



OPTOMECHANICS & OPTICS
for Science & Industry

www.opto4u.com





**We have
30 years of
experience in
optics and lasers.**

For further information,
please contact us :

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We service and supply the most demanding applications required by complex industrial and scientific projects. Opto4u is composed of many talented individuals specializing in optics design, engineering and manufacturing, laser prototyping, mechanical conception, system positioning, quality measuring instruments and more.

A competitive edge is acquired through the choice of components that are appropriate and of the right quality. In order to give our customers that advantage and answer their immediate needs, we have carefully selected a range of quality optical and mechanical products. We also offer broad manufacturing capabilities.

PRODUCTS **P. 4 to 30**

optoMECHANICS

P. 4 to 20

Optomechanics is a rapidly developing field of research that explores the interaction between light and mechanical motion, with its current experimental focus on micro and nanoscale systems. The combination of modern nanofabrication techniques for mechanical devices and ultralow dissipation optical cavities has enabled an explosion of experimental progress in the past few years.

Adjustable optical mounts.....	p. 4 to 9
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Translation stages.....	p. 18 to 19
Breadboards.....	p. 20

optICS

P. 22 to 30

Welcome to opto4u; below you will find links to optical components, a subset of our entire line of photonics products. All single element optical components can be found under the optical elements link;

Mirrors.....	p. 22 to 25
Lenses.....	p. 26 to 30

SHIPMENTS & RETURNS **P. 21**

GENERAL TERMS AND CONDITIONS **P. 31**

MOUNTS

POSTS AND
BASES

TRANSLATION
STAGES

BREADBOARDS

MIRRORS

LENSES

Mounts :

An **Optical Mirror Mount** is a device used in optics research that securely holds a mirror in place while allowing for precision tip and tilt adjustment. Due to the sensitive nature of optics research, optical mirror mounts are typically mounted to an optical table to provide a high level of vibration isolation. Mirror mounts can be adjusted by hand with an adjustment screw.



1 | Adjustable Optical Mounts

Adjustable or Kinematic Mounts are used to provide alignment or positioning capability to optical systems. Adjustable or Kinematic Mounts are optical mounts that have been designed to feature a range of translation options.

2 | Kinematic Open Mirror Mounts with 2 adjusters

2 items



Overview

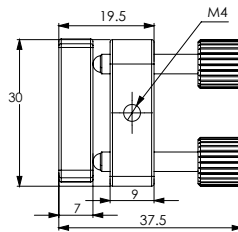
- Adjustable axis : (θ_x, θ_y)
- Travel range : $\pm 4^\circ$
- 3 strong springs preload for higher stability
- Teflon tipped setscrew to fix mirror
- Can be mounted directly on post or platform with M4 or M6
- Opening frame design which allows broader angle for beam to go through
- Material : Aluminium, black anodized
- 100 pitch screws



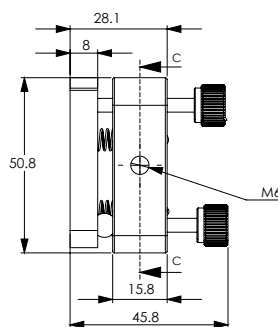
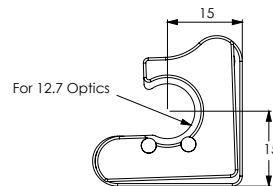
MO205



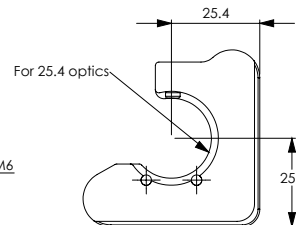
MO210



Dimensions of MO205



Dimensions of MO210



PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	DRIVE	WEIGHT	
MO205	12.5-12.7 mm	3-8 mm	100p Thumbscrews	31 g	30 €
MO210	25-25.4 mm	3-10 mm	100p Thumbscrews	103 g	30 €

Kinematic Mirror Mount with 2 adjusters



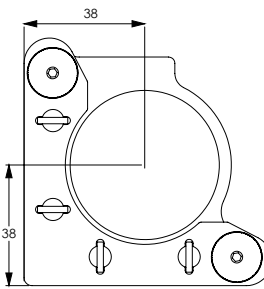
MM210 + FM1



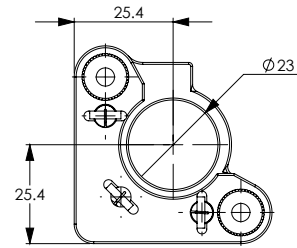
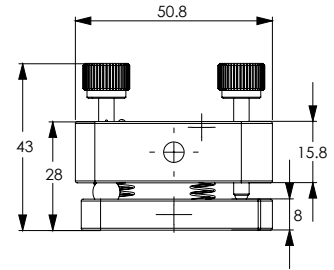
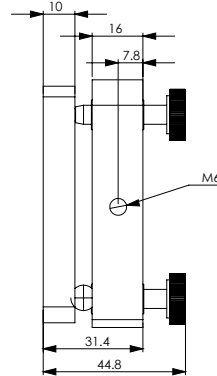
MM220 + MA10

