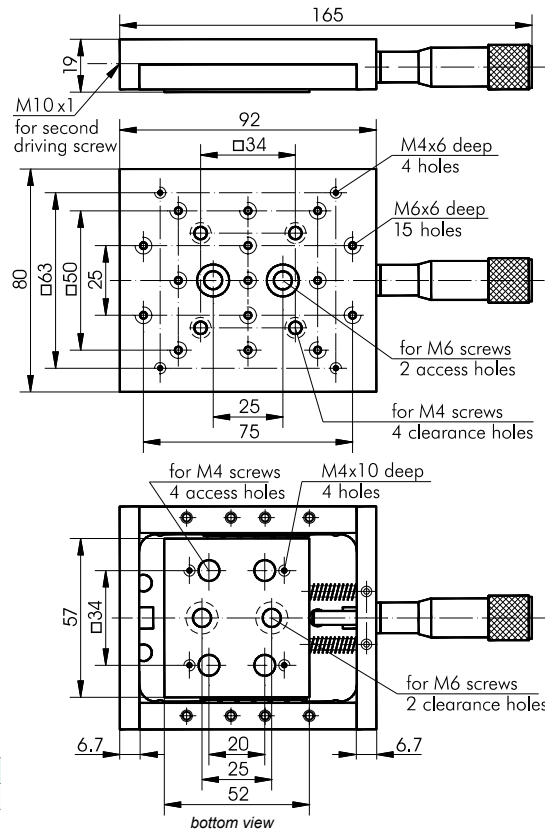
- Solid box design
- 25 mm travel range
- Variety of mounting holes and options
- Easily stacked in X-Y configuration
- For Z axis add 810-0146
- Large mounting surface
- Made of steel

SPECIFICATIONS

Travel range	25 mm
Sensitivity	1 μm
Reading accuracy	10 μm
Angular deviation	<200 μRad
Tracking accuracy	2 μm
Load capacity:	
horizontal	20 kg
vertical	5 kg
Assemblies:	
X-Y	directly
Z	810-0146

Complementary Products

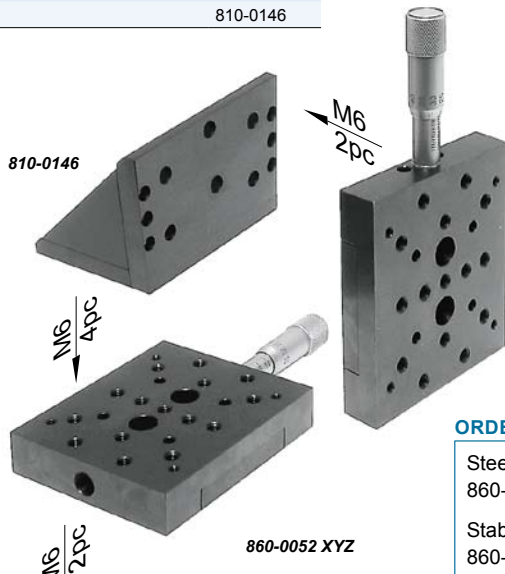
Code	Page
810-0146	online



Stable Steel Translation Stages 860-0052 have large mounting surface, great travel range for this relatively small size, low profile, and increased stability and precision. Box design reinforces the stage, reducing flex. Steel, as a material, adds to stability.

You can mount a second driving screw on the other end (to lock the platform in fixed positioning applications). The platform is preloaded by springs. The stages can be stacked immediately to other units, or to their own type (e.g. in X-Y configuration). The stages can be used upside-down.

For immediate attachment the base has 2 clearance holes for M6 screws. Similarly, the platform has 4 clearance holes for M4 screws. Slip the screws from top or under through the access holes in a platform/base. Micrometer 870-0040-25 comes as standard. The stage has black anodized finish.



ORDERING INFORMATION

Steel version:
860-0052; 860-0052 XYZ

Stable Steel version:
860-0052S; 860-0052S XYZ

Code	Weight, kg	Price, EUR
860-0052	0.78	298
860-0052XY	1.7	596
860-0052XYZ	2.58	930
860-0052S	0.8	398
860-0052SXY	1.6	796
860-0052SXYZ	2.6	1230

Vacuum Compatible Translation Stage **860-0052V** is available.

860-0052V XYZ

For product data sheet please visit www.eksmaoptics.com

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860-0053 LOW COST LINEAR TRANSLATION STAGE



- Solid box design
- 25 mm travel range
- Variety of mounting holes and options
- Easily stacked in X-Y configuration
For Z axis add 810-0146-A
- Large mounting surface
- Made of aluminium

Stable Aluminium Translation Stages 860-0053 have large mounting surface, great travel range for this relatively small size, low profile and increased stability of precision. Box designed reinforces the stage, reducing flex. The platform is preloaded by springs. The stage could be stacked immediately to other units or to their own type (e.g. in X-Y configuration). Z-axis is attached through angle bracket 810-0146-A. The stage could be used upside-down. For immediate attachment the base has 2 clearance holes for M6 screws. Similarly, the platform has 4 clearance holes for M4 screws. Slip the screws from top or under through the across holes in a platform/base. Micrometers 870-0040-25 come as standard.



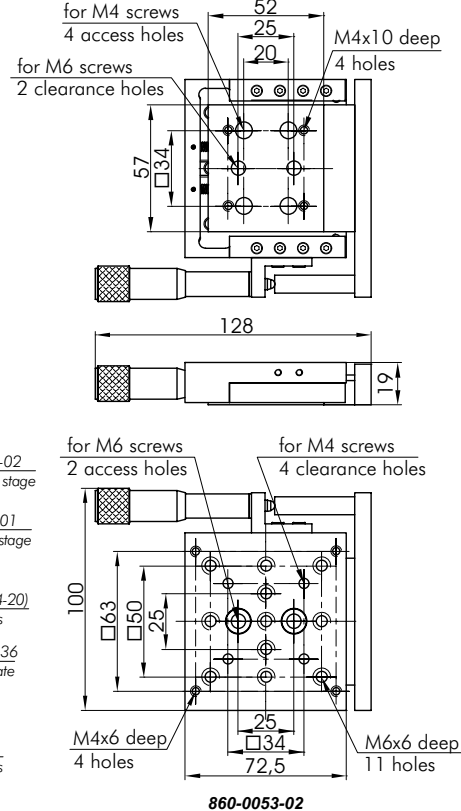
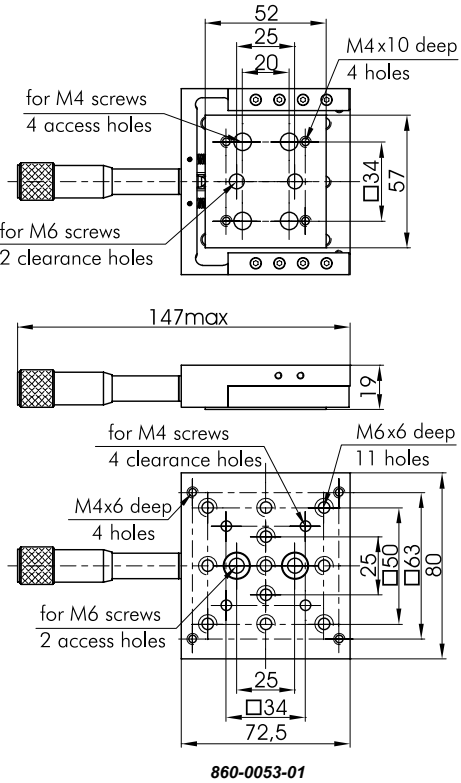
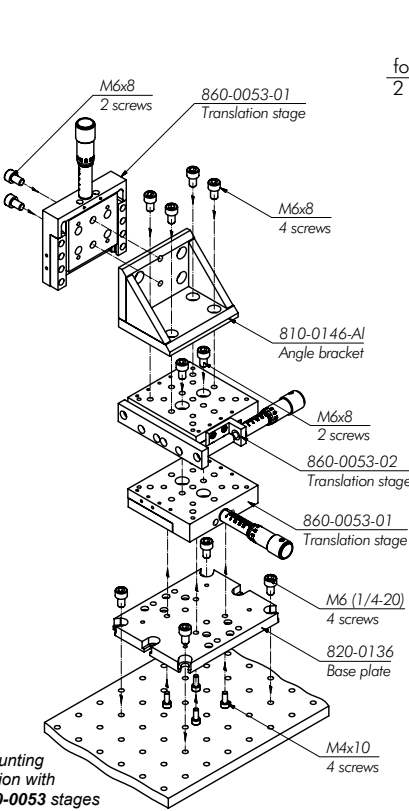
Complementary Products

Code	Page
810-0146	online
820-0136	online

SPECIFICATIONS

Travel range	25 mm
Sensitivity	1 µm
Reading accuracy	10 µm
Angular deviation	< 200 µrad
Tracking accuracy	2 µm
Load capacity:	
horizontal	20 kg
vertical	5 kg
Weight	0.4 kg
Material	black anodized aluminium
Assemblies:	
X-Y	directly
Z	810-0146-A

Code	Description	Price, EUR
860-0053-01	standard stage	210
860-0053-02	side driven stage	217
860-0053-03	side driven right hand stage	217



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860-0054

STAINLESS STEEL SINGLE TO MULTI-AXES STAGES

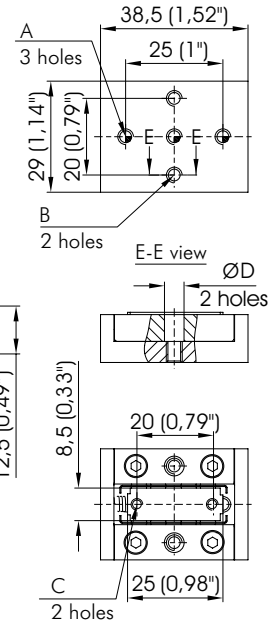


860-0054-02 and 860-0054

- Solid box design
- Compact design
- 6 mm travel range
- Large mounting surface
- Easily stacked in X-Y configuration
- Made entirely of stainless steel – easily adaptable for vacuum applications

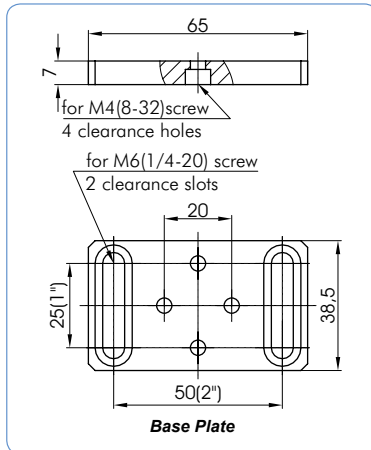
Stable Steel Translation Stages 860-0054 have low profile, and increased stability and precision. Box design reinforces the stage, reducing flex. Steel, as a material, adds to stability. The platform is preloaded by springs.

The stages can be stacked immediately to other units, or to their own type (e.g. in X-Y configuration). The stages can be used upside-down. The stages are entirely made of stainless steel.



860-0054 with Mini Micrometer 870-0055-04

860-0054; 860-0054-02



Complementary Products

Code	Page
810-0145	online
860-0054	7.61
870-0055-04	online
870-0090ML	online
870-0090MN	online

SPECIFICATIONS

Travel range	6 mm
Sensitivity	1 µm
Reading accuracy	10 µm
Angular deviation	<150 µrad
Tracking accuracy	2 µm
Load capacity:	
horizontal	45 kg
vertical	3 kg
Weight	0.1 kg
Assemblies:	
X-Y	directly
Z	810-0145

Dimension	860-0054 (metric)	860-0054-02 (imperial)
A	M4×3 deep	#8-32×0.11" deep
B	M4×5 deep	#8-32×0.19" deep
C	M3×6 deep	#4-40×0.23" deep
D	6×7 deep	0.2×0.27" deep



860-0054 with Fine Hex Adjustment Screw 870-0090MN

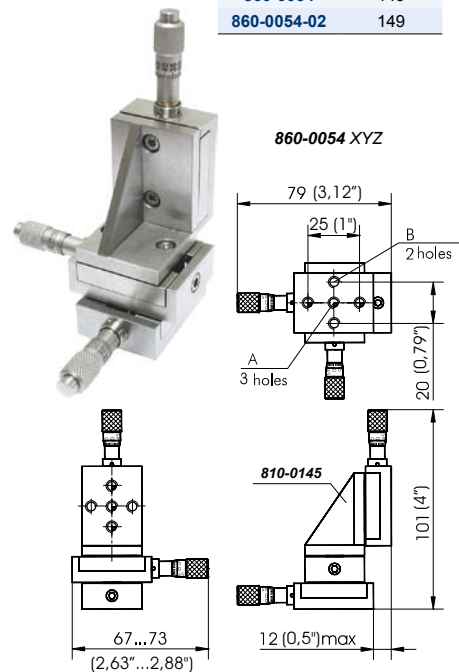


860-0054 with Fine Hex Adjustment Screw 870-0090ML

Code	Price, EUR
860-0054	149
860-0054-02	149

ORDERING

860-0054 – model of metric dimensions – is the **standard** one.
860-0054-02 – model of imperial dimensions – is produced **on demand**.
Note: actuator is **not included**. It can be ordered separately. Suitable micrometers are: **870-0055-04**, **870-0090M**, **870-0090MN**.
For vacuum applications please indicate this in your order. We will prepare the stage with appropriate components (e.g. apply alternative lubricants).



860-0056 NON-MAGNETIC TRANSLATION STAGE

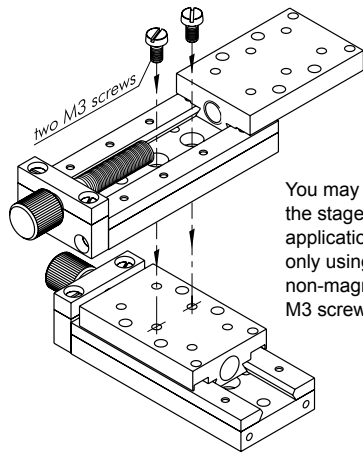
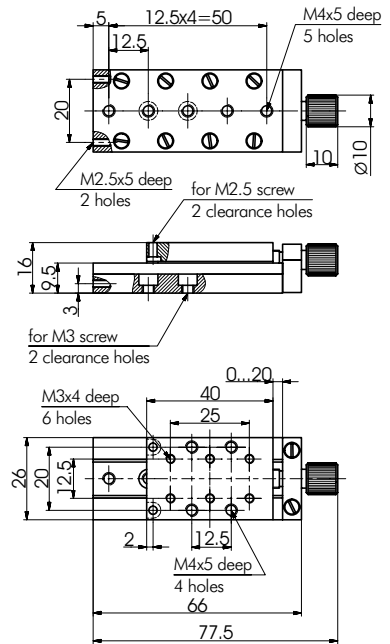


- Precision non-magnetic translation stage
- In this stage are used only non-magnetic materials (brass, bronze, aluminium)
- X-Y-Z configurations available

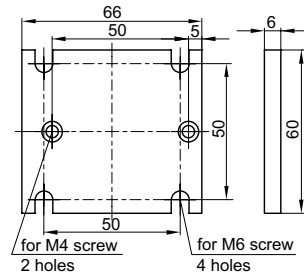
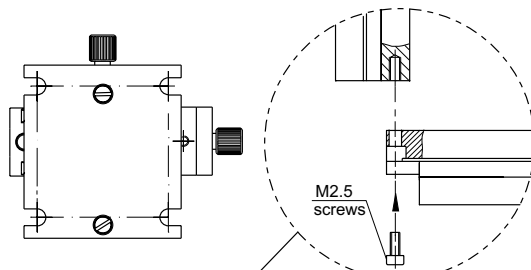
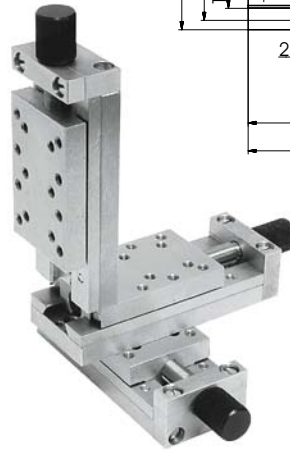
Code	Price, EUR
860-0056	280
860-0056 XY	560
860-0056 XYZ	889

SPECIFICATIONS

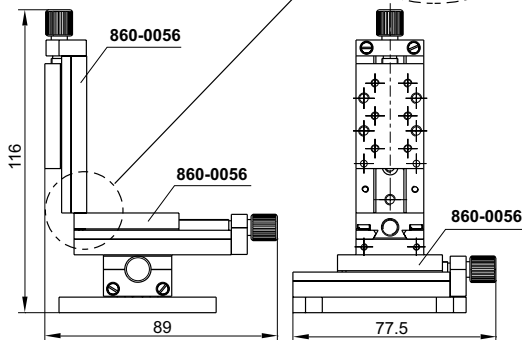
Travel range	20 mm
Sensitivity	5 µm
Screw backlash	0.02 mm
Load capacity:	
horizontal	2 kg
vertical	1 kg
Weight	0.19 kg



You may stack the stages for XY applications directly only using two non-magnetic M3 screws

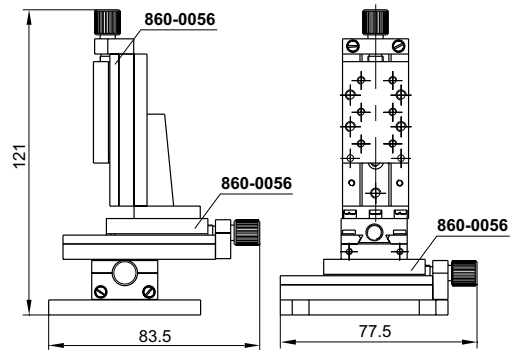


Base Plate



860-0056 XYZ

For quick YZ assembly stages may be stacked using two non-magnetic M2.5 screws



860-0056 XYZ

Angle bracket allow to stabilize stack the stages for YZ motion

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860-0058

SIDE CONTROL LINEAR STAGES



Side control linear translation stages 860-0058 are equipped with 870-0040 series micrometer screws and provide convenient control in limited space set-ups. Both left-hand (860-0058-10, 860-0058-20) and right-hand (860-0058-11; 860-0058-21) versions are available. These stages can be used in multi-axis combinations and are compatible with 860-0060 series stages. In dense optical schemes with limited access to multi-axis stages you have a possibility to control all three axes from one side.