Overview

- Adjustable Axis : (Θ_x , Θ_y)
- Travel Range : $\pm 4^\circ$
- 3 - 4 strong springs preload for higher stability
- Teflon Tipped Setscrew to fix mirror
- Can be mounted directly on post or platform with M4 or M6
- Best selling design
- Material : Aluminium, black anodized
- 100 pitch screws



Dimensions of MM220



Dimensions of MM210

More info :

- We supply other sizes up to 100-101.6 mm optics
- We supply same design steel mounts

PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	DRIVE	WEIGHT	
MM210	25-25.4 mm	3-10 mm	100p Thumbscrews	104 g	30 €
MM220	50-50.8 mm	4-13 mm	100p Thumbscrews	170 g	56 €



MA05



MA10

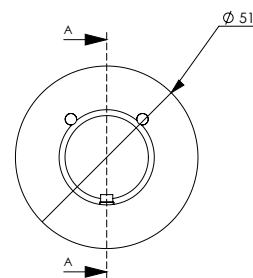


Mirror Adapter for Kinematic mirror mounts

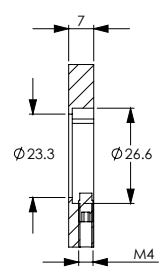


Overview

- Aluminium, black anodized
- Exist in other diameters



Dimensions of MA10



Coupe A-A

PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	
MA05	12.5-12.7 mm	1-6 mm	15 €
MA10	25-25.4 mm	1-10 mm	15 €

Kinematic Mirror Mount with 3 adjusters

3 items

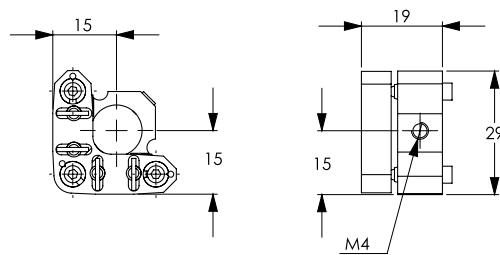


MM320

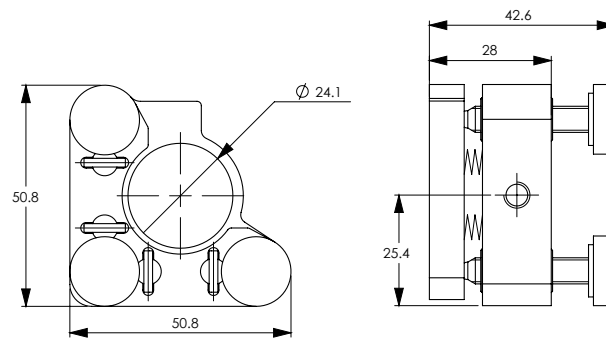
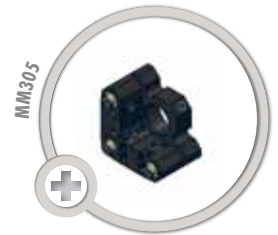
MM305

Overview

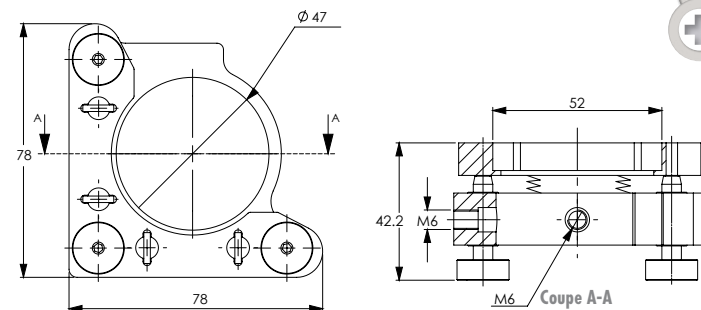
- 3 Adjustable Axis
- Travel Range : $\pm 4^\circ$
- 4 strong springs preload for ultra stability
- Teflon Tipped Setscrew to fix mirror
- Material : Aluminium, black anodized
- 100 pitch screws



Dimensions of MM305 (Kinematic Mirror Mount - 3 adjusters - 12.7 mm)



Dimensions of MM310 (Kinematic Mirror Mount - 3 adjusters - 25.4 mm)



Dimensions of MM320 (Kinematic Mirror Mount - 3 adjusters - 50.8 mm)

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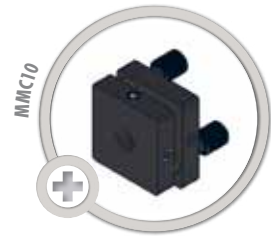
PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	DRIVE	THREAD	
MM305	12.5-12.7 mm	3-8 mm	100p Adjustment Screws	M4	52 €
MM310	25-25.4 mm	3-10 mm	100p Thumbscrews	M6/ Clear M4	62 €
MM320	50-50.8 mm	4-13 mm	100p Thumbscrews	M6/ Clear M4	90 €