- 10, 20 mm travel ranges
- Side Control Linear Stage
- Driving micrometer screw
- Precise ball bearings
- Compact XYZ configuration with all screws from one side
- Right and left hand versions are available

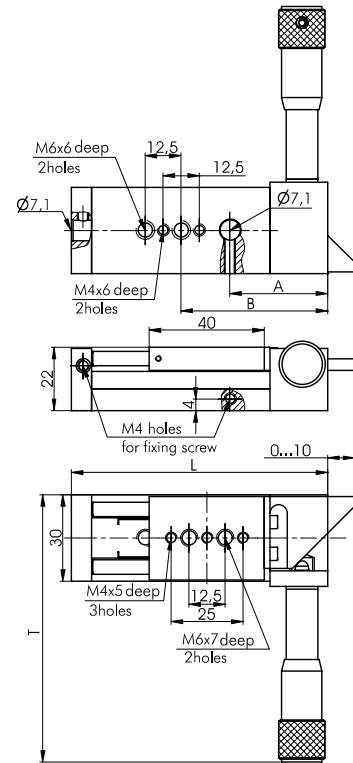
SPECIFICATIONS

Model	860-0058-10	860-0058-20
Travel range, mm	10	20
Sensitivity, μm		1
Tracking accuracy, μm		2
Reading accuracy, μm		5 (1/2 division)
Load capacity:		
horizontal, kg		10
vertical, kg		5
Weight, kg	0.18	0.23
Assemblies:		
X-Y		810-0250
Z		810-0150
Price, EUR	206	239

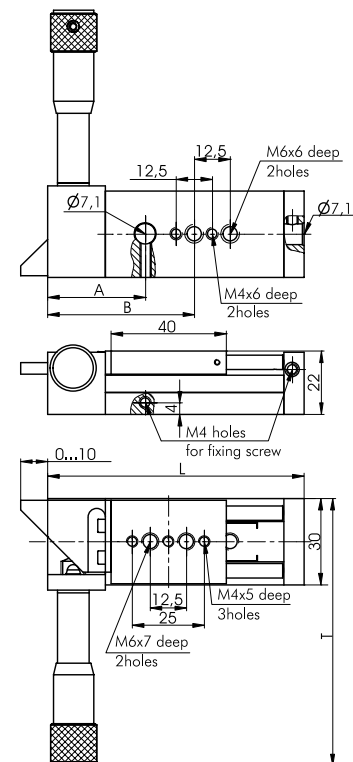
Catalogue number	Description	A, mm	B, mm	L, mm	T, mm	Weight, kg
860-0058-10	left hand version	31	46	79	67-77	0.18
860-0058-11	right hand version	31	46	79	67-77	0.18
860-0058-20	left hand version	34	51	89	74-94	0.23
860-0058-21	right hand version	34	51	89	74-94	0.23



Base Plate 810-0250



860-0058
left hand version



860-0058
right hand version

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MOTORIZED POSITIONERS

860-0060 NARROW (width 30 mm) ALUMINIUM TRANSLATION STAGES

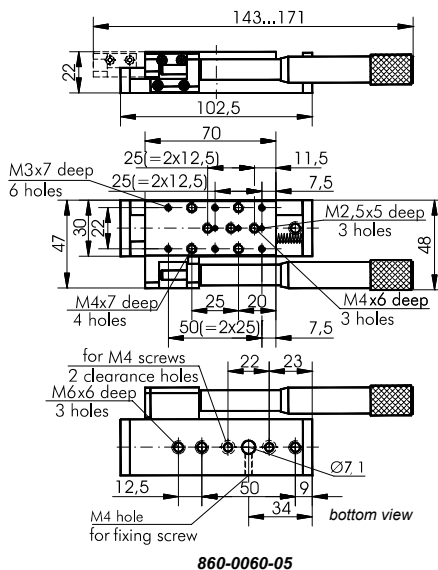
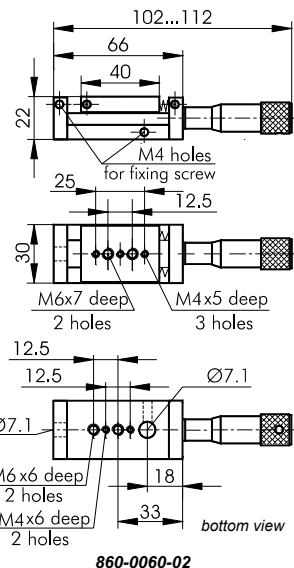
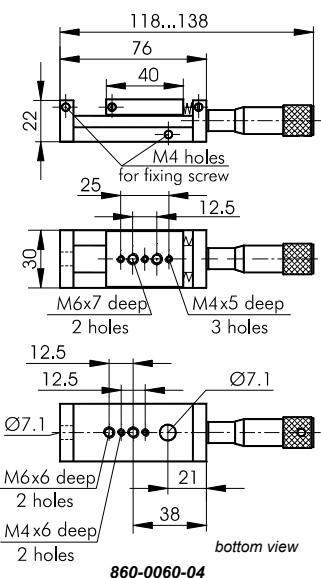


Stages 860-0060 allow manual linear motion. Standard micrometers 870-0040 are used as driving screws. Customer may specify other screws with non-matching travel range to save space.

A platform is spring preloaded against the driving screw to provide high resolution, low backlash, smooth and accurate motion.

An array of mounting holes on a platform and on a base allow a variety of convenient mounting options, including mounting on Posts.

- 10, 20, 25, 50 mm travel ranges
- Optional travel: 5, 6, 30 mm
- Stackable for compact X-Y-Z configuration
- Custom angle brackets are made promptly
- Driving micrometer screw
- Precise ball bearings
- Material: black anodized aluminium

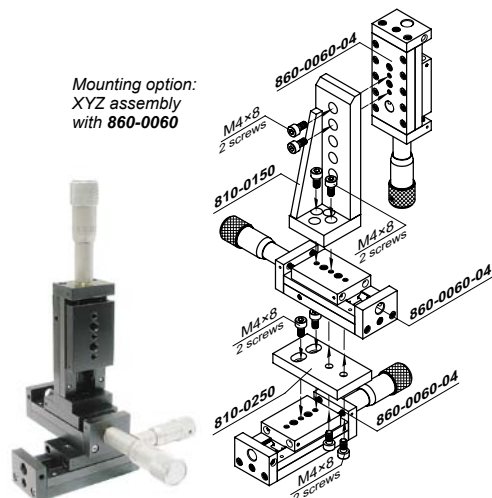


Specifications	860-0060-02	860-0060-04	860-0060-25	860-0060-05
Travel range, mm	10	20	25	50
Sensitivity, µm			1	
Tracking accuracy, µm			2	
Reading accuracy, µm		5 (½ division)		
Load capacity:				
horizontal, kg			10	
vertical, kg			5	
Weight, kg	0.16	0.2	0.21	0.31
Assemblies:				
X-Y	810-0250	810-0250	810-0250	directly
Z	810-0150	810-0150	810-0150	810-0160
Price, EUR	191	224	249	283

Complementary Products	
Code	Page
810-0150	online
810-0150-01	online
810-0160	online
810-0250	7.63
820-0254	7.24
870-0040	online

For rigid XYZ assembly we offer a connecting plate 810-0250 (for Y axis) and an angle bracket 810-0150 (for Z axis).

For quick XYZ assembly stages may be stacked using connecting cones 820-0254 (Ø7.1 holes on the sides are provided).



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860-0060

**MEDIUM (width 50 mm) ALUMINIUM
TRANSLATION STAGES**

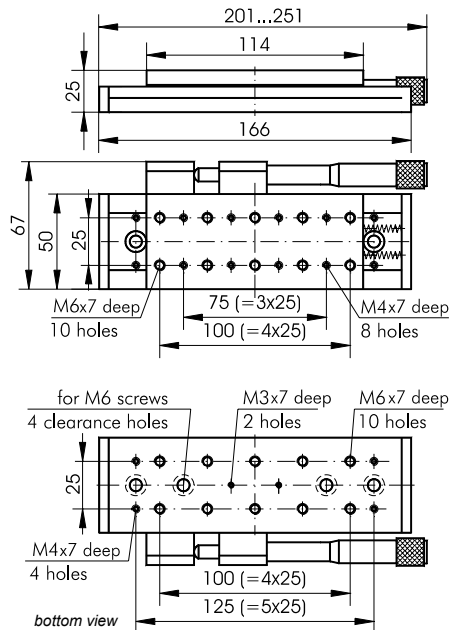
- 50, 100, 150 mm travel ranges
- Stackable for X-Y-Z configuration
- Convenient patterns of mounting holes
- Precise ball bearings
- Custom angle brackets are made promptly
- Material: black anodized aluminium



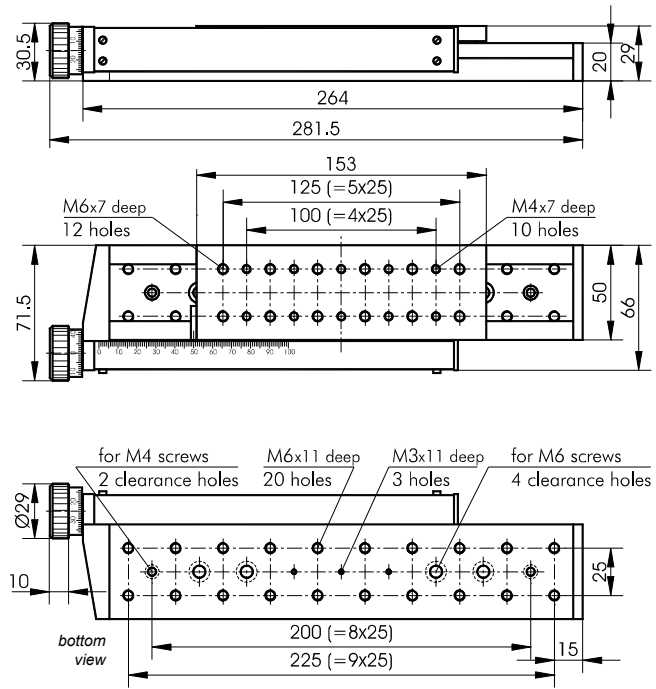
860-0060-06 uses 870-0040 micrometer as a driving screw. The platform is spring preloaded against the screw.

860-0060-08 and 860-0060-10 use their own integrated driving screws. The screw has a micrometric scale (on the body and knob). The pitch of the screw is 0.5 mm. Custom pitch and gears are available on request.

The platform of 860-0060-08 (-10) is preloaded by a collar of our original design on the screw, rendering an increased load capacity, stability, and reduced backlash.



860-0060-06



860-0060-08

Specifications	860-0060-06	860-0060-08	860-0060-10
Travel range, mm	50	100	150
Sensitivity, μm		1	
Tracking accuracy, μm		2	
Reading accuracy, μm	10	10	10
Load capacity:			
horizontal, kg	40	40	40
vertical, kg	9	20	20
Weight, kg	0.74	1.24	1.15
Price, EUR	397	490	549

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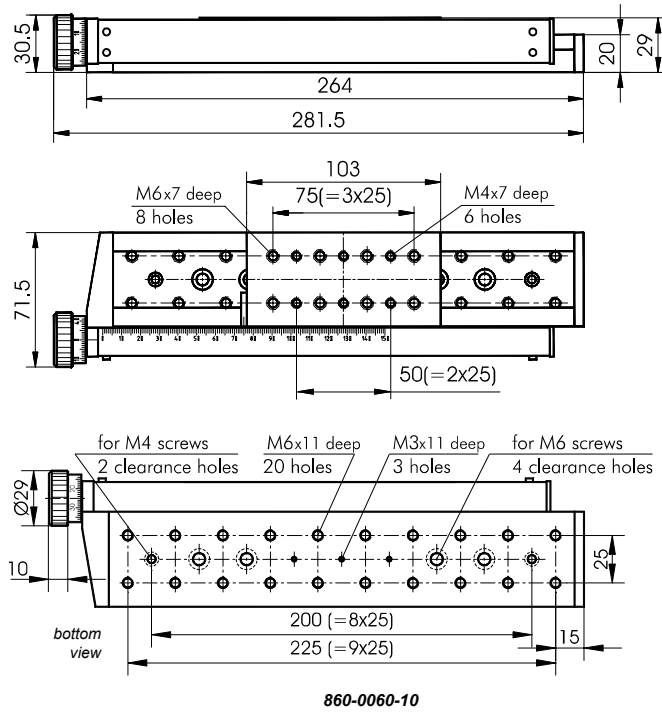
BASE MOUNTS &
ACCESSORIES

OPTICAL
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OPTICAL
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MOTORIZED
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X-Y-Z ASSEMBLIES

XY axes stages stack **directly**.
For Z axis we offer an angle bracket **810-0160**.

Complementary Products

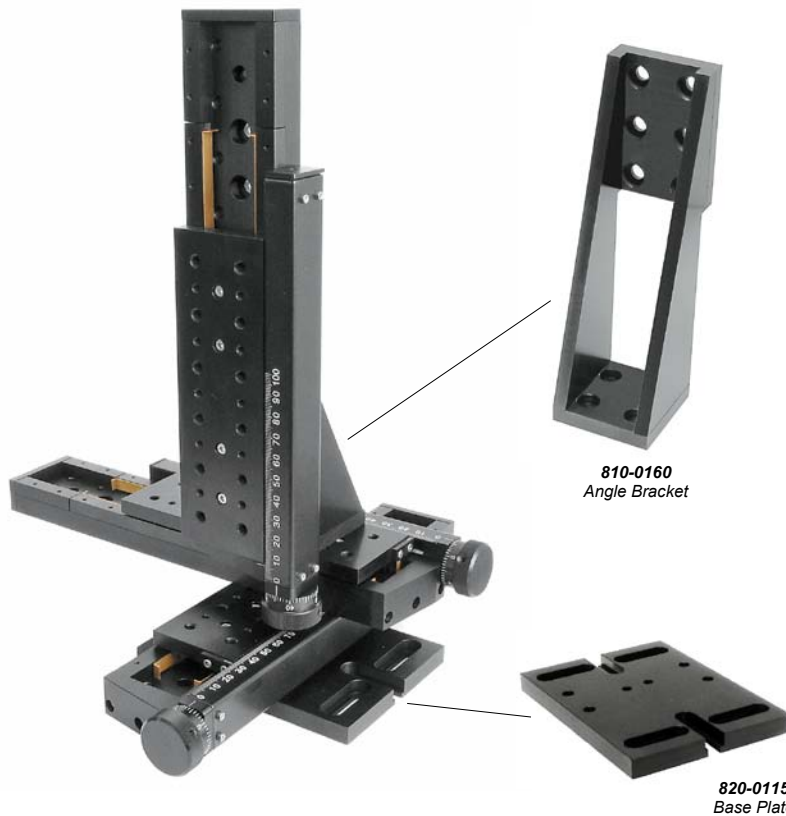
Code	Page
810-0160	online
870-0040	online

Vacuum Compatible Aluminium Translation Stages **860-0060V-08**, **860-0060V-10** is available.



For product data sheet please visit www.eksmaoptics.com

Example of 860-0060-08 XYZ



Complementary Products

Code	Page
810-0160	online
860-0060-08	7.65

860-0070-06

LOW PROFILE TRANSLATION STAGE WITH QUICK MOVE LEVER



860-0070-06
with insert platform



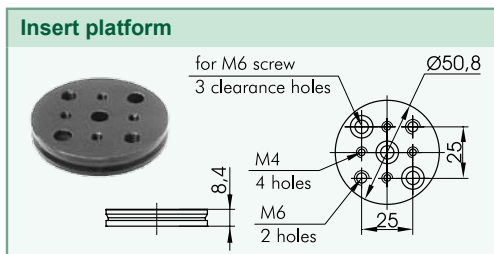
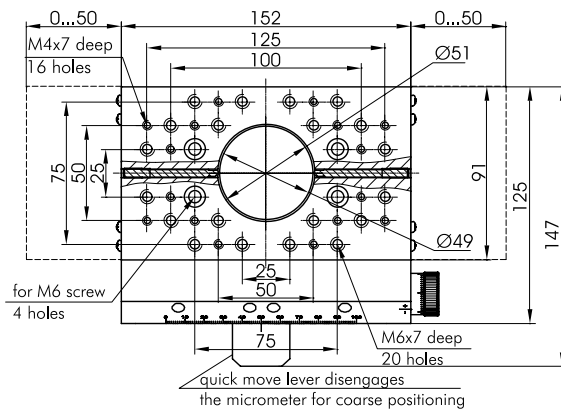
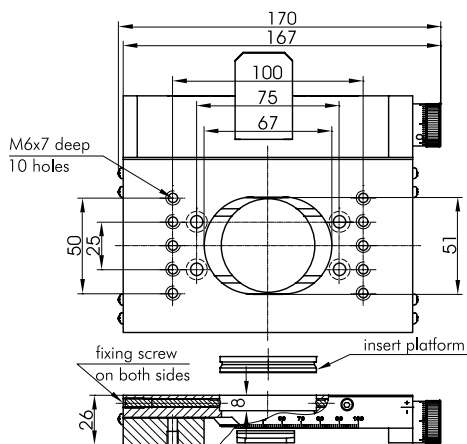
860-0070-06 xy
with insert platform

- Lever for quick movement by passing the driving screw
- Precise movement
- 100 mm travel range
- Quick move lever bypassing a driving screw
- Stackable for XY positioning
- 2 inches (Ø50 mm) clear aperture
- Insert platform with M6, M4 and clearance holes

SPECIFICATIONS

Travel range	100 mm
Sensitivity	1 µm
Scale graduation	10 µm
Load capacity	16 kg
Weight	0.6 kg

Code	Price, EUR
860-0070-06	498
860-0070-06 XY	996



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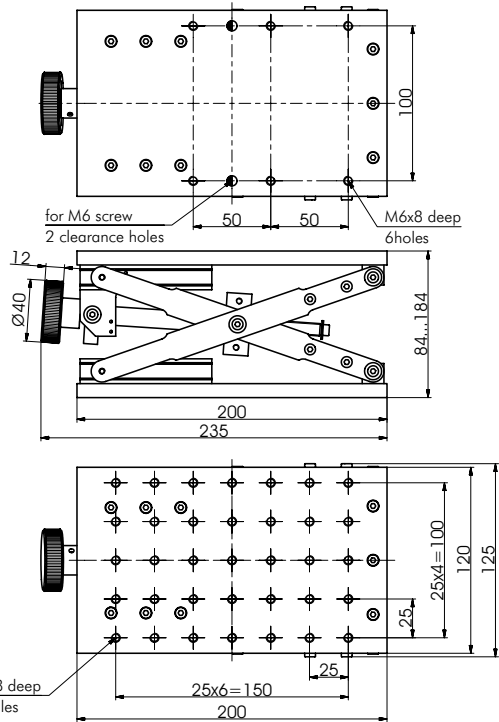
OPTICAL MOUNTS

OPTICAL POSITIONERS

TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

860-0075 VERTICAL TRANSLATION STAGE



- Pantograph design
- 16 ball bearings
- Precision lead screw
- 100 mm vertical travel
- Height: min 84 mm
max 184 mm
- Top and bottom plates parallel to 1 mm
- Load capacity 7 kg
- Weight 2.72 kg

Code	Price, EUR
860-0075	381

Vertical Translation Stage 860-0075 boasts our unique design. Being very compact, it provides smooth and stable adjustment of height. It has a large travel range, and it supports large loads. While moving the platform stays parallel to the base.

The lead screw acts at a varying angle, so the resolution of the stage varies with position.

The platform has an array of M6 holes spaced by 25 mm. The base has six M6 and two Ø6.5 holes.

Material: black anodized aluminium.