Kinematic Compact Mirror Mount with 2 adjusters

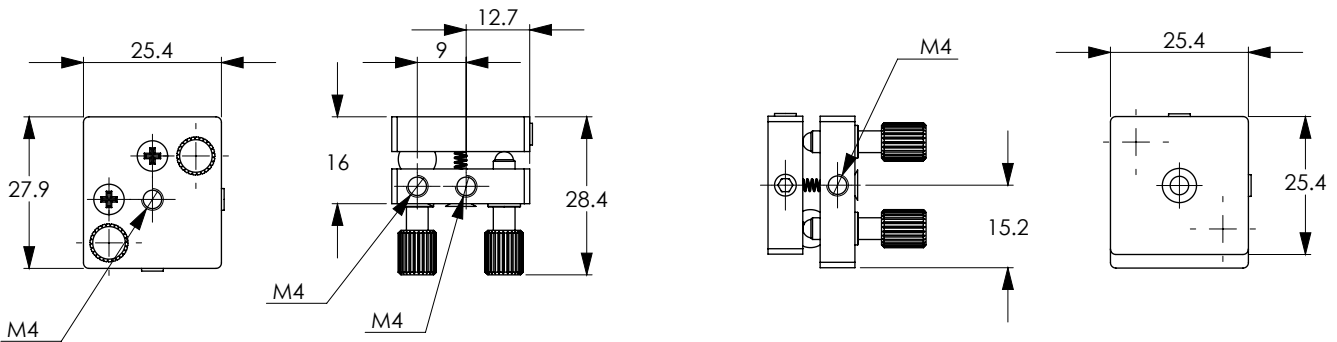


Overview

- Adjustable Axis : (Θ_x, Θ_y)
- Travel Range : $\pm 4^\circ$
- Can be mounted directly on post or platform with M4
- Can be used as prism mount
- Can hold mirror or prism glued on front
- Material : Aluminium, black anodized
- 100 pitch screws



MMC10



Dimensions of MMC10 (Compact Mirror Mount - 2 adjusters - 25.4 mm)

PART NUMBER	OPTICS MAX SIZE	OPTICS THICKNESS	DRIVE	WEIGHT	
MMC10	25.4x25.4 mm	1-10 mm	100p Thumbscrews	29 g	25 €



MCA05



MCA10a

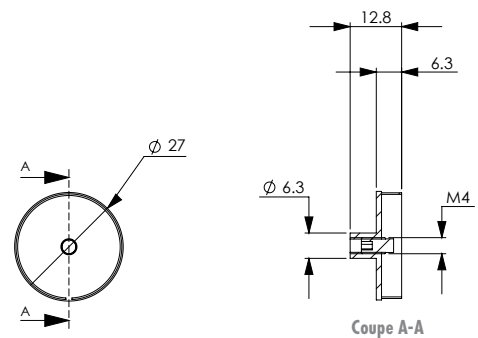


Mirror Adapter for Compact mirror mounts



Overview

- Hold mirror with spring metal hollow cylinder
- To screw on compact mirror mount
- Easy mirror remove
- Aluminium, black anodized
- Exist in other diameters



Dimensions of MCA10

PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	
MCA05	12.5-12.7 mm	1-6 mm	10 €
MCA10a	25-25.4 mm	1-5 mm	10 €
MCA10	25-25.4 mm	3-10 mm	10 €

Kinematic Lens & mirror Mount with 4 adjusters

2 items

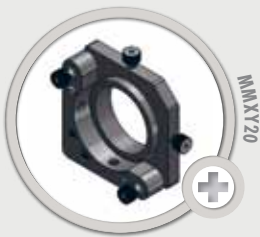


MMXY10

MMXY20

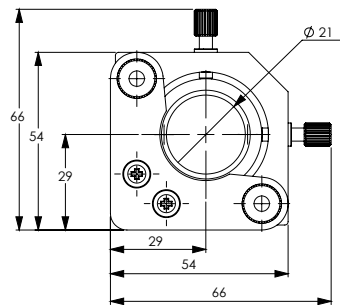
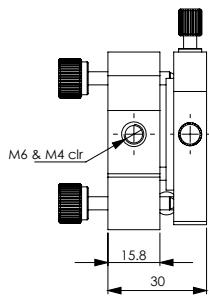
More info :

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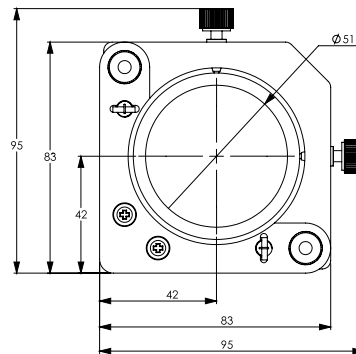
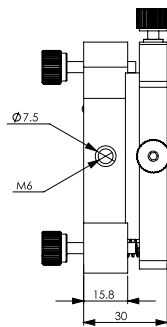