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- OPTICAL POSITIONERS
- TRANSLATION & ROTATION STAGES
- MOTORIZED POSITIONERS

860-0085

BASIC TRANSLATION STAGES



860-0085-02

860-0085-01

- 10 mm travel
- Low profile
- X-Y-Z direct stacking



860-0085-02
bottom view

860-0085-01
bottom view

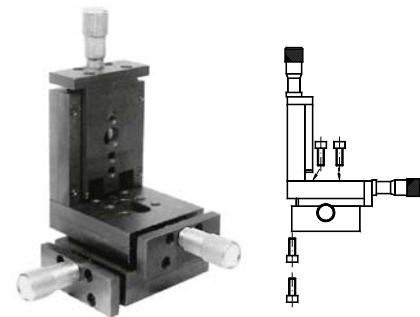
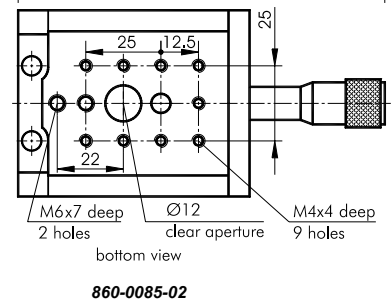
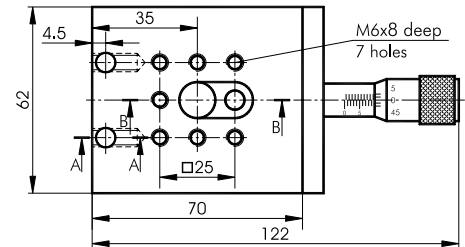
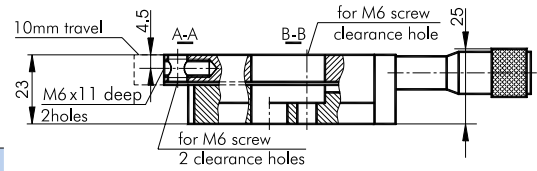
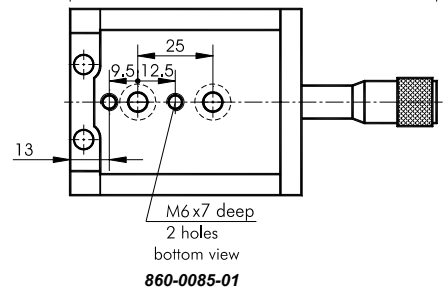
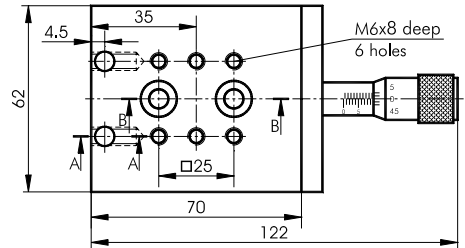
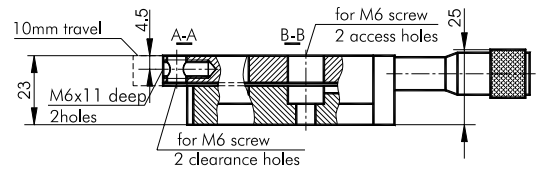
Basic Translation Stages 860-0085 can be stacked for XYZ applications. 860-0085-01 stage should be stacked in XY axes with greater stability (by two M6 screws) and 860-0085-02 should be used for Z axis (by two M6 screws). 860-0085-02 has less mounting provisions than 860-0085-01 with extra mounting holes for end items.

860-0085-02 has patterns of mounting holes: M6 on the platform, and M4 on the base. The base has a Ø12 mm clear aperture not obscured over the whole travel range. The platform rolls on ball bearing guides, and is preloaded against the driving screw by springs. Load capacity is up to 3 kg, when mounted vertically. The stages mount directly to their own type, or to other stages, optical tables. The stages are of black finished aluminium.

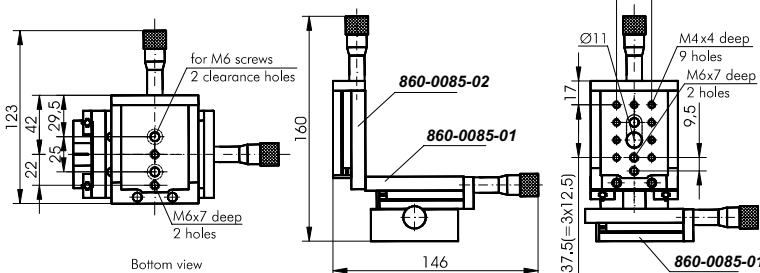
SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 µm
Angular deviation	< 200 µrad
Tracking accuracy	2 µm
Reading accuracy	5 µm (½ div.)
Load capacity:	
horizontal	10 kg
vertical (relative to driving screw)	
against	3 kg
away	0.5 kg
Weight	0.3 kg

Code	Price, EUR
860-0085-01	179
860-0085-02	188



You may stack the stages for XYZ applications directly – without intermediary pieces, using only 4 standard M6 screws.



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860-0090 MINI RAIL SYSTEM BALL SLIDE POSITIONERS



860-0090-02

The Mini Rail System Ball Slide Positioner 860-0090-02 has a travel range 5 mm. Using the micrometer driving screw mounted into M10×1 taped hole, the resolution 10 μm is achieved. Positioners have adapters for mounting onto Mini Optical Rail System rails and can be locked in a position using a fixing screw. With a help of Rail Carriers the Mini Rail System Ball Slide Positioner 860-0090-02 can be coarsely positioned in a range of 30 mm. With two 860-0090-02 and one 860-0090-01 you may stack the X-Y-Z applications directly. 810-0010 for building optical bench or precise optical rail system suitable for these precise positioners.

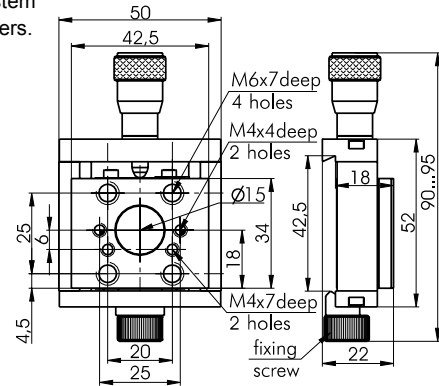


860-0090-04

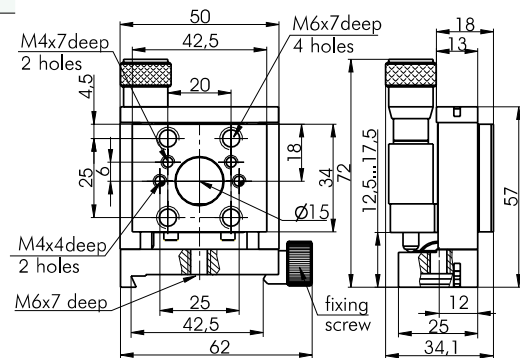
Code	Weight, kg	Price, EUR
860-0090-02	0.18	191
860-0090-04	0.23	206

SPECIFICATIONS

Travel range	5 mm
Rough XY travel range	±20 mm
Sensitivity	1 μm
Tracking accuracy	2 μm
Reading accuracy	5 μm (1/2 div.)
Load capacity:	
horizontal	3 kg
vertical	1 kg



860-0090-02

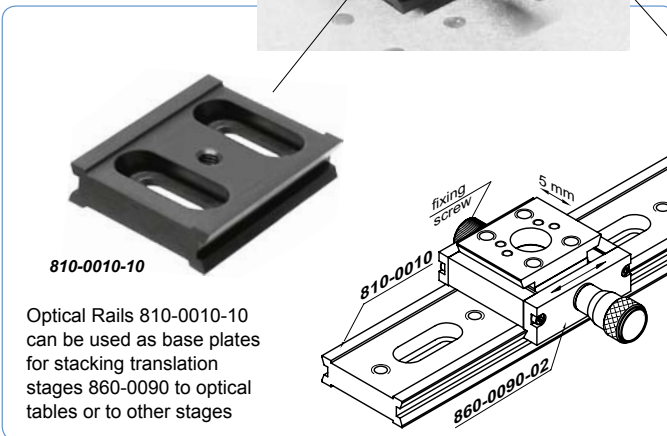
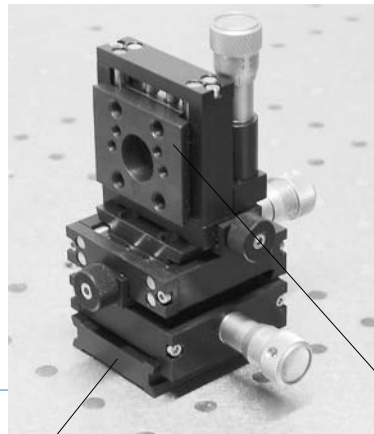


860-0090-04

Complementary Products

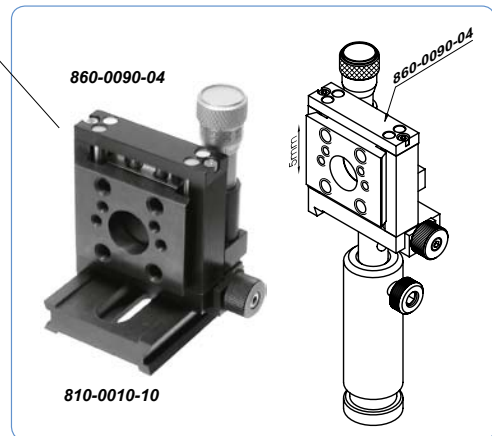
Code	Page
810-0010	online

You may stack the stages for X-Y-Z applications directly, without screws. Default base plate choice for 860-0090 XYZ is 810-0010-10 optical rail.



810-0010-10

Optical Rails 810-0010-10 can be used as base plates for stacking translation stages 860-0090 to optical tables or to other stages



860-0090-04

810-0010-10

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860-0092

**ULTRA LOW PROFILE STEEL TRANSLATION STAGES
SINGLE AND TWO-AXES**



860-0092-02

860-0092-01

**Two-Axes stages
only 20 mm
height !**

**Stages of
stainless
steel are
available!**

- Compact X-Y configuration
- Exceptionally precise orientation of axes at 90°
- Precision movement
- 10 mm travel range
- Precision ball bearings
- Vacuum version available

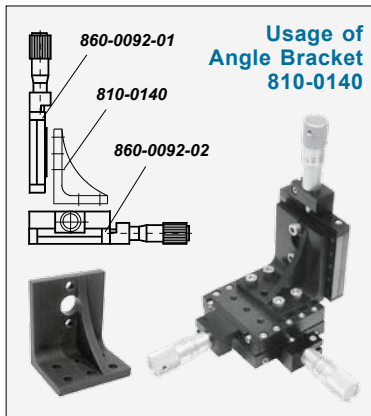
SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 µm
Tracking accuracy	2 µm
Reading accuracy	5 µm (½ div.)
Load capacity:	
horizontal	6 kg
vertical	3 kg

Ultra Low Profile Steel Two-Axes 860-0092-02 and Single Axis 860-0092-01 Translation Stages. The height of single axis translation stage is 10.5 mm, and of two axes translation stage – 20 mm. To match the low height of the stages Thin Micrometers 870-0045-54 with small knob diameter (13 mm) are used as driving screws.

It is possible to easily combine 860-0092-02, 860-0092-01 and angle bracket 810-0140 to have 3 axis translation system. Difference between models 860-0092-01 and 860-0092-01U is that the 860-0092-01U has a reversed central hole compared to the 860-0092-01. Although the system looks very light and thin, it is very reliable and precise.

Code	Weight, kg	Price, EUR
860-0092-01	0.14	171
860-0092-01U	0.14	171
860-0092-01SS	0.20	214
860-0092-01SSU	0.20	219
860-0092-01SSV	0.20	328
860-0092-01SSVU	0.20	328
860-0092-02	0.34	330
860-0092-02SS	0.35	415
860-0092-02SSV	0.35	625



**Usage of
Angle Bracket
810-0140**

Base Plate 820-0135-04

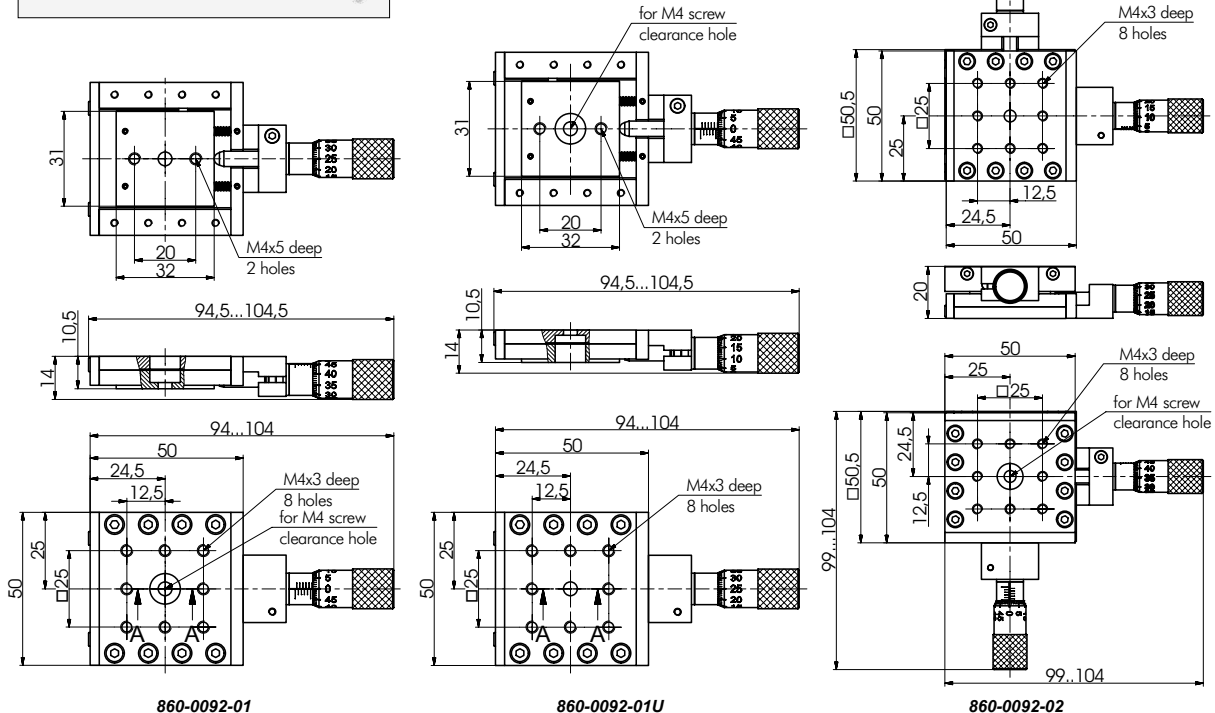


820-0135-04 universal base plate for stacking the translation stages to optical tables or to another stages.
See page www.eksmaoptics.com

Complementary Products

Code	Page
810-0140	online
820-0135-04	online

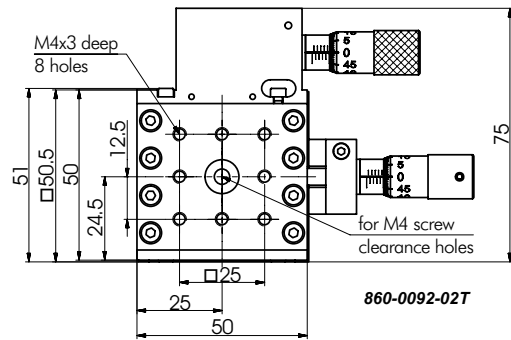
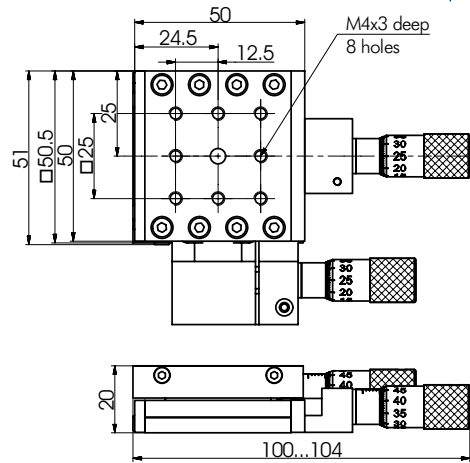
-SS in product code indicates that stages are of stainless steel;
-V in product code indicates that stages are Vacuum 10⁻⁶ Torr compatible.



860-0092T SIDE CONTROL LINEAR STEEL STAGES **new**



860-0092-01T



- Stable Steel stage
- 10 mm travel range
- Side Control Linear Stage
- Driving micrometer screw
- Precise ball bearings
- Compact XYZ configuration with all screws from one side
- Stainless Steel and Vacuum versions available

SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 μm
Tracking accuracy	2 μm
Reading accuracy	5 μm (½ div.)
Load capacity:	
horizontal	6 kg
vertical	3 kg

Code	Weight, kg	Price, EUR
860-0092-01T	0.15	192
860-0092-02T	0.35	395

Base Plate 820-0135-04



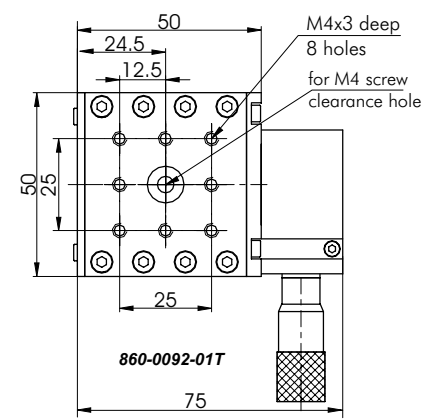
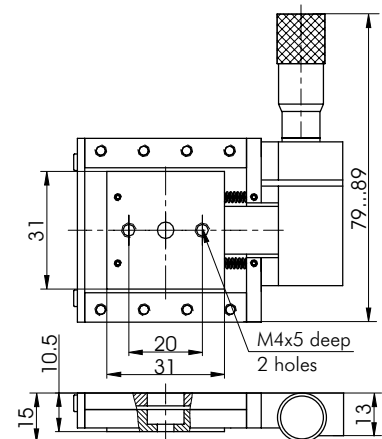
820-0135-04 universal base plate for stacking the translation stages to optical tables or to another stages. See www.eksmaoptics.com

Complementary Products

Code	Page
810-0140	online
820-0135-04	online

Usage of Angle Bracket 810-0140

Angle Bracket 810-0140



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860-0092D

VERTICAL DRIVE ULTRA LOW PROFILE STEEL TRANSLATION STAGES

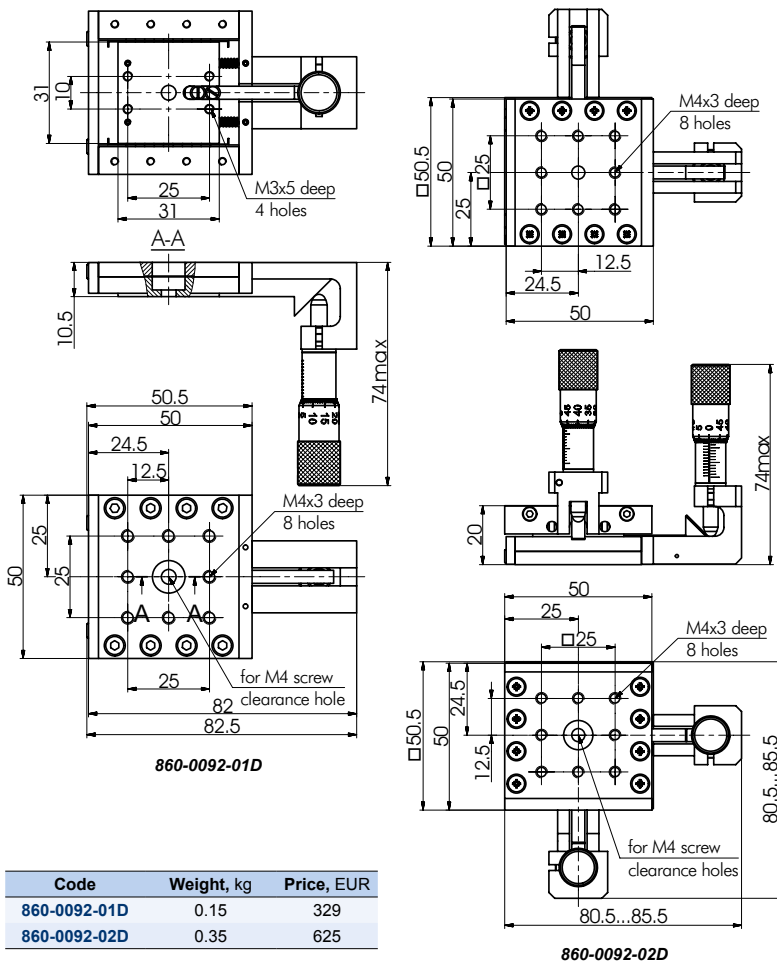


860-0092-02D

- Stable Steel stage
- 10 mm travel range
- Driving micrometer screw
- Precise ball bearings
- Stainless steel and vacuum versions available

SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 μm
Tracking accuracy	2 μm
Reading accuracy	5 μm (½ div.)
Load capacity:	
horizontal	6 kg
vertical	3 kg



Code	Weight, kg	Price, EUR
860-0092-01D	0.15	329
860-0092-02D	0.35	625

ORDERING INFORMATION

Application	Model	Note
X axis	860-0092-01	Steel Version
	860-0092-01U	
	860-0092-01T	
	860-0092-01D	
X axis	860-0092-01SS	Stainless Steel Version
	860-0092-01SSU	
	860-0092-01SST	
	860-0092-01SSD	
X axis	860-0092-01SSV	Vacuum Version 10⁻⁶ Torr compactible
	860-0092-01SSVU	
	860-0092-01SSVT	
	860-0092-01SSVD	
XY system	860-0092-02	Steel Version
	860-0092-02T	
	860-0092-02D	
XY system	860-0092-02SS	Stainless Steel Version
	860-0092-02SST	
	860-0092-02SSD	
XY system	860-0092-02SSV	Vacuum Version 10⁻⁶ Torr compactible
	860-0092-02SSVT	
	860-0092-02SSVD	

Angle Bracket 810-0140

Angle Bracket 810-0140 is used to transform "horizontal" translators into vertical ones.

810-0140 – steel version
810-0140SS – stainless steel version and version for vacuum



810-0140SS

860-0094 LOW PROFILE TWO-AXES ALUMINIUM TRANSLATION STAGE

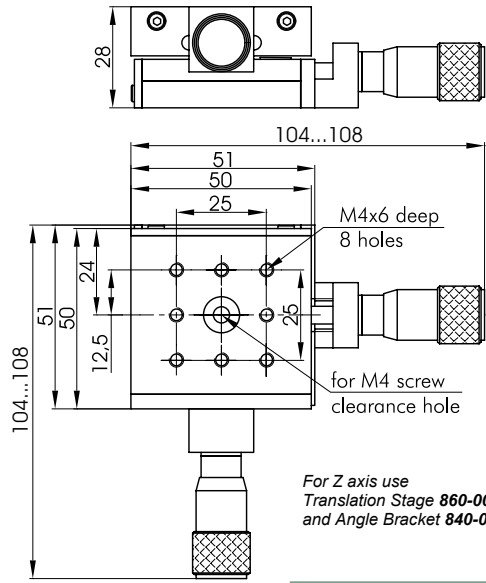


- **Compact X-Y configuration**
- **Exceptionally precise orientation of axes at 90°**
- **Precision movement**
- **10 mm travel range**
- **Precision ball bearings**
- **Perpendicular and side control configuration**

Low Profile Two-Axes Aluminium Translation Stage 860-0094 provides smooth, precise, X-Y axes movement. The travel of this Stage is 10 mm with resolution 10 µm.

Eight M4 tapped holes are provided in order to mount other components. It can be directly mounted to breadboards and other equipment from our by use of mounting holes Ø4.5 mm and M4. The base and the platform are produced from the black anodized aluminium.

Code	Price, EUR
860-0094	319



For Z axis use Translation Stage 860-0092 and Angle Bracket 840-0140.

SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 µm
Tracking accuracy	2 µm
Reading accuracy	5 µm (½ div.)
Load capacity:	
horizontal	15 kg
vertical	5 kg
Weight	0.38 kg

820-0135-04



820-0135-04 universal base plate for stacking the translation stages to optical tables or to another stages. See www.eksmaoptics.com

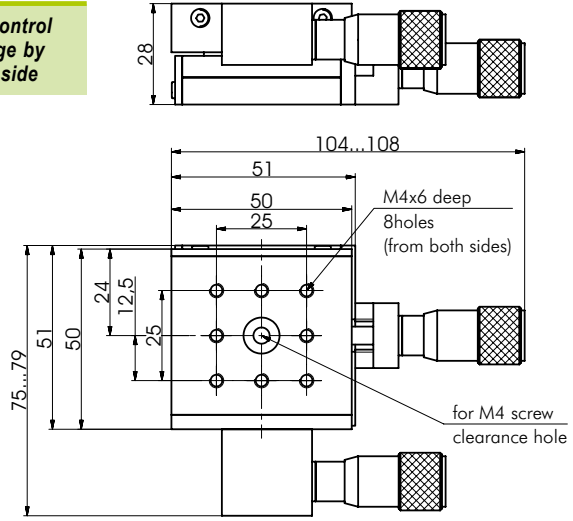
860-0094-02 LOW PROFILE TWO-AXES ALUMINIUM TRANSLATION STAGE OF SIDE CONTROL



A rare opportunity to control an X-Y translation stage by access from a single side

For your convenience we have rotated by 90° the driving screw for X axis in the Translation Stage 860-0094-02. Now it is situated parallel to the Y axis adjustment screw, so the stage is controlled from a single side. This helps in optical schemes of great concentration.

In other respects, including the specifications, the stage is the same as 860-0094.



Other dimensions such as 860-0094

SPECIFICATIONS

Travel range	10 mm
Sensitivity	1 µm
Tracking accuracy	2 µm
Reading accuracy	5 µm (½ div.)
Load capacity:	
horizontal	15 kg
vertical	5 kg
Weight	0.38 kg

Code	Weight, kg	Price, EUR
860-0094-02	0.38	384

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860-0096

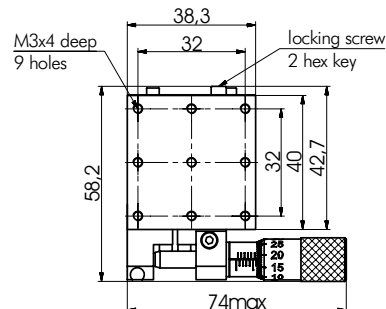
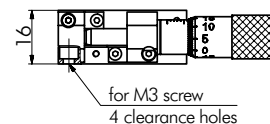
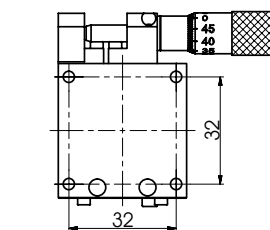
ALUMINIUM BALL BEARING STAGE



- Compact design
- Precise movement
- 13 mm travel range
- Lockable
- X-Y direct stacking

SPECIFICATIONS

Drive type	Side
Travel range	13 mm
Sensitivity	1 µm
Angular deviation	< 200 µrad
Tracking accuracy	2 µm
Reading accuracy	5 µm (½ division)
Load capacity	
horizontal	10 kg
vertical	3 kg
Lead screw pitch	0.5 mm
Guide	Ball bearings
Material	aluminium
Finish	black anodized
Weight	0.12 kg
Assemblies:	
X-Y	directly
Z	810-0112



Code	Price, EUR
860-0096	249



860-0096 (2 pieces) and 860-0098-02 stacked in XYZ coordinates
860-0096 may be stacked with 860-0098 on top or under

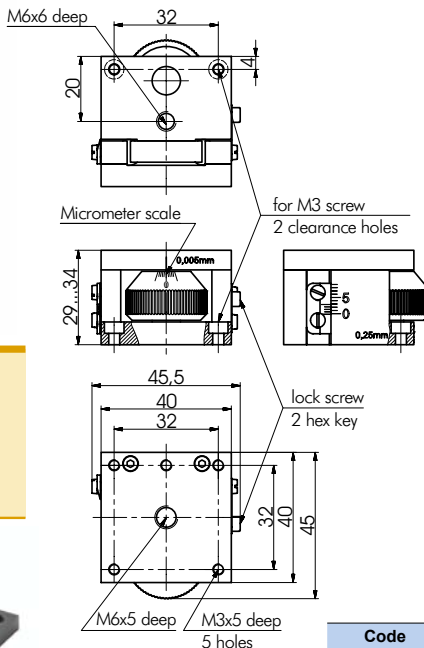
860-0096 (2 pieces) stacked in XY coordinates

860-0098

ALUMINIUM BALL BEARING VERTICAL STAGES



- Compact
- Lockable
- High precision
- Travel range 5 mm
- See 860-0099 for 13 mm travel



Aluminium Ball Bearing Vertical Stage 860-0098 is made in most compact design. Vernier scale is engraved on one side of the stage. Travel range is 5 mm. Locking mechanism to secure stages in desired position is made on the other side. Two through holes for M3 screws are made in the positioner's platform for mounting on other suitable surfaces, for example on translation stage 860-0096. Can be fastened on mounting posts 820-0020 through M6 hole centered on the bottom surface.

SPECIFICATIONS

Travel range	5 mm
Sensitivity	1 µm
Tracking accuracy	1 µm
Reading accuracy	5 µm
Load capacity	3 kg
Material	aluminium
Finish	black anodized

Code	Travel, mm	H, mm	Weight, kg	Price, EUR
860-0098-02	5	29...34	0.15	169



Vertical Stage 860-0098 mounted on a Base Plate 820-0135-03

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860-0099 VERTICAL STAGE

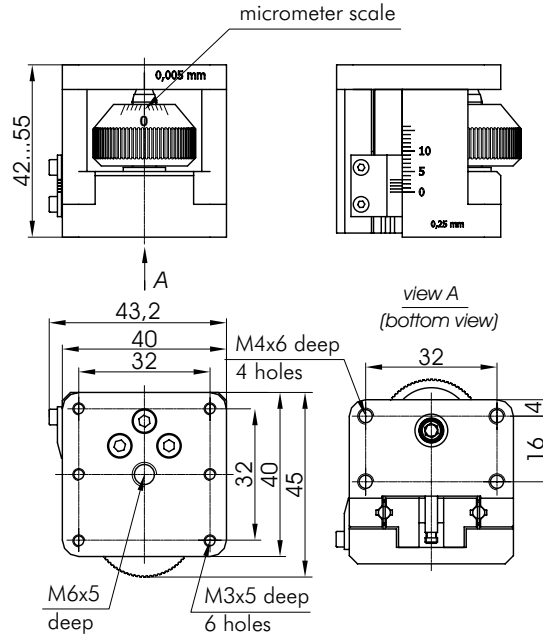


- Compact
- High precision
- Travel range 13 mm
- See 860-0098 for 5 mm travel
- Motorized version 960-0199 available

Vertical Stage 860-0099 is made in most compact design. Vernier scale is engraved on one side of the stage. Travel range is 13 mm. Four M4 holes are made in the positioner's platform for mounting on other suitable surfaces, two of those can be used as thought holes for M3x10 screws to stack stages ontop of others, for example on translation stage 860-0096.

SPECIFICATIONS

Travel range	13 mm
Sensitivity	1 μm
Tracking accuracy	1 μm
Reading accuracy	5 μm
Load capacity	5 kg
Material	Aluminium
Finish	Black anodized



Code	Weight, kg	Price, EUR
860-0099	0.25	189

Base Plate 820-0135-03

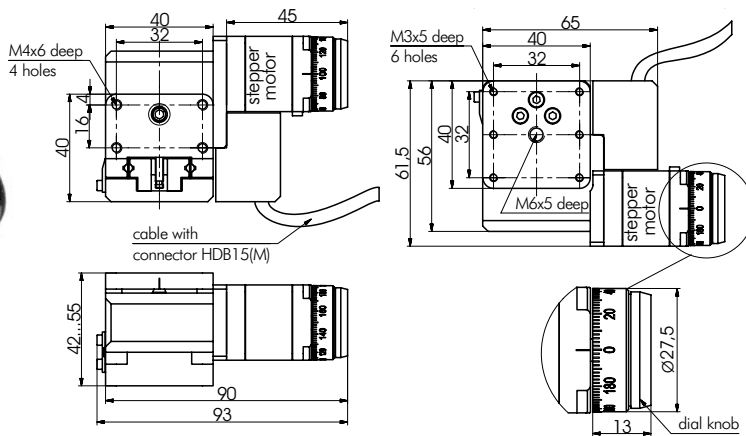


820-0135-03 Universal Base Plate is required to fix stages to a flat surface, for example, optical table.

See www.eksmaoptics.com

Motorized Vertical Stage 960-0199

- Resolution up to 0.03 μm



Code	Page
960-0199	online

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860-0100

MICRO TRANSLATION STAGE



860-0100 Top view



860-0100 Bottom view

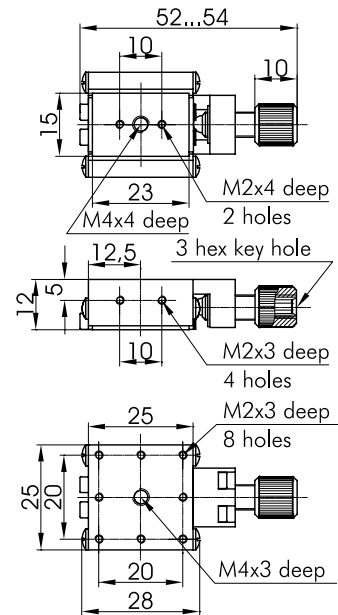
Micro Translation Stage 860-0100 provides smooth, precise single axis movement. M2 and M4 mounting holes are provided. Angle brackets 810-0120 allow to stack the stages for X-Y and X-Y-Z motion. The base and the platform are produced from the black anodized aluminium.

SPECIFICATIONS

Travel range	5 mm
Sensitivity	1 µm
Tracking accuracy	2 µm
Load capacity:	
horizontal	0.5 kg
vertical	0.2 kg
Weight	0.04 kg

Code	Price, EUR
860-0100	142
860-0100-05	175

- Compact design
- Precision movement
- 5 mm travel range
- Precision ball bearings
- X-Y units available



860-0100

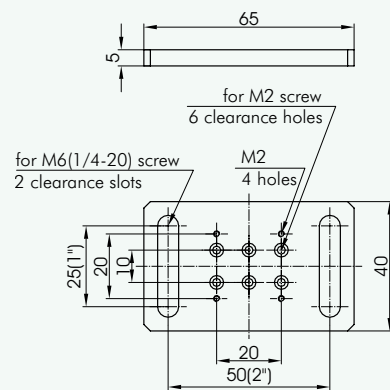


860-0100 XY



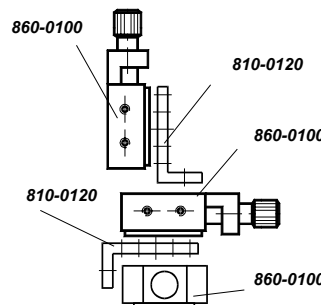
860-0100-05
with Thin Micrometer
870-0055-02BL installed

Base Plate



For stacking the translation stages 860-0100, 860-0102 and rotation stage 860-0130 to optical tables or to another stages.

Use two Angle Brackets 810-0120 for X-Y-Z assembly.



Usage of angle bracket 810-0120



810-0120

Complementary Products

Code	Page
810-0120	online
870-0055-02	online

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860-0102 XZ MICRO TRANSLATION STAGE OF SIDE REGULATION



860-0102



860-0102-04; 860-0102 with mini micrometer 870-0055-02BL installed

- Ultra Compact configuration
- Precise rectilinear movement
- 4 mm X-Z or X-Y travel range
- Precision ball bearings
- Fine Screws pitch 0.25 mm (100 threads per inch)

SPECIFICATIONS

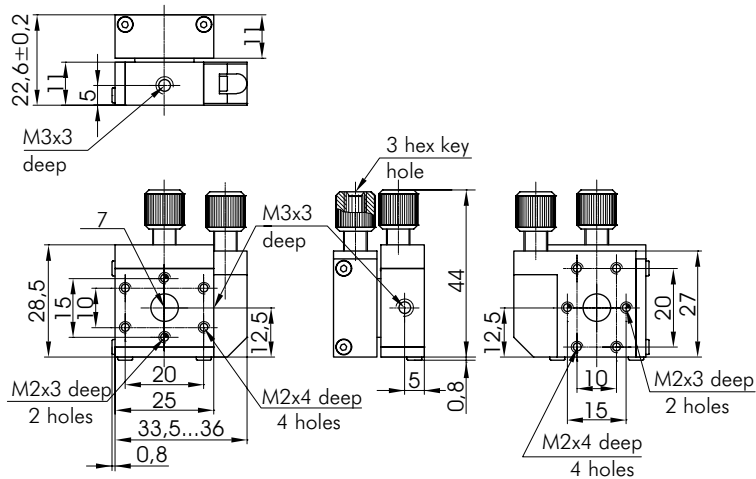
Travel range	4 mm
Sensitivity	1 µm
Tracking accuracy	2 µm
Load capacity:	
horizontal	0.3 kg
vertical	0.1 kg

XZ Micro Translation Stage 860-0102 provides smooth, precise two axes movement. The driving screws are positioned so that the unit is controlled only from one side. That's why 860-0102 is very handy in optical schemes with very dense placement of instruments.

The travel of the stage is 4 mm with 5 µm sensitivity. M2 tapped holes are provided for components mouting. The unit has a Ø7 mm clear aperture. Therefore, it is ideally suited for use as a holder of diaphragms.

Angle bracket 810-0120 may be used to combine the stage with other units.

The base and the platform are made of black anodized aluminium.



Base Plate

For stacking the translation stages 860-0100, 860-0102 and rotation stage 860-0130 to optical tables or to another stages.