Overview

- Adjustable Axis : (Y, Z, Θ_x , Θ_y)
- Travel Range (Θ_x , Θ_y) : $\pm 4^\circ$
- Travel Range (Y, Z) : ± 2 mm
- Threaded ring optics mounting
- Can be mounted directly on post or platform with M4 or M6
- Material : Aluminium, black anodized
- 100 pitch screws
- Exist in other diameters (0.5", 1.5")



Dimensions of MMXY10



Dimensions of MMXY20

PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	DRIVE TYPE	WEIGHT	
MMXY10	25-25.4 mm	1-6 mm	100p Thumbscrews	148g	105 €
MMXY20	50 - 50.8 mm	1-10 mm	100p Thumbscrews	253g	170 €

Flip Mount

1 item



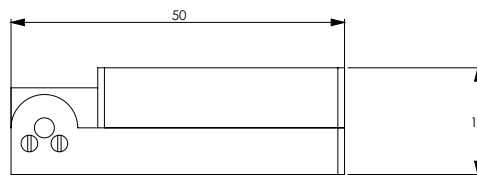
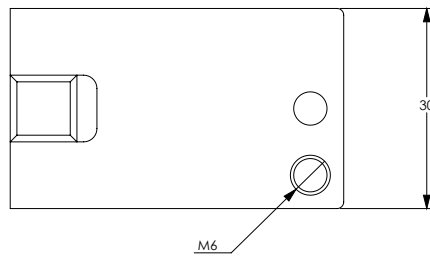
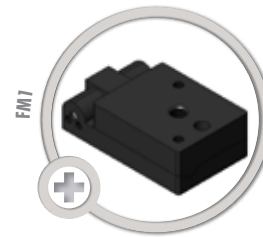
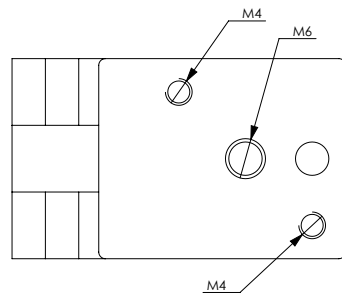
Mirror Mount on top of FM1 Flip Mount



FM1

Overview

- Highly Repeatable IN/OUT function
- Kinematic design ensures repeatability
- Allows beam path to be diverted
- Allows different flips application
- Gimbal adjusting for great stability
- Material : Aluminium, black anodized
- Can be mounted directly on post or platform with M6



Dimensions of FM1 (Aluminium - 57gr)

PART NUMBER	SIZE	
FM1	30x50x16	58 €

- MOUNTS
- POSTS AND BASES
- TRANSLATION STAGES
- BREADBOARDS
- MIRRORS
- LENSES

1
item

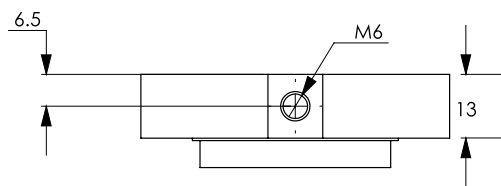
Rotary Mount



RM10

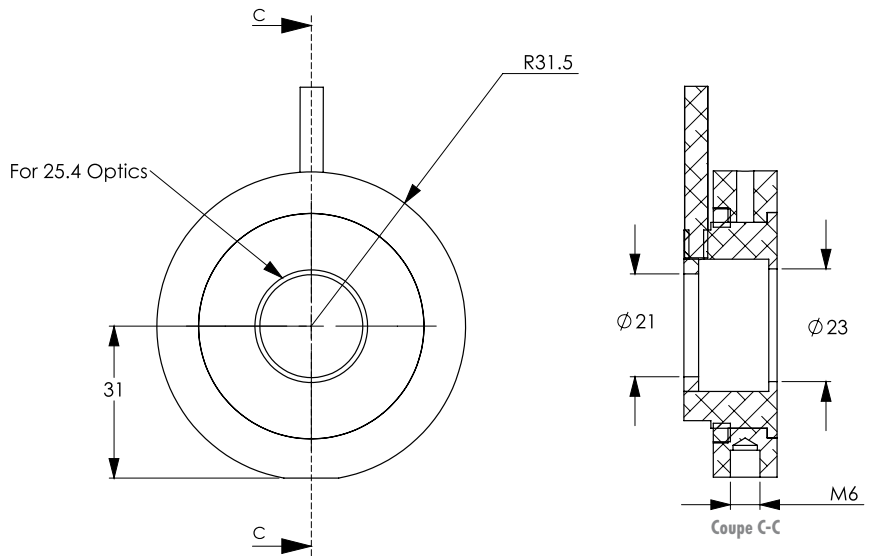
Overview

- Travel range : 360°
- Graduated to double degrees
- Readings by vernier direct to 2 minutes
- Retaining ring
- Can be mounted directly on post or platform with M6
- Material : Aluminium, black anodized
- Exist in other diameters
- Exist as kinematic rotary mount with 3 axis adjusters



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Dimensions of RM10

PART NUMBER	OPTICS DIAMETER	OPTICS THICKNESS	WEIGHT	
RM10	25-25.4 mm	1-14 mm	110g	60 €



2 | Fixed optical mounts

Fixed Mounts ideal for providing stationary mounting for any optics.