Code	Description	Weight, kg	Price, EUR
860-0102	standard version	0.06	220
860-0102L	lockable version	0.06	235
860-0102-04	with mini micrometer 870-0055-04 installed	0.08	290

Complementary Products

Code	Page
810-0120	online
870-0055-02	online



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860-0105

LINEAR FLEXURE TRANSLATION STAGE

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- Travel range 5 mm
- Load capacity 1 kg
- Extremely low friction
- Stackable for X-Y-Z configurations

The 860-0105 Linear Flexure Translation Stages provide ultra smooth translation for optical assemblies and other components. These stages guarantee linearity of motion over the whole travel range. High stability and smoothness of translation of the

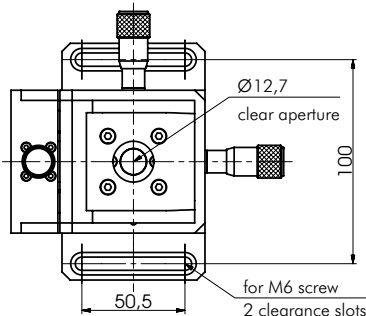
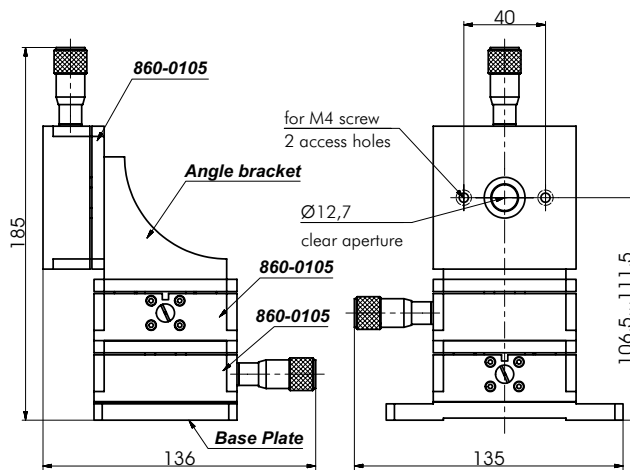
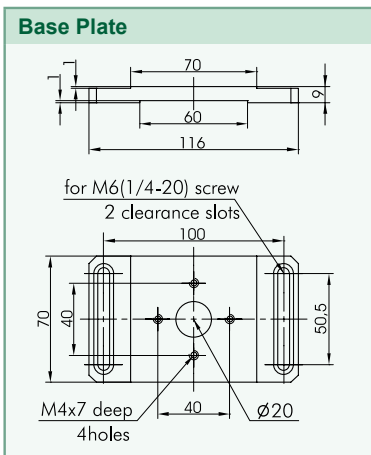
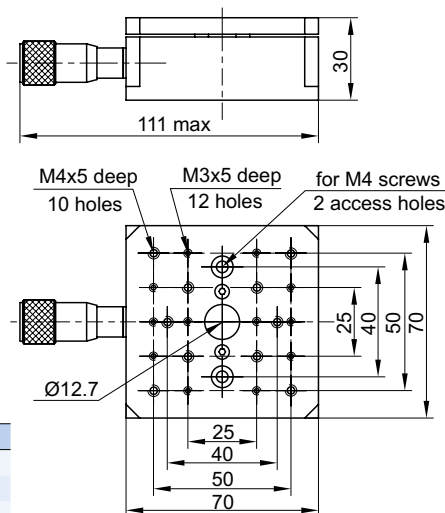
stages is ideal for applications in interferometry, biomedicine, microscopy and other nanoprecision adjustment.

Available options include linear flexure stage equipped with stepper motor actuator, DC motor actuator and piezo actuator.

SPECIFICATIONS

Travel range	5 mm
Sensitivity with:	
Micrometer screw	1 µm
Differential Screw	0.1 µm
Tracking accuracy	2 µm
Reading accuracy	10 µm
Load capacity	1 kg
Assemblies:	
X-Y	directly
Z	Angle Bracket

Code	Weight, kg	Price, EUR
860-0105	0.4	297
860-0105 XY	0.8	594
860-0105 XYZ	1.3	958



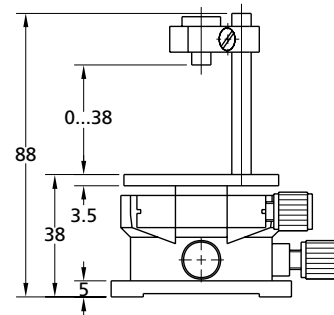
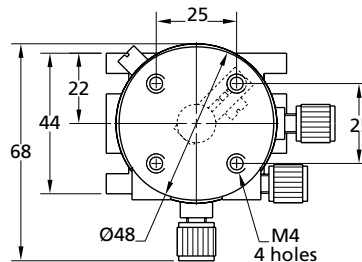
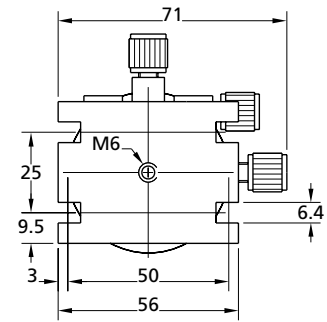
860-0105 XYZ
You may stack the stages for XY applications directly only using two M4x8 screws. Angle bracket allow to stabilize stack the stages for YZ motion.

860-0110**TILT / ROTATION STAGE**

- Two independent tilt adjustments within 5° range
- In-plane rotation adjustment within 4° range
- 9 arcsec resolution

The model 860-0110 tilt/rotation stage provides two independent tilt adjustments within $\pm 5^\circ$ range and 4° in-plane rotation adjustment. Precision screws provide 9 arcsec resolution in rotation and both tilt planes (adjustment screws M6 \times 0.25, 3 pcs.).

The mounting clamp with a spring-loaded disengagement knob allows easy insertion and removal of optical components up to 39 mm height and 30 \times 30 mm in square. 860-0110 stage is attached to a table through clearance holes in its base. The main elements of the stage are finished with black anodized aluminium.



Code	Weight, kg	Price, EUR
860-0110	0.23	175

Mounting option:
Large Rod with
Rod Base **810-0050**,
Large Rod Mounting
Clamp **810-0061**,
Movable Base
820-0090,
Tilt/Rotation
Stage **860-0110**



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MOTORIZED POSITIONERS

860-0120

MINI ROTATION STAGE



860-0120

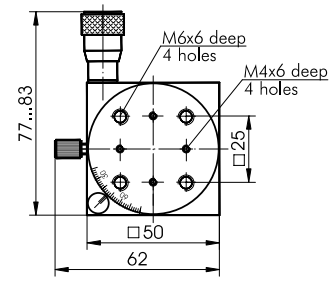
Mini Rotation Stage 860-0120 provides smooth, low friction 360° rotation.

A micrometer driving screw renders 1' resolution. A clear aperture of Ø15 mm allows attachment of lenses and filters directly in front of the stage.

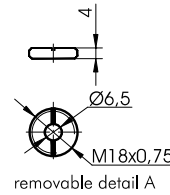
A removable ring (included) can be screwed into the aperture. The ring's hole is of Ø6.5 mm, so you can put an M6 screw from underneath to mount some component directly onto the stage.

860-0120 can be mounted to optical rails using rail carriers.

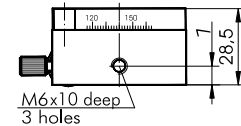
"Clear top" design allows attachment of larger components.



860-0120E



removable detail A

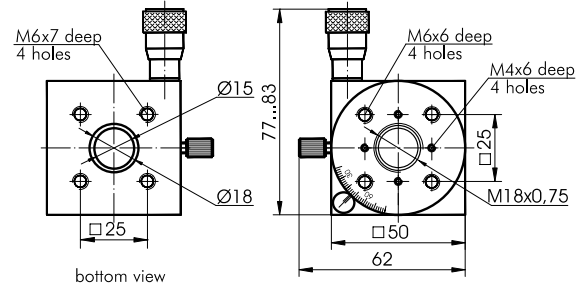


860-0120E

SPECIFICATIONS

Rotation	360° coarse, 15° fine
Resolution	1° coarse, 1' fine
Wobble	3 arcmin
Load capacity:	
horizontal	5 kg
vertical	2 kg
Weight	0.23 kg

Code	Price, EUR
860-0120	232
860-0120E	232



bottom view

860-0120

860-0130

MICRO ROTATION STAGE

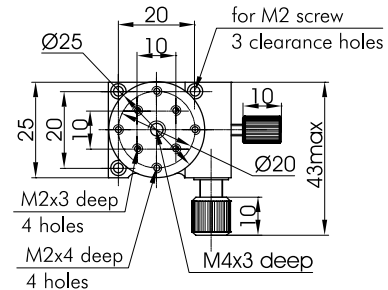
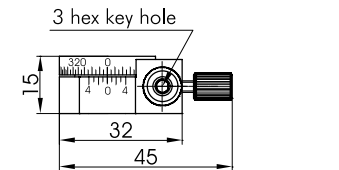


Micro Rotation Stage 860-0130 is a compact 360° rotation platform.

Using a fine screw it is possible to rotate platform precisely. Pitch of the screw is 0.25 mm. Vernier can be read to 1°.

Using M2 screws and an angle bracket 810-0120, this compact stage may be attached to other micro stages (like 860-0100). Other angle brackets 810-0120 are available in order to attach the stage to other units, e.g. to 840-0060.

The stage is produced from black anodized aluminium.



SPECIFICATIONS

Rotation range	360° coarse, 15° fine
Reading accuracy	1°
Sensitivity	0.5 arcmin
Wobble	1 arcmin
Load capacity:	
horizontal	0.1 kg
vertical	0.1 kg
Weight	0.04 kg

Code	Price, EUR
860-0130	186
860-0130-45	224

Complementary Products

Code	Page
810-0120	online
820-0020	7.16
840-0060	online
870-0045	online



860-00130-45.
860-0130 with thin micrometer 870-0045BL installed

860-0140 PRECISION ROTARY STAGE



- M30×1 diameter platform insert
- Two 25 mm (1 inch) retaining rings
- Centered platform insert
- Inch & vacuum versions are available

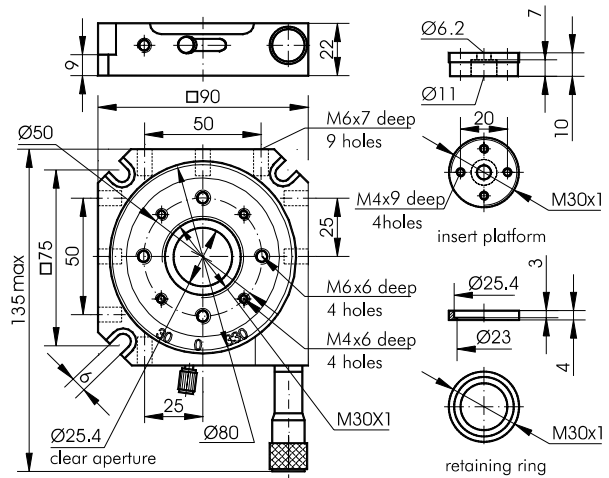
We offer you a fine rotary stage with micrometer screw. Fine motion range is 15° with resolution of 1 arcmin. For coarse adjustment release the fixing screw and turn the platform.

The platform has M6 and M4 mounting holes. Precision rotary stage has an

Vacuum Compatible version 860-0140V is available at www.eksmaoptics.com

aperture M30×1 with clear aperture of 25 mm. Two retaining rings with 1 inch clear aperture are included.

To close the platform's aperture you can thread in an insert platform (included) with a centered clearance hole and M6, M4 holes. The stage can be fastened horizontally and vertically using M6 screws.



Code	Price, EUR
860-0140	324

SPECIFICATIONS

Rotation range	coarse 360°, resolution 1°
	fine 15°, resolution 1 arcmin
Sensitivity	20 arcsec
Reading Accuracy	1 arcmin
Wobble	1 arcmin
Load capacity	horizontal 12 kg
	vertical 5 kg
Max. drive torque	0.3 kgm
Weight	0.63 kg

860-0150 2 INCH APERTURE ROTATION STAGE



- Rolling ball movement
- 360° rotation
- 10° fine adjustment
- Ø 50.8 mm (2") clear aperture
- Inch version 860-0150E is available



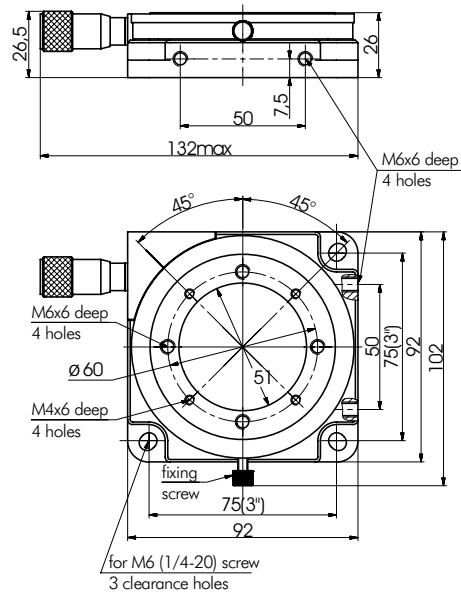
Vertical mounting:
2 sides of the base each has two M6 holes spaced by 50 mm.

2 inch Aperture Rotation Stage 860-0150 allows full 360° coarse rotation by hand. You may lock coarse adjustment. Then fine adjustment can be done over a range of 10° using the micrometer.

Angular position is read on 360° graduated scale on the platform, which is marked every 1°. The stage has a central aperture of Ø50.8 mm. For horizontal fastening three corners of the base have clearance holes for M6 screws.

SPECIFICATIONS

Rotation range:	coarse 360°, resolution 1°
	fine 10°, resolution 1 arcmin
Sensitivity	20 arcsec
Reading accuracy	1 arcmin
Wobble	1 arcmin
Load capacity:	horizontal 15 kg
	vertical 7 kg
Weight	0.58 kg



Code	Price, EUR
860-0150	317

860-0155

ROTATION STAGES

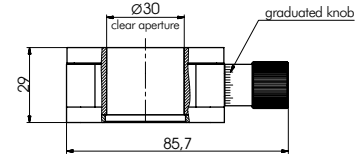
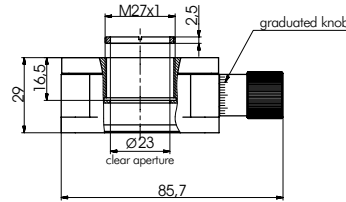


The main advantage of this precise rotation stage is that it has very compact dimensions and low-profile together with the great aperture in the middle. This rotation stage has two modifications with different apertures: M27x1 or 30 mm. 860-0155 doesn't need additional adapter plate to be mounted on any surface as it has 3 M6 holes on bottom.

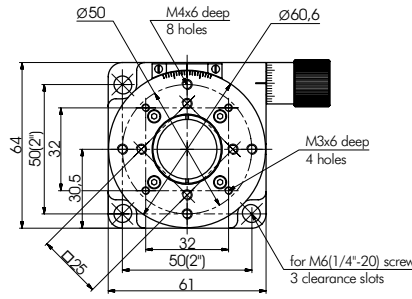
SPECIFICATIONS

Rotation range	360°
Resolution	2 arcmin
Reading accuracy	2 arcmin
Sensitivity	0.4 arcmin
Wobble	0.6 arcmin
Eccentricity	10 µm
Load capacity:	
horizontal	8 kg
radial	1.7 kg
Weight	0.55 kg

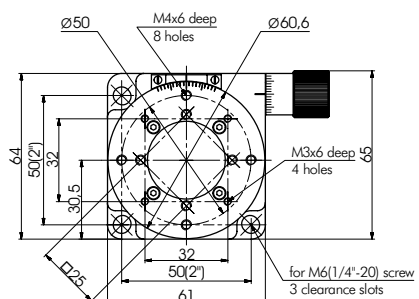
Code	Aperture	Price, EUR
860-0155-01	M27x1	339
860-0155-02	30 mm	343
860-0155-01E	M27x1	339
860-0155-02E	30 mm	343



Vacuum Compatible Rotation Stage 860-0155V is available. For product data sheet please visit www.eksmaoptics.com



860-0155-01



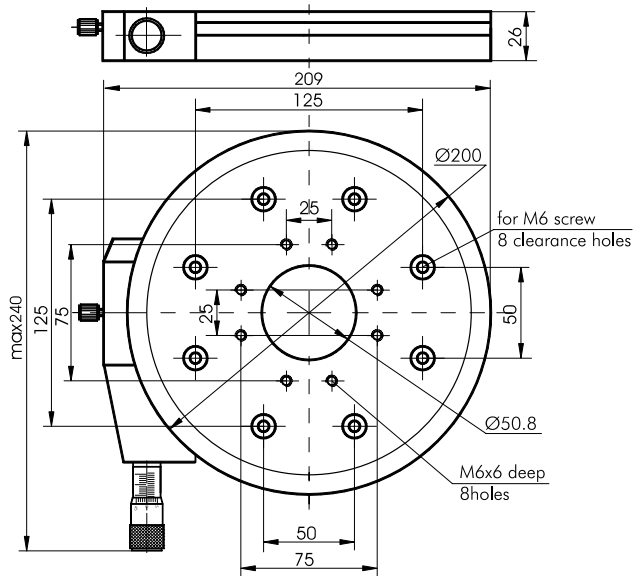
860-0155-02

860-0160

ROTATION STAGE OF BIG PLATFORM



- 200 mm platform
- 360° rotation
- 10° fine adjustment
- Ø 50.8 mm (2") clear aperture



SPECIFICATIONS

Rotation range	
coarse	360°
fine	10°
Reading accuracy	0.5 arcmin
Sensitivity	0.1 arcmin
Wobble	1 arcmin
Horizontal load capacity	15 kg
Weight	2.55 kg

The Rotation Stage of Big Platform 860-0160 is used to manually rotate large optical components through continuous 360° with accuracy of 1°, and to adjust them finely within 10° by a micrometer, with accuracy of 0.5 arcmin. The stage has 50.8 mm clear aperture.

Code	Price, EUR
860-0160	399

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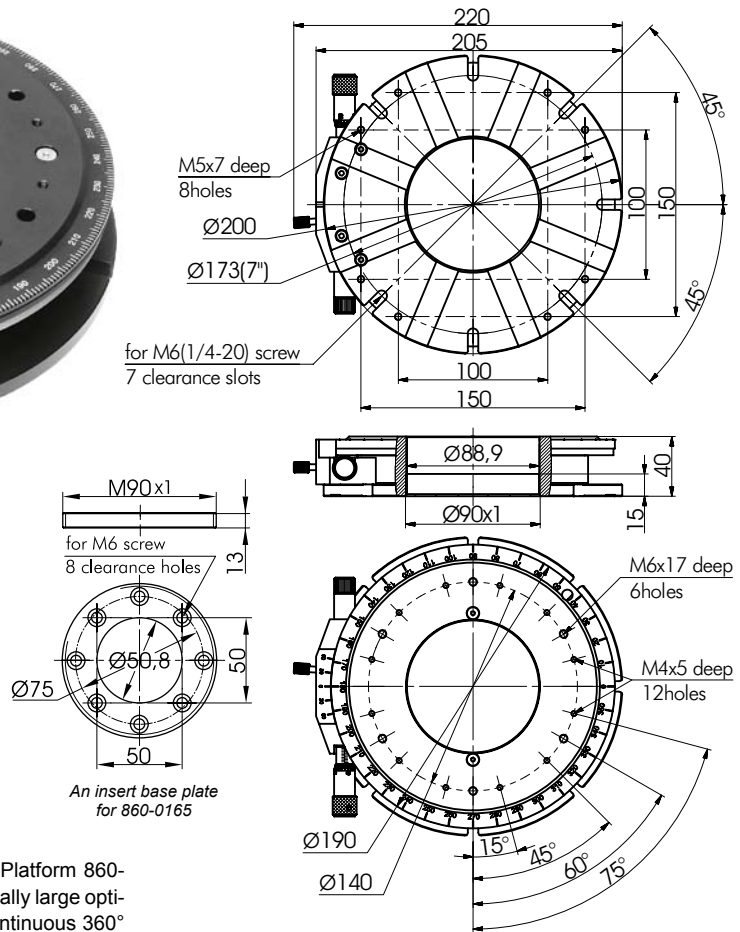
TRANSLATION & ROTATION STAGES

MOTORIZED POSITIONERS

860-0165 ROTATION STAGE OF BIG PLATFORM



- Ø190 mm platform
- 360° rotation
- 10° Fine adjustment
- Ø88.9 mm clear aperture
- Available for vacuum (860-0165V)



An insert base plate for 860-0165

The Rotation Stage of Big Platform 860-0165 is used to rotate manually large optical components through continuous 360° with accuracy of 1°, and finely adjust them within 10° by a micrometer, with accuracy of 0.5 arcmin.

The stage has 88.9 mm clear aperture. The platform has a pattern of M6 and M4 mounting holes for components.

SPECIFICATIONS

Rotation range:	
coarse	360°
fine	10°
Reading accuracy	0.5 arcmin
Sensitivity	0.1 arcmin
Wobble	1 arcmin
Load capacity:	
horizontal	60 kg
Material	Aluminium
Finish	Black anodized
Weight	3 kg



Compatible with 10⁻⁶ Torr vacuum
860-0165V

Code	Description	Price, EUR
860-0165	black anodized rotary stage	790
860-0165E	black anodized inch version	790

Vacuum compatible Rotation Stage of Big Platform 860-0165V is available. For product data sheet please visit www.eksmaoptics.com

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860-0170

MINI ROTATION STAGE

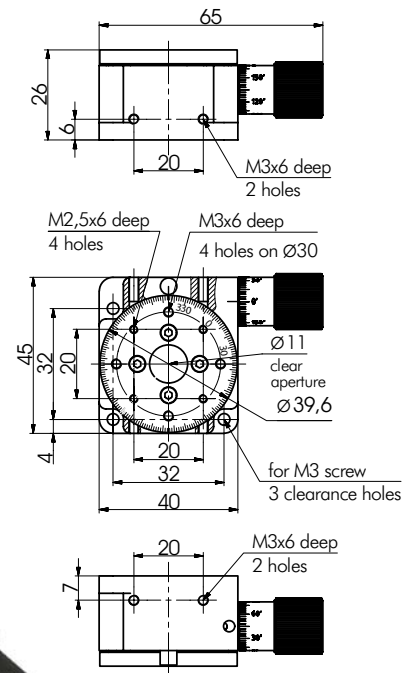


SPECIFICATIONS

Rotation range	360° (continuous)
Sensitivity	1 arcmin
Reading accuracy	3 arcmin
Wobble	1 arcmin
Eccentricity	10 µm
Load capacity:	
horizontal	4 kg
radial	1.5 kg
Clear aperture	Ø11 mm
Weight	0.2 kg

- **Worm gear design**
- **Ø11 mm clear aperture in the center**
- **Very compact design 46x65 mm**
- **No need in adapter plate for mounting (there are mounting holes on bottom)**
- **Resolution 3 arcmin**

Advantages of Rotation Stage 860-0170 regarding analogues of other manufacturers is existence of the Ø11 mm aperture in the center of rotation stage while it has very compact dimensions. Together with its high precision, there is no need to use extra adapter plate for mounting since there are mounting holes on bottom. There you could see examples of stacked stages:



Code	Price, EUR
860-0170	319
860-0170E	319

Complementary Products

Code	Page
860-0096	7.75
860-0098-02	7.75



Motorized Rotation Stage 960-0170 stacked on 860-0096 (2 pieces), and 860-0098-02

860-0170 stacked on 860-0096 (2 pieces), and 860-0098-02

860-0170 stacked on 860-0096

860-0180

SMALL GONIOMETER

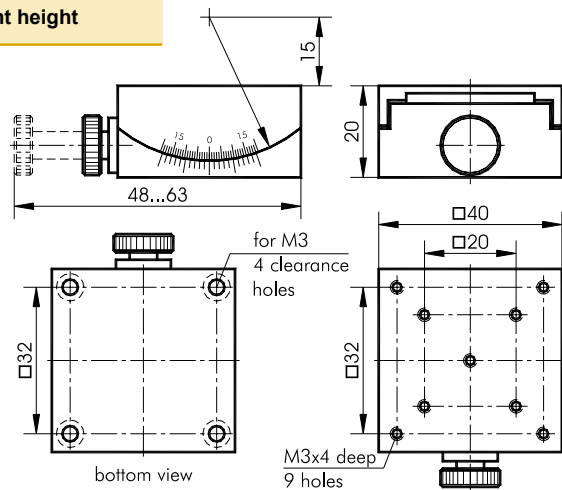


- **Compact**
- **High precision**
- **Rotation about virtual point**
- **15 mm virtual point height**

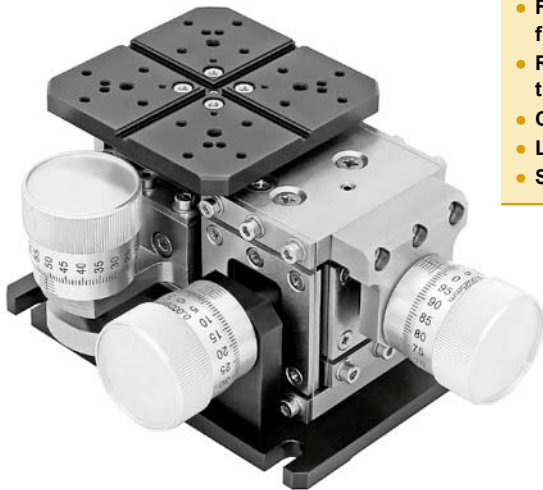
Code	Price, EUR
860-0180	190

SPECIFICATIONS

Rotation range	±15°
Reading resolution	0.1° (vernier scale)
Drive geometry	Lever (tangential)
driving screw pitch	0.25 mm
transmission ratio	0°27'59"...0°30'45"
ratio decimal	0.4665°...0.5126°
(the ratio is per revolution)	
Load capacity:	
horizontal	1 kg
Material	Aluminium
Finish	black anodized
Weight	0.1 kg



860-0210 FIBER COUPLING STAGE



- Fiber coupling stage of flexure design
- Rotating platform on the top
- Compact block design
- Long-term stability
- Smooth motion

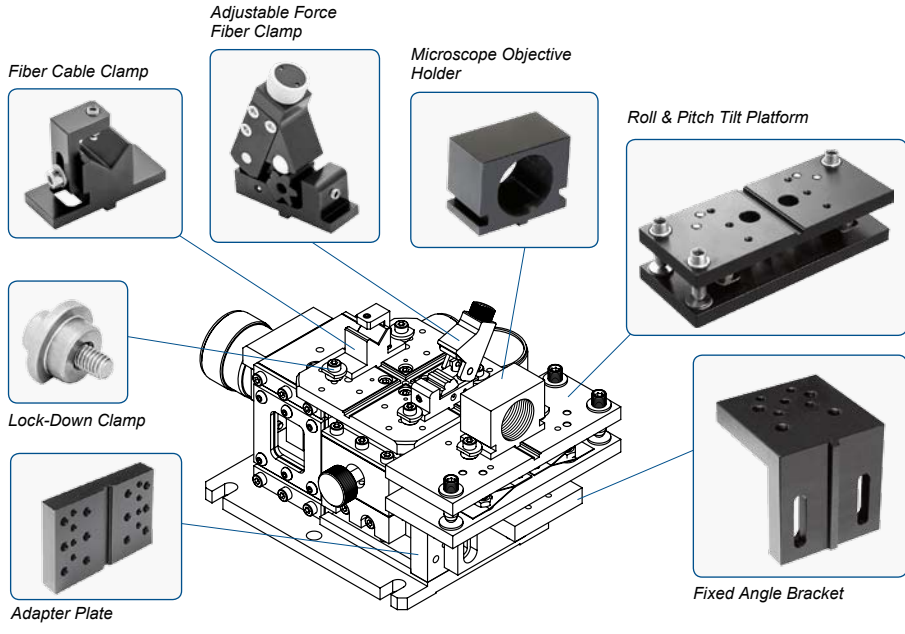
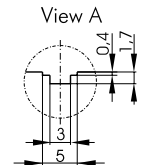
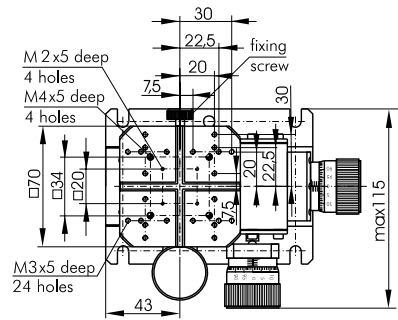
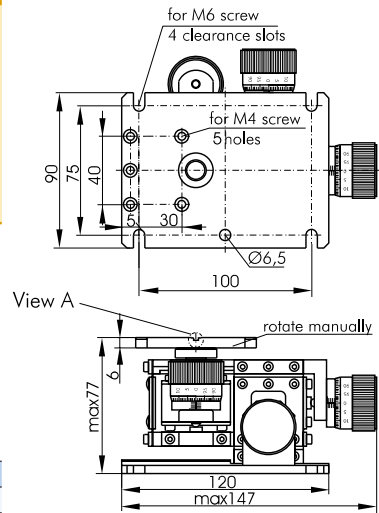
Code	Price, EUR
860-0210	660

Flexure stages 860-0210 are ideal for high precision device manipulation. This stage suits almost any micropositioning applications range, for example, from fiber launch systems for single-mode, multi-mode and polarization maintaining fibers as well as waveguide alignment, through to the manipulation of microstructures in bioscience. Fiber Coupling Stage of flexure compact block design with high-resolution micrometers ensures long-termed stability and good stiffness together with smooth motion without the severe limitations of stiction and friction. Flexure stages have a combination of overall size, travel, resolution, and low cost that makes them unique decision to meet the stringent require-

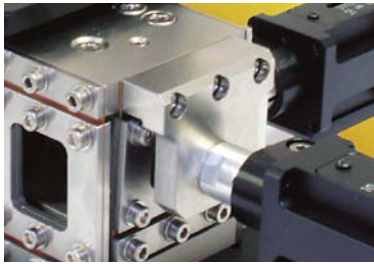
ments of photonics laboratory applications. Vacuum compatible versions are delivered on request. Also as an option fiber coupling stage could be provided with differential screws.

SPECIFICATIONS

Travel range in each XYZ direction	2 mm
Sensitivity	0.2 μ m
Reading accuracy	1.25 μ m (1/2 division)
Cross-Talk	20 μ m/mm
Mechanical stability	flexure design with Stainless Steel Spring
Load capacity	1.5 kg
Weight	1.6 kg



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Motorized Positioners

ORDERING INFORMATION for Motorized Translation and Rotation Stages

Default Choice

Default choice for ordering motorized translation or rotation stages is with damper RD1. When damper RD1 is used, vibrations and motor noise is greatly reduced, settling time is improved and system resonances are suppressed.

Example:

960-0060-08 – translation stage 960-0060-08 with damper RD1.

968-0140 – rotation stage 968-0140 with damper RD1.



Revolution sensor

Revolution sensor counts stepper motor axis revolutions. It consists of Codewheel with one mark and Optointerrupter. When motor is connected to controller 980-0030F-USB, signal from revolution sensor allows monitoring of motor axis revolutions, possible loss of steps and detecting motor stalling. It is not as accurate as encoder, which provides feedback for each step of motor. Revolution sensor determines whether there was any loss of steps within one revolution of motor axis. This information is reported to the controller and corrective actions can be taken. Revolution sensor can also be used for precise home position setting.

For ordering motorized stages with revolution sensor, please add symbols E4 to the code of motorized stages.

Example:

960-0060-08-E4 – translation stage 960-0060-08 with revolution sensor E4.

968-0140-E4 – rotation stage 968-0140 with revolution sensor E4.



Encoder MEn1

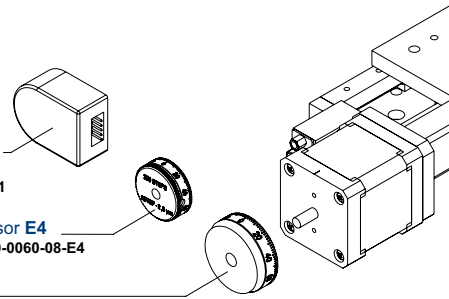
Code example
960-0060-08-MEn1

Revolution sensor E4

Code example **960-0060-08-E4**

Damper RD1

Code example **960-0060-08**



Encoder

Our 2-channel encoder is compact and lightweight.

Technical Characteristics of Encoder

Operating Voltage	DC 4.5 V to 5.5 V
max. Current Consumption	(at 5 V) 57 mA
Pulse Width	180 ±45 degree
Signal-Phase Shift	(Channel A vs. B) 90 ±15 degree
Signal-Rise-/Fall-Time	0.25 / 0.25 μS
Limit Frequency	up to 100 kHz
Output Signals	rectangular 2
Pulses per Revolution	1000
Operating Temperature	0 °C to +70 °C

Encoder measures motor axis position change and direction and provides feedback to controller. Encoder type HEDS-5540-B14 with 1000 pulses per revolution is used by default. Controller 980-0030F-USB can use signal from the encoder for motion monitoring. Result of the monitoring is high system reliability - controller can detect motor stall situation very quickly. Threshold level of motor stall detection is programmable using program SMCvieW included with controller 980-0030F-USB. User specific software can get feedback from encoder through controller 980-0030F-USB and send motion correction commands back to it using provided software libraries.

Unlike servo motors, stepper motors do not necessarily require encoders for operation. Encoder provides monitoring option. 1000 pulses per revolution ensure precise step monitoring down to 1/4 microstep mode.

For ordering motorized stages with encoder, please add symbols MEn1 to the code of motorized stages.

Example:

960-0060-08-MEn1 – translation stage 960-0060-08 with encoder MEn1.

968-0140-MEn1 – rotation stage 968-0140 with encoder MEn1.

STEPPER AND DC MOTORS DATASHEETS

STEPPER MOTORS

Model	Wiring scheme	Design Voltage, V	Phase Current, A	Holding Torque, Nm	Detend Torque, mNm	Phase Resistance, Ohm	Inductance, mH	Steps/Revolution
20	bipolar	4.3	0.6	0.03	1.5	4.4±15%	1.5±20%	200 (1.8°)
28	bipolar	4.56	0.67	0.106	3.75	6.8±15%	4.8±20%	200 (1.8°)
28S	bipolar	3.75	0.67	0.071	2.5	5.6±15%	4±20%	200 (1.8°)
4233	bipolar	12	0.4	0.25	8.5	30±10%	37±20%	200 (1.8°)
4247	bipolar	3.84	1.2	0.45	15.5	3.2±10%	6±20%	200 (1.8°)
5618	bipolar	4.82	2.01	1.84	39	2.4±15%	8.4±20%	200 (1.8°)
5918	bipolar	3	2.1	1.98	68	2±10%	8.8±20%	200 (1.8°)
ZSS43	bipolar	42	1.2	0.26	7	19	22.9	200 (1.8°)

STEPPER MOTORS WITH BRAKE

Model	Wiring scheme	Design Voltage, V	Phase Current, A	Holding Torque, Nm	Detend Torque, mNm	Phase Resistance, Ohm	Inductance, mH	Steps/Revolution	Braking Power
5918-B	bipolar	2.4	2.82	1.05	40	0.85±10%	3.6±20%	200 (1.8°)	0.4 Nm; 24 V; 10 W

DC MOTORS

Model	Design Voltage, V	Continuous Current, A	Continuous Torque, Nm	Continuous Power, W	Resistance, Ohm	Inductance, mH	Max Speed, rpm	Gearbox	Encoder
DCE369751	3.6	0.587	0.3	2	3.5	0.114	120	67:1	16 CPT, 2 channels
DCJ252445	1.8	0.72	0.3	1.2	1.07	0.0216	7	1119:1	-
DCE1524	6	0.63	0.3	1.7	5.1	0.07	35	141:1	256 CPT, 2 channels
DCE RE25	24	1.37	0.5	20	1.53	0.186	1800	4.4:1	1000 CPT, 3 channels

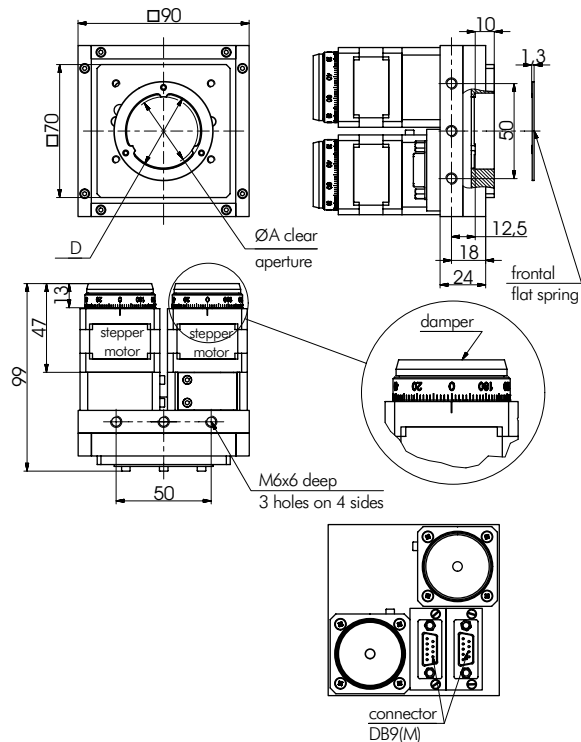
940-0050

MOTORIZED MIRROR MOUNTS



Motorized Mirror Mounts 940-0050 are designed for precise angular alignment of optical elements. Platform is tilted about two axes.

A retaining ring keeps optics in a non-through mounting opening of the platform. The ring is fixed by 3 screws. It has 3 dents with which it clamps optics against similar 3 rests in the platform. The dents are exactly opposite to the rests – this minimizes deformation.