3 items

Lens Mounts



LH 10 with Posts and Post Clamp



LH 05



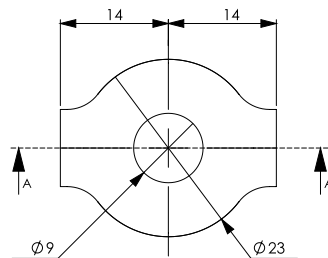
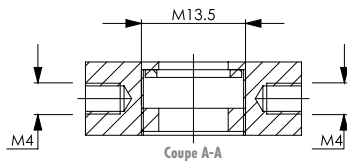
LH10



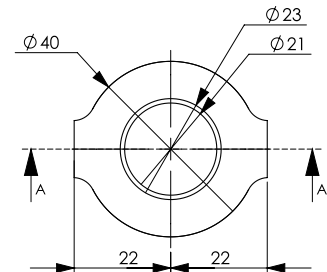
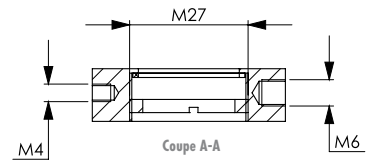
LH 20

Overview

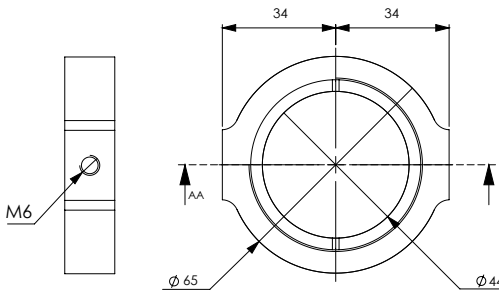
- Teflon ring with threaded cap ring to fit various thickness
- Can be mounted directly on post or platform with M4 or M6
- Material : Aluminium, black anodized
- Exist in other diameters



Dimensions of LH05 (Lens Holder - 12.7 mm)



Dimensions of LH10 (Lens Holder - 25.4 mm)



Dimensions of LH20 (Lens Holder - 50.8 mm)

PART NUMBER	OPTICS DIAMETER	OPTICS EDGE THICKNESS	WEIGHT	
LH05	12.5-12.7 mm	1-6 mm	11 g	11 €
LH10	25-25.4 mm	1-8 mm	26 g	12 €
LH20	50-50.8 mm	1-10 mm	60 g	17 €

POSTS AND BASES :



16 items

Stainless Steel Post



Stainless Steel Post, Ø 12.7mm

8 items

Overview

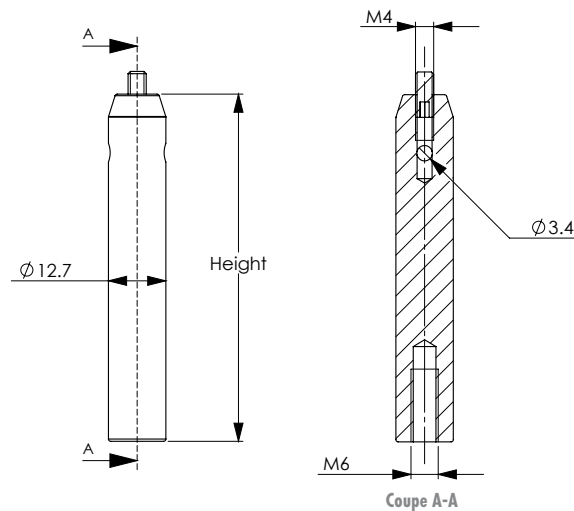
- Tapped M4 at post top
- Tapped M6 at bottom
- Supplied M4 top setscrew
- Material : Stainless Steel



P020



P200



Dimensions of Post 12.7 Ø



Stainless Steel Post, Ø 12.7mm				
PART NUMBER	DIAMETER	LENGTH	WEIGHT	
P020	12.7 mm	20 mm	18g	4 €
P030	12.7 mm	30 mm	27g	4 €
P040	12.7 mm	40 mm	38g	4 €
P050	12.7 mm	50 mm	47g	4 €
P075	12.7 mm	75 mm	66g	4 €
P100	12.7 mm	100 mm	99g	4 €
P150	12.7 mm	150 mm	150g	5 €
P200	12.7 mm	200 mm	204g	6 €



■ PL050



■ PL300

► **Stainless Steel Post, Ø 20mm**

6 items

Overview

- Tapped M4 at post top
- Tapped M6 at bottom
- Supplied M4 top setscrew
- Material : Stainless Steel

Stainless Steel Post, Ø 20mm				
PART NUMBER	DIAMETER	LENGTH	WEIGHT	
PL050	20 mm	50 mm	119g	16 €
PL075	20 mm	75 mm	182g	17 €
PL100	20 mm	100 mm	242g	19 €
PL150	20 mm	150 mm	372g	21 €
PL200	20 mm	200 mm	500g	30 €
PL300	20 mm	300 mm	740g	37 €

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■ P4550



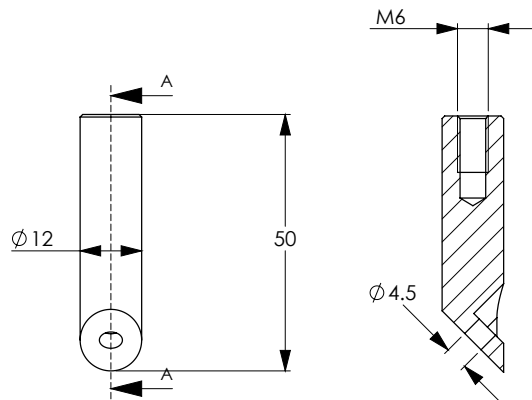
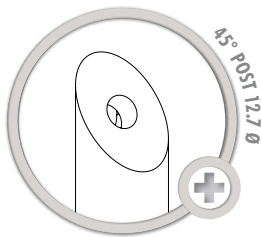
■ PL4510

► **Stainless Steel Post, 45° cut design**

2 items

Overview

- 45° cut design
- Cleared M4 at post top
- Tapped M6 at bottom
- Material : Stainless Steel



■ Dimensions of Post 45° cut design, 12.7 Ø

Stainless Steel 45° Post				
PART NUMBER	DIAMETER	LENGTH	WEIGHT	
P4550	12.7 mm	50 mm	37g	17 €
PL4510	20 mm	100 mm	211g	25 €

5 items

12.7 Post Holder



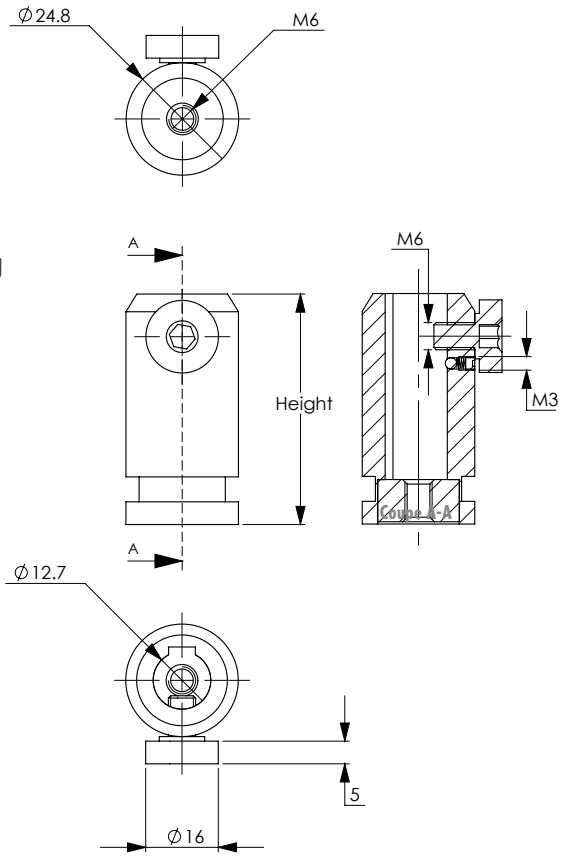
PH Post clamped with HF1 Fork

Overview

- Tapped M6 at bottom
- Steel ball on pressure for post pre-positioning
- 20 mm dia groove for fork clamping

There are 3 ways of fastening the holder to a table surface:

- M6 screwed on table
- Fasten with HF1 fork
- Fasten with B2 adapter and HF2 fork



PART NUMBER	POST DIAMETER	HEIGHT	WEIGHT	
PH1	12.7 mm	25.4 mm	40 g	9 €
PH1.5	12.7 mm	38 mm	54 g	9 €
PH2	12.7 mm	50.8 mm	66 g	9 €
PH3	12.7 mm	76.2 mm	90 g	10 €
PH4	12.7 mm	101.4 mm	113 g	10 €



HF1

HF2

2 items

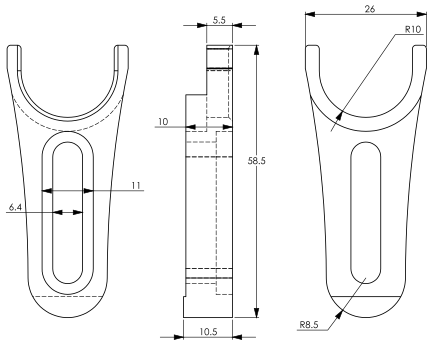
► **Forks**

HF1

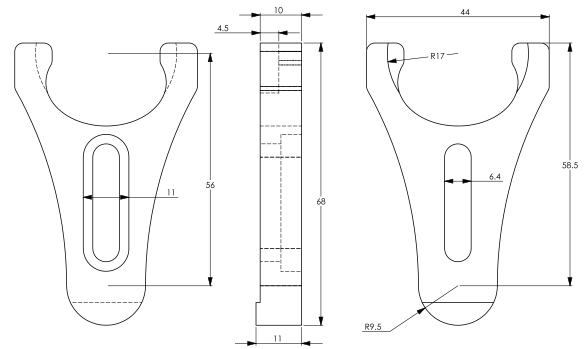
- To clamp PH series post holder, the post holder groove is designed for this purpose
- To clamp PL series post with B1 Base Adaptor
- To clamp any post dia ≤ 20 mm with B1 Base Adaptor

HF2

- To clamp 25.4 dia post with B2 Base Adaptor
- May be used also to clamp PH Post Holder with B2 Base Adaptor



Dimensions of HF1



Dimensions of HF2

PART NUMBER	IN DIAMETER	BASE	7 €
HF1	20 mm	B1	7 €
HF2	25.4 mm	B2	7 €



B1

B2

2 items

► **Adapters**

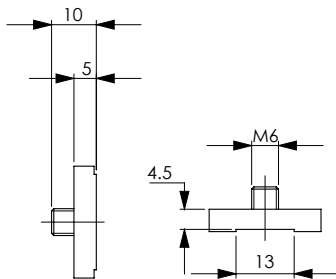
- B1 to fasten any post
- B2 to hold 25.4 dia post or PH post holder with fork HF2

B1

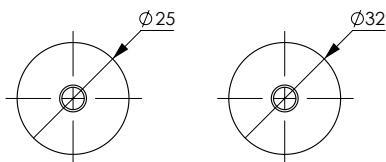
- Accept any M6 post
- Convenient for 20mm dia post (PL series) positioning
- Easy to fasten on table top with fork HF1

B2

- Accept any M6 post
- Convenient with 25.4mm dia post positioning
- Convenient with 25mm dia post holder (PH series) positioning
- Easy to fasten on table top with fork HF2



Dimensions of B1 et B2



B1

B2

PART NUMBER	DIAMETER	FORK COMPATIBILITY	7 €
B1	25 mm	HF1	7 €
B2	31.7 mm (1.25")	HF2	7 €

4 items

Base

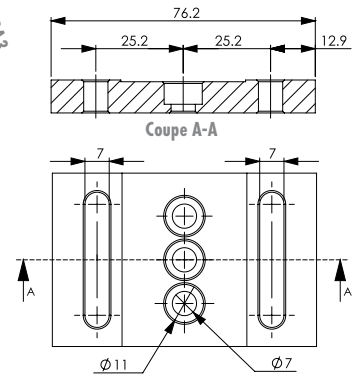


BA2

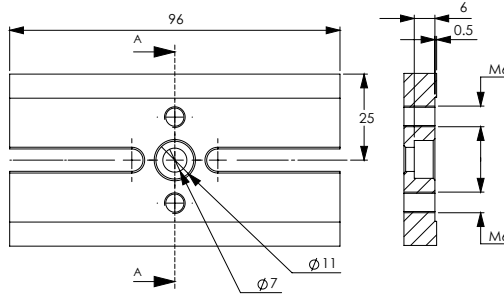
BA4

Overview

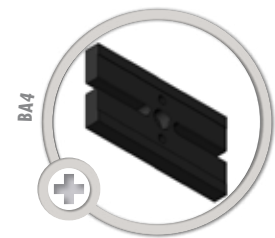
- Most popular size choice
- Supplied with screws
- Aluminium, black anodized
- Compatible with rails and table mounting systems
- larger sizes on demand



■ Dimensions of BA3 - Sliding Base 50.8x76



■ Dimensions of BA4 - Sliding Base 50.8x96



PART NUMBER	SIZE	THICKNESS	WEIGHT	
BA1	25.4 x 50.8	9.5	27 g	4 €
BA2	25.4 x 76	9.5	40 g	4 €
BA3	50.8 x 76	9.5	77 g	4 €
BA4	50 x 96	9.5	103 g	5 €

2 items

Base Clamp



BC3

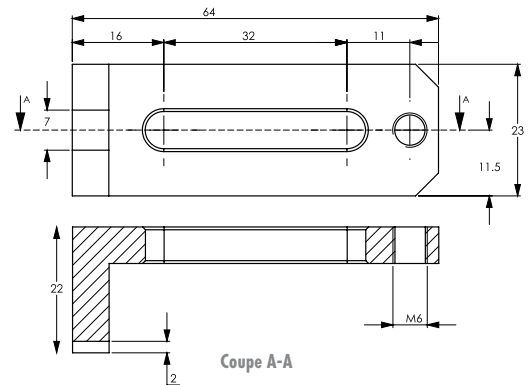


BC1

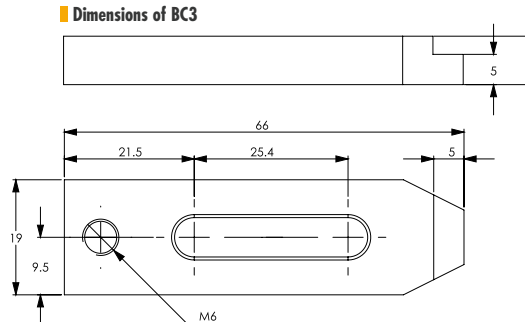
Overview

- Supplied with screws
- To hold base plates and solid breadboards
- Aluminium, black anodized