SPECIFICATIONS

Tilt range	5° both axes
Visual reading	dial knobs graduated in 200 steps per revolution
Resolution	0.0016° (0°00'06") per step
Optics accepted diameter (D), clear aperture (A):	
940-0051	Ø25.4 mm (1"), A=21.4 mm
940-0053	Ø40 mm, A=36 mm
940-0055	Ø50.8 (2"), A=46.8 mm
custom sizes available	
Optics thickness	10 mm (retaining rings for custom thickness available)
Material	black anodized aluminium
Motor	4233
Motor connector	DB9(M)
Mechanical end limit switches	2 per motor
Switch polarity	pushed is closed
Weight	1.08 kg

Code	Price, EUR
940-0051	575
940-0053	575
940-0055	575

RECOMMENDED CONTROLLERS



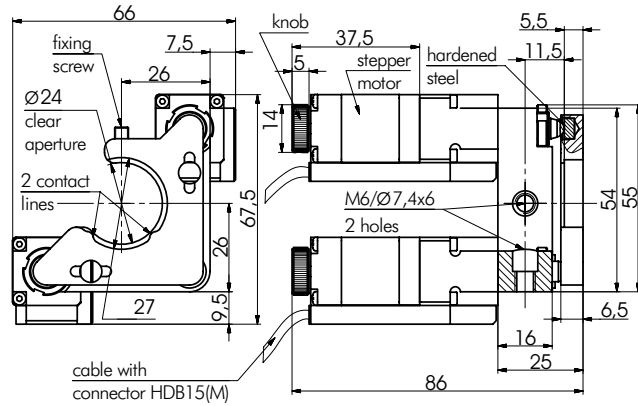
980-0045-USB
see page 7.98

940-0060

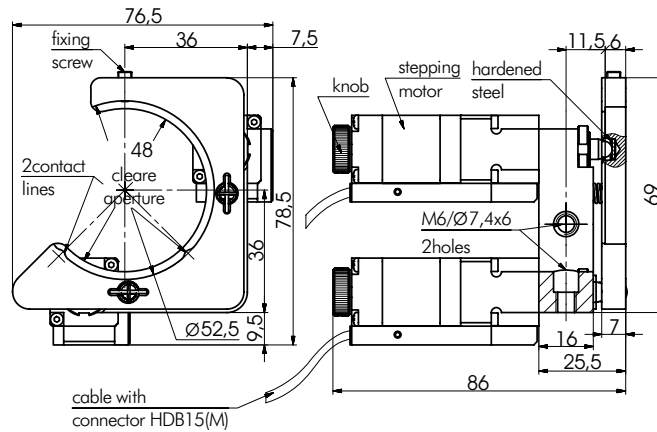
MOTORIZED KINEMATIC MIRROR/BEAMSPLITTER MOUNTS



- Clear Edge Design
- 1", 2", 3" optics mounts
- Kinematic
- Stable
- Mounting on either of 2 sides
- Black anodized aluminium



940-0060-01



940-0060-02



940-0060 Motorized Mirror Mounts combine our traditional 840-0056 Kinematic Mirror/Beamsplitter Mount with our designed Motorized Compact Actuator 970-0060. This motorized mirror mount enables to achieve more precise positioning than

with the manual adjusters. Ideal for use in closed systems. Integrated opto-electrical limit switches prevent damage, while providing homing – repeatability better than 10 arcsec.

DC motor base actuators are available on request.

RECOMMENDED CONTROLLERS



980-0045-USB
see page 7.98

SPECIFICATIONS

Model	940-0060-01	940-0060-02	940-0060-03
Travel range		4 mm	
Optics diameter	25.4 mm	50.8 mm	76.2 mm
Clear aperture	23 mm	48 mm	74 mm
Resolution		<1 arcsec	
Tilt range		± 4.5°	± 2.8°
Speed (980-0030F-USB)		from 1 arcsec/sec to 1°/sec	
Installed actuators		2 × 970-0060	
Optocoupler end limit switches		2 per actuator, pushed is open	
Cable		1.2 m length cable included	
Weight		0.3 kg	
Price	699 EUR	731 EUR	776 EUR

Complementary Products

Code	Page
970-0060	online

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940-0200 **MOTORIZED VERTICAL TRANSLATION STAGE**



- Pantograph design
- 95 mm vertical travel range
- 16 ball bearings
- Stepping motor drive
- Precision lead screw

Motorized Vertical Translation Stage 940-0200 boasts our unique design. Being very compact, it provides smooth and stable adjustment of height. It has a large travel range and supports large loads. While moving the platform stays parallel to the base.

Examples of use: making up for height differences during the set up; automation of technological processes, like laser welding.

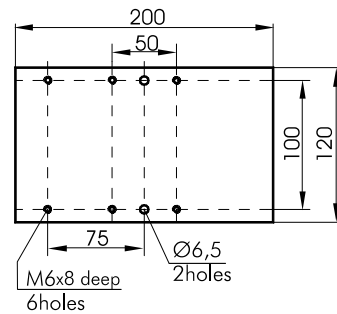
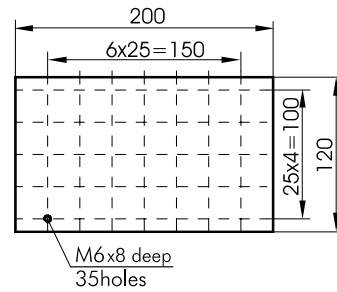
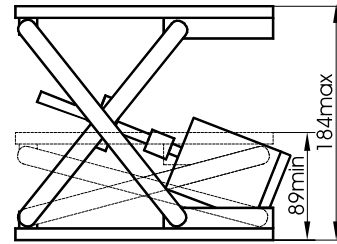
A stepper motor type – 5918, 200 steps. Customer can specify other type of motors to install.

Load capacity and speed all greatly depend on the motor. We can test and select an appropriate motor for your requirements.

The lead screw acts at a varying angle, so the resolution of the stage varies with position.

The platform has an array of M6 holes spaced by 25 mm. The base has six M6 and two Ø6.5 holes.

Material: black anodized aluminium.



SPECIFICATIONS

Travel range	95 mm
Height:	
Min.	89 mm
Max.	184 mm
Lead screw pitch	1 mm
Top and bottom plates parallel to	1 mm
Load capacity	8 kg (depending on motor and controller)
Material	black anodized aluminium
Supply voltage	36 V
Motor connector	DB9(M)
Motor	5918
Weight	4.3 kg
Mechanical end limit switches	2
Switch polarity	pushed is closed

Code	Price, EUR
940-0200	798

RECOMMENDED CONTROLLERS

980-0045-USB
see page 7.98

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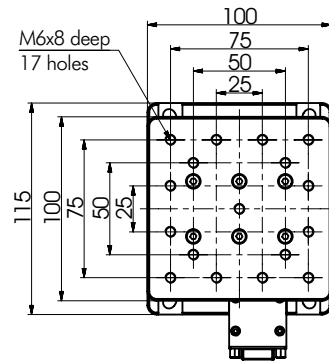
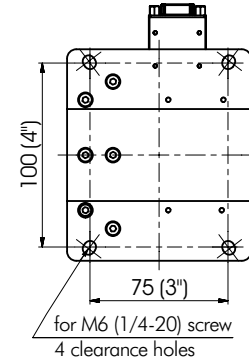
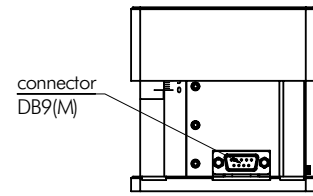
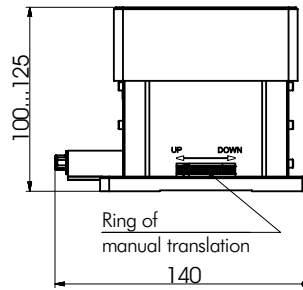
OPTICAL POSITIONERS

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940-0210

MOTORIZED VERTICAL STAGE



- High precision
- High speed (up to 20 mm/sec)
- Loads up to 8 kg
- Compact design
- Direct drive actuator
- Stacks directly with 960-0130, 960-0150 rotators

SPECIFICATIONS

Travel range	25 + 1 mm
Resolution in full step	5 μm
Resolution in 1/8 step	0.625 μm
Lead screw pitch	1 mm
Maximum speed	20 mm/sec
Load capacity	8 kg
Unidirectional repeatability	1 μm
Bi-directional repeatability	2 μm
Motor	2 phase stepper actuator
Limit switch	2, optocoupler
Switch polarity	pushed is open
Weight	2.2 kg

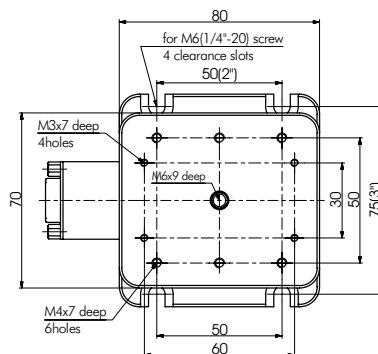
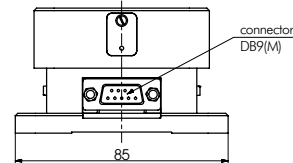
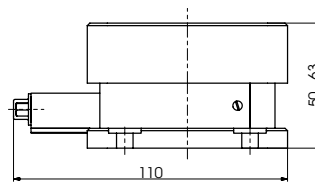
RECOMMENDED CONTROLLERS

- 980-0045-USB *see page 7.98*

Code	Price, EUR
940-0210	1515

940-0212

MOTORIZED Z STAGE



SPECIFICATIONS

Travel range	13 mm
Resolution in full step	5 μm
Resolution in 1/8 step	0.625 μm
Lead screw pitch	1 mm
Maximum speed	20 mm/sec
Load capacity	4 kg
Unidirectional repeatability	1 μm
Bi-directional repeatability	2 μm
Motor	2 phase stepper actuator
Limit switch	2, optocoupler
Switch polarity	pushed is open
Weight	0.75 kg

Compact Motorized Z Stage provides 13 mm travel range. The stages ideally fits many motorized linear stages. 960-0170 series motorized rotation stages can be directly mounted on the top of 940-0212.

RECOMMENDED CONTROLLERS

- 980-0045-USB *see page 7.98*

Code	Price, EUR
940-0212	975

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960-0095 **MOTORIZED TRANSLATION STAGE**



SPECIFICATIONS

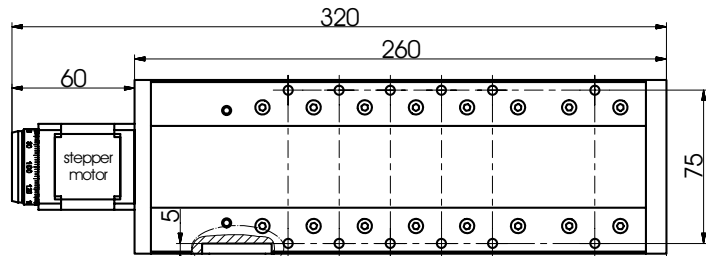
Travel range	100 mm
Lead screw pitch	0.5 mm
Resolution:	
in full step*	2.5 µm
in 1/8 step*	0.31 µm
Max. speed*	10 mm/s
Load capacity:	
horizontal	40 kg
vertical	6 kg
Motor connector	DB9(M)
Stepper motor	4247
Weight	2.2 kg

***Test condition:**
 • 980-0030 controllers;
 • Power supply – 36 V.

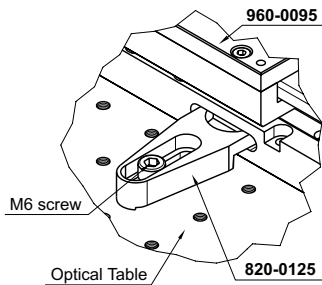
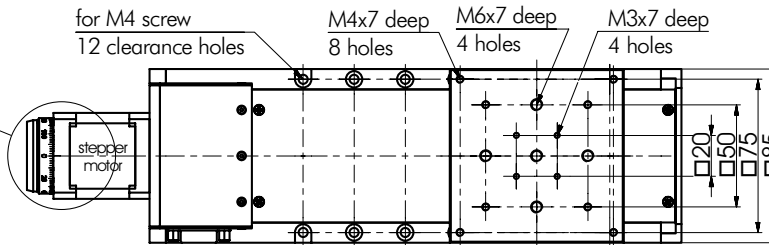
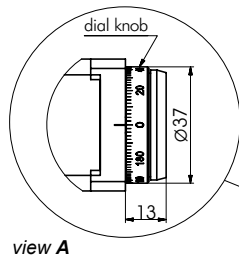
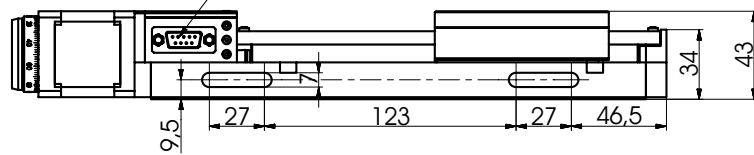
Motors of other types are available.

- Huge load
- Easy use and combining
- Vacuum version available

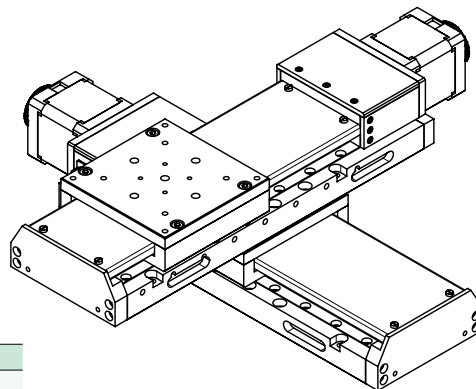
Code	Price, EUR
960-0095	1515



4 elements for detail look at view A
 motor connector DB9(M)



In X-Y configuration **960-0095** stages stack directly using M4 screws



- RECOMMENDED CONTROLLERS**
- 980-0045-USB see page 7.98

Complementary Products

Code	Page
820-0125	7.20

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960-0095SM

MOTORIZED TRANSLATION STAGE WITH SM SYSTEM

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SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Encoder resolution	4000 counts/rev
Minimal incremental motion	0.125 µm
Max. speed	25 mm/s
Load capacity	
Horizontal	40 kg
Vertical	6 kg
Cable*	2 m
Motor	SM
Weight	2.5 kg

*Cable supplied with 960-0095SM consists of power cable and RS232 communication cable and includes connector to computer RS232 (DSUB9), connector to motor (DSUB 7W2) and power connector (SOCKET DC 2.1/5.5 mm for Cable).

960-0095SM consists of DC servo motor, motion controller, encoder and amplifier.

Requires only power supply

Power supply PS36-3.4-4

36 V; 3.34 A

167 × 65 × 37 mm

640 g

Mini-DIN male 4-pin power connector.

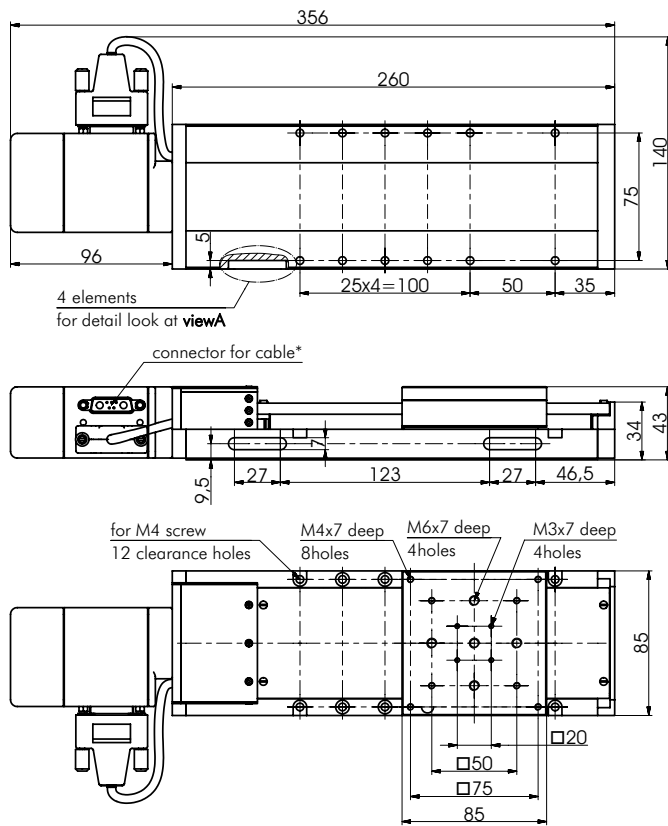


The SM system is a complete, compact and user-friendly integrated control system that features a brushless DC servo motor, motion controller, encoder and amplifier.

It is a decentralized drive system. It is a fully integrated motor system that includes a Brushless D.C. Servo-Motor (BLDC), Motion Controller, Drive-Electronics, Position Feedback Encoder and Fully Programmable Points of I/O (Inputs/Outputs). All these components are placed inside one integral frame or housing.

Each decentralized drive system is fully programmable as a stand-alone system or as part of a network fieldbus - Profibus, DeviceNet or RS232, RS485.

The integration of motor, controller and drive reduces complexity in an application and significantly increases reliability. The command set and firmware enables the SM system to perform a wide range of motion controls, arithmetic and conditional logic functions. The unit is a highly capable, stand-alone, complete motion control system that is easy to implement and use.