■ Dimensions of BC1



■ Dimensions of BC3



PART NUMBER	SIZE	THICKNESS	HOLDING PLATE THICKNESS	
BC1	23 x 64	22	5-16 mm	5 €
BC3	19 x 66	8	3-16 mm	5 €

3 items
Post Clamp



PC55

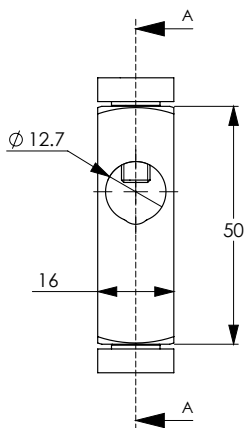
PCA55



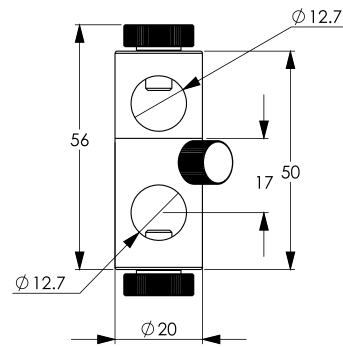
PC52

Overview

- Aluminium, black anodized



Dimensions of PC55



Dimensions of PCA55

PART NUMBER	POST DIAMETERS	POST ANGLE	
PC55	12.7/12.7	90°	8 €
PCA55	12.7/12.7	Adjustable 0-360°	16 €
PC52	12.7/20	90°	10 €

3 items
Screws



SK1



A4M6M



A4F6M

Overview

- Material : Stainless steel
 - Full compatibility with all Optomechanics range



PART NUMBER	DESCRIPTION	POST ANGLE	
SK1	Screw kit	240 x M4 & M6 Set screws/Cap screws Hex wrenches Stainless steel	65 €
A4M6M	Screw adapter	Male M4/Male M6	2 €
A4F6M	Screw adapter	Female M4/Male M6	3 €

TRANSLATION STAGES :



A **linear stage** or **translation stage** is a component of a motion system used to restrict an object to a single axis of motion.

1 item

25 mm travel range Linear Stage



TS25 mounted on BR1 bracket

Overview

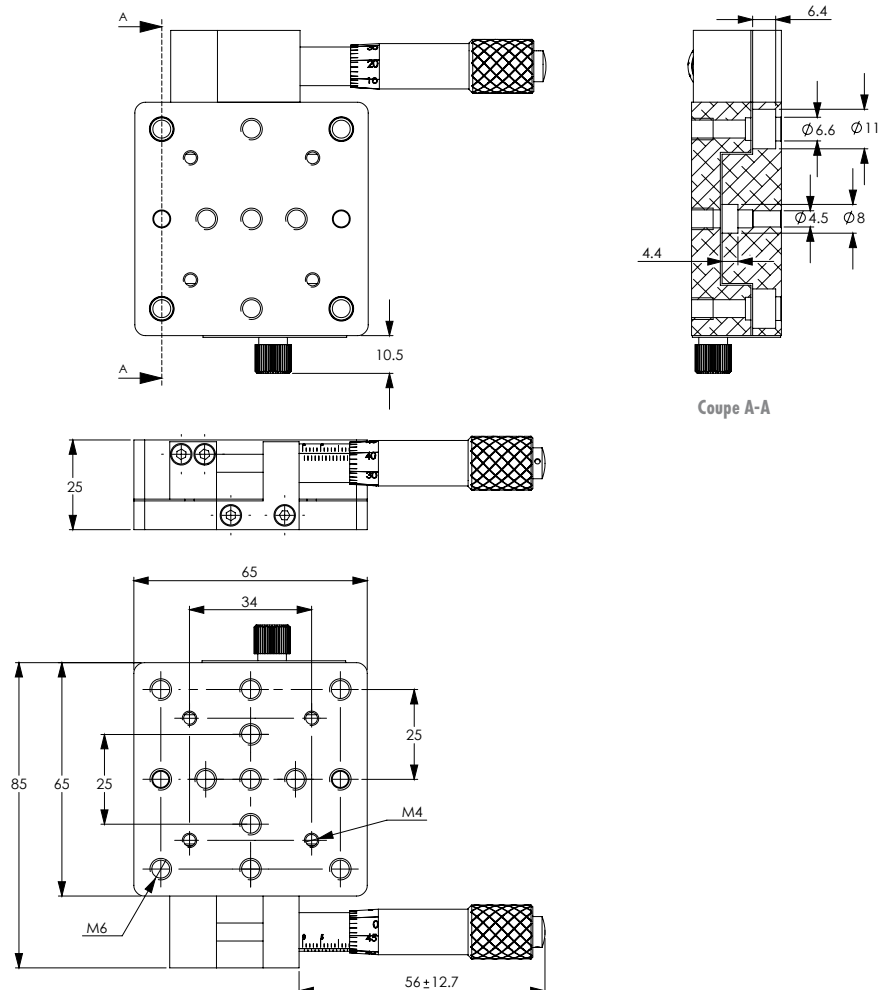
- Aluminium