The SM system has more features than most full-size controls:

- Brushless DC servo motor
- S-232 & RS-485
- Stand alone capability
- Torque to 2000+ oz. in. / 15 NM
- Network up to 100 Servida Motors
- 4kHz PID
- Speeds 0 - 10,000 RPM
- CE marked & UL registered
- Expandable and programmable I/O expandable to 800 inputs and 800 outputs
- On-the-fly parameter changes
- Position Mode
- Velocity Mode
- Torque Mode
- Infinite Ratio Gearing
- Electronic Gearing/ Following Mode
- Step & Direction Mode
- Limit switch inputs
- Closed loop on external encoder
- Single voltage input
- Standard NEMA mount
- 32k user EEPROM
- Software current limit
- Thermal protection
- Easy Windows Software
- Contouring mode from host PC

961-0095 **MOTORIZED TRANSLATION STAGE WITH DC MOTOR**



SPECIFICATIONS

Travel range	100 mm
Lead screw pitch	0.5 mm
Minimal incremental motion	0.2 μm
Resolution	0.028 μm
Max. speed	13 mm/s
Load capacity	
Horizontal	30 kg
Vertical	5 kg
Motor connector	HDB15(M)
DC motor	DCE RE25
Weight	2.2 kg

RECOMMENDED CONTROLLERS



ORDERING INFORMATION

Code	Description	Price, EUR
960-0095	Motorized Translation Stage with stepper motor 4247	1515
961-0095	Motorized Translation Stage with DC motor & encoder	1852
960-0095SM	Motorized Translation Stage with SM system	2945

960-0095SM-XY-960-0150SM
3 Axis Motorized Translation-Rotation System

SPECIFICATIONS

Translation xy	100×100 mm
	960-0095SM
Rotation z	360°
	960-0150SM
Load capacity	5 kg on rotation stage

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960-0097

MOTORIZED XY SCANNING STAGE



960-0097-03

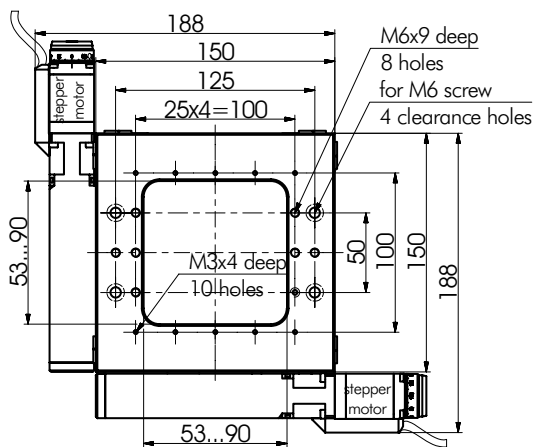
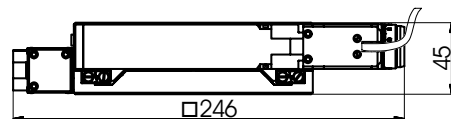
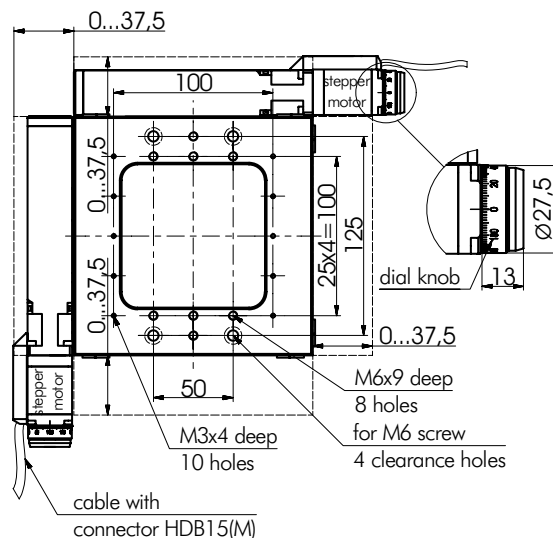
- Travel range 75×75 mm (3") or 102×102 mm (4")
- Accepts linear encoders
- RS232 and USB control
- For image analysis
- Suitable for most major brand Microscopes and Macroviewers
- Custom support brackets available for various microscope types

SPECIFICATIONS

Travel range	75×75 mm (3") 102×102 mm (4")	
Lead screw pitch	0.5 mm	
Resolution:		
in full step*	2.5 μm	*Test condition: • 980-0040 controllers; • Power supply – 36 V.
in 1/8 step*	0.31 μm	
Max. speed*	10 mm/s	
Load capacity:		
Horizontal	50 kg	
Vertical	6 kg	
Motor connector	HDB15(M)	
Cable	integrated, 1.6 m length	
Stepper motor	28	

ORDERING INFORMATION

Code	Travel range	Price, EUR
960-0097-03	Travel range 75×75 mm (3")	1900
960-0097-04	Travel range 102×102 mm (4")	1990



960-0097-03

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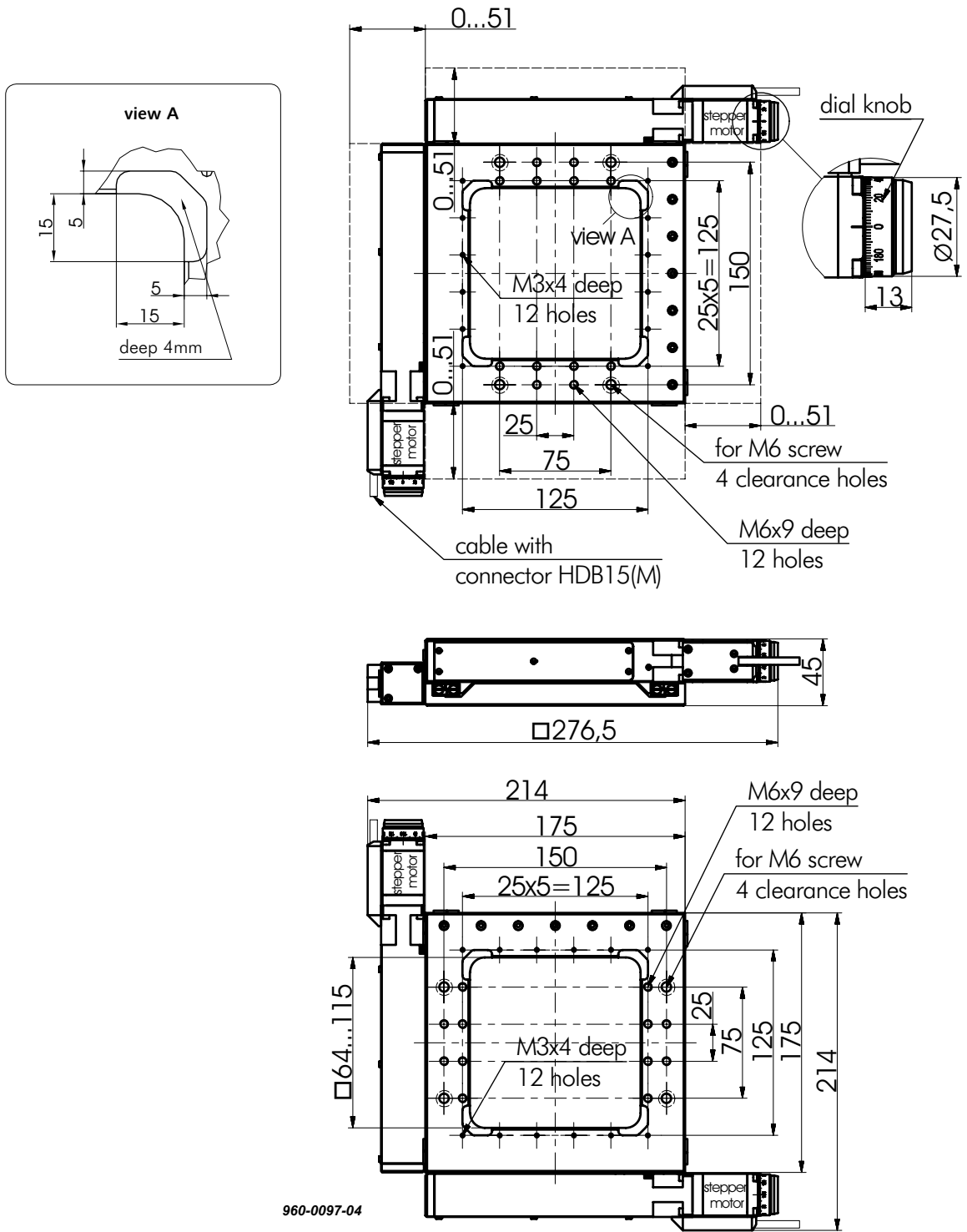
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RECOMMENDED CONTROLLERS



980-0045-USB
see page 7.98

Joystick 981-0010 for Motorized Stages



Joystick developed for manual control of one or two-axis all Stepper motor equipped motorizes stages.
See page 7.98

960-0160

MOTORIZED ROTATION STAGES

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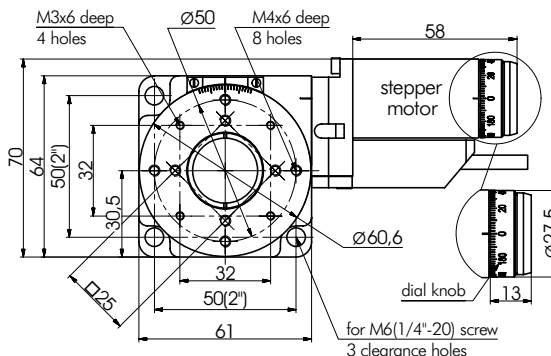
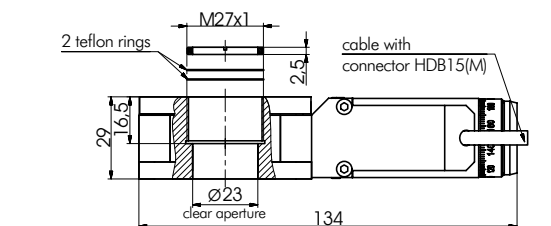
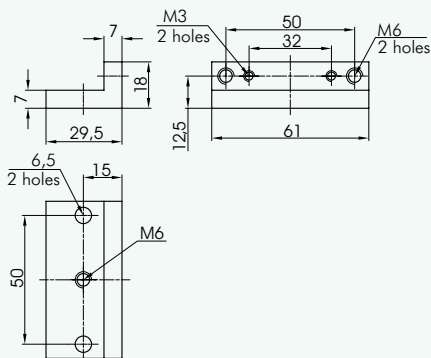


960-0161

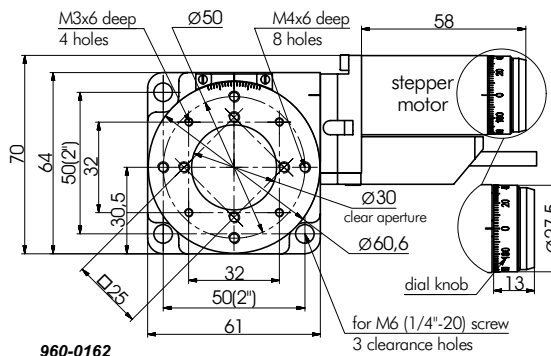
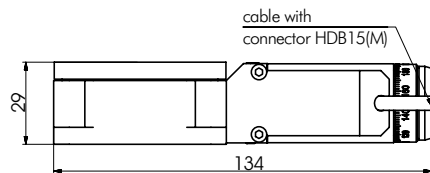


960-0162

Angle bracket for vertical mounting



960-0161



960-0162

Code	Price, EUR
960-0161	687
960-0162	697

SPECIFICATIONS

Rotation range	360°
Resolution*	
in full step	0.6 arcmin
in 1/8 step	4.5 arcsec
Max. rotation speed*	50 deg/s
Wobble	0.6 arcmin
Eccentricity	10 µm
Load capacity:	
horizontal	6 kg
radial	1.7 kg
torque	0.5 Nm
Cable	integrated, 1.6 m length
Motor connector	HDB15(M)
Stepper motor	28
Weight	0.56 kg
Optocoupler reference	1
home switch	
Switch polarity	Pushed is open, sensor schematic

ORDERING INFORMATION

960-0161 has M27x1 for 1" optics mounting (Ø23 mm clear aperture).

960-0162 has a 30 mm aperture.

***Test condition:**
• 980-0030 controllers;
• Power supply – 36 V.

Please visit our website
www.eksmaoptics.com
for Motorized Rotation Stages
960-0160 with imperial standards.

RECOMMENDED CONTROLLERS

- 980-0045-USB see page 7.98

980-0045-USB STEPPER & DC MOTOR CONTROLLER



One axis controller 980-1045



Two axis controller 980-1245



Three axis controller 980-1345



Joystick for manual control 981-0010

- One interface for stepper and DC motors
- Up to 35000 steps/s even in microstep mode, 20000 rpm for DC motor
- High resolution – 256 microsteps
- Smooth movement at low speeds
- Compatible with the latest Windows, Linux & MacOS including 64-bit OS versions
- Programming examples for all popular programming languages are supplied
- Closed loop motion control with encoder feedback

980-0045-USB is designed for flexible motion control in laboratory experiments. With modern design of the controller even simple and inexpensive positioner can be utilized to achieve high speed and precision.

Controller is compatible with stepper, DC motors, incremental rotary and linear encoders, magnetic brake, limit switches and home switch. It has an integrated zero position calibration, which can be achieved with just one command, using signals from limit switches, home switch, external signals or their combinations. Controller features high level of protection from electrostatic discharge of all external connections and from short circuit in motor windings. Controller software includes two user-friendly XILab user interfaces that allow controlling and testing of all controller functions without developing custom code. XILab interfaces are designed for positioners control, diagnostic and fine tuning of the motors driven by the controllers. XILab supports multiaxial mode and multidimensional control scripts. Script language integrated in XILab interfaces allows easy creation of algorithms, including loops and conditional statements, without compiling and learning a programming language.

980-0045-USB can be used as a stand-alone controller without PC, it is also compatible with external joystick.

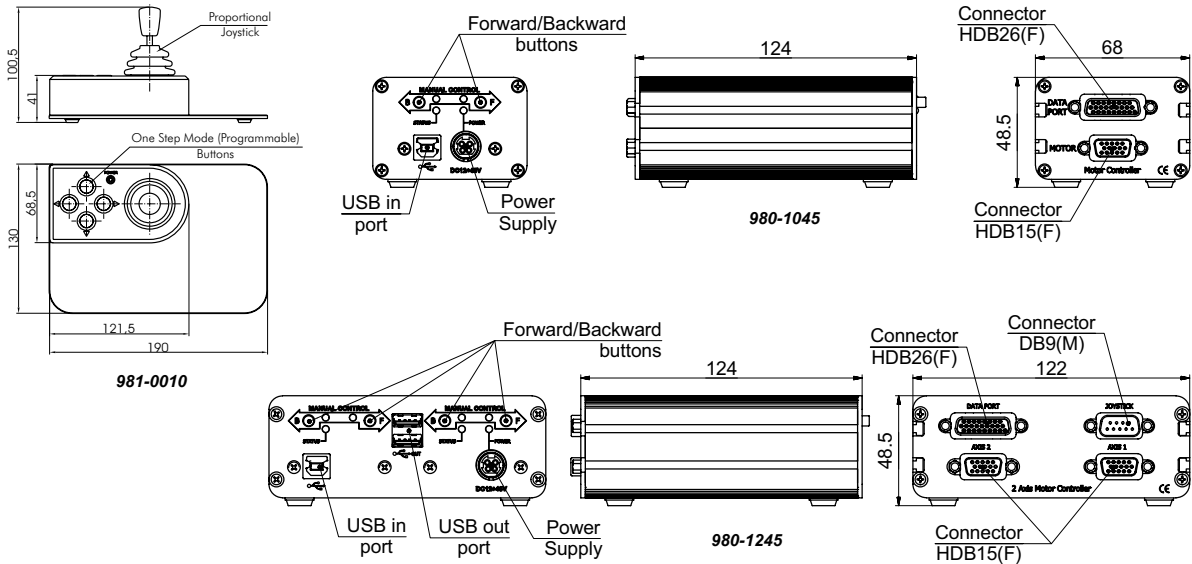
980-0045-USB can drive:

- Bipolar two phase stepper motors with current ratings 0.1 – 3 A
- DC motors with the winding current up to 6 A

ORDERING INFORMATION

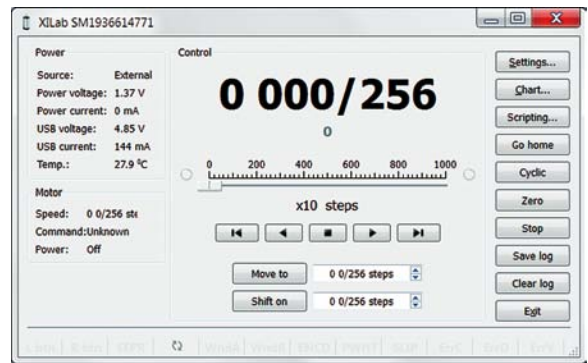
Code	Description	Price, EUR
980-0045	1-axis controller circuit card assembly	395
980-0045-BR	1-axis controller circuit card assembly (for brake equipped motor)	425
980-1045	1-axis controller	550
980-1045-BR	1-axis controller (for brake equipped motor)	650
980-1245	2-axis controller	940
980-1245-BR	2-axis controller (for brake equipped motor)	970
980-1345	3-axis controller	1490
980-1345-BR	3-axis controller (for brake equipped motor)	1590
980-1445	4-axis controller	1880
980-1445-BR	4-axis controller (for brake equipped motor)	1980

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Software

Controller software includes two user-friendly XILab user interfaces that allow controlling and testing of all controller functions without developing custom code. XILab interfaces are designed for positioners control, diagnostic and fine tuning of the motors driven by the controllers. XILab supports multiaxial mode and multidimensional control scripts. Script language integrated in XILab interfaces allows easy creation of algorithms, including loops and conditional statements, without compiling and learning a programming language.



XILab Main window in single-axis control mode

RELATED POWER SUPPLIES

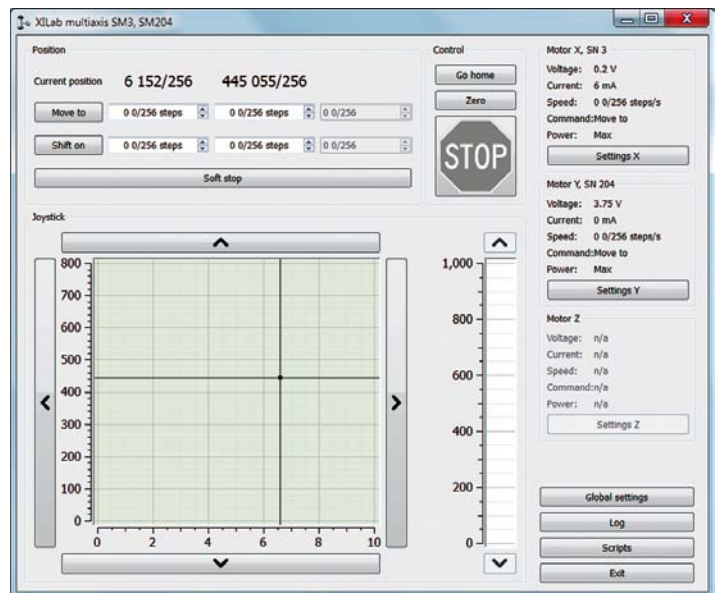
A 12V – 36V, 1.5A – 3.6 A power supply is required to operate the controller. You can use your own power supply or the following power supplies:

- model **PS12-2.5-4** (12 V; 2.5 A)
- model **PS36-3.4-4** (36 V; 3.34 A)
- model **PS24-2.5-4** (24 V; 2.5 A).

See page 7.100



PS36-3.4-4



XILab Main window in multi-axis control mode

POWER SUPPLIES FOR CONTROLLERS



PS12-1.5-4



PS12-2.5-4



PS24-2.5-4



PS36-3.4-4

Current requirements for stepper motor controller power supplies:

During operation, current consumption will vary depending upon how the controller is being used. Before shipment, our controllers are calibrated to the rated current of the motors they are to be used with. If you do not specify a motor, the controllers will be calibrated to a factory default value. Due to Pulse Width Modulation (PWM) our controllers usually consume less

current than the rated current of motors. However, to avoid problems during worst case scenarios, we recommend selecting a power supply with a max current not less than the rated current of motors that will be connected to the controller. In case of multi-axis controllers you will need to sum the current of all controllers connected to the power supply.

Requirements for stepper motor controllers power supply voltage:

Our stepper motor controllers are a "chopper drive" type. This means that in the initial phase of the motor step our controller will apply significantly higher voltage to motor winding than will occur in other drive types. This method allows stepper motors to be driven with higher torque at higher

speeds. It should also be noted that stepper motor parasitic resonant effect behavior ("bad" frequencies position, for example) depends on supply voltage. Minimal allowable DC voltage of our stepper motor controllers is 12V and maximum is 36V, both of which we keep in stock.

SPECIFICATIONS

Model	Voltage, V	Current, A	Dimensions, mm	Weight, kg	Connector	Price, EUR
PS12-1.5-4	12	1.5	98.5 × 55 × 31.5	0.2	2.1/5.5	33
PS12-2.5-4	12	2.5	98.5 × 55 × 31.5	0.25	2.1/5.5	51
PS24-2.5-4	24	2.5	125 × 50 × 31.5	0.31	KPPX-4P power connector	67
PS36-4.4-4	36	3.34	167 × 65 × 37	0.64	KPPX-4P power connector	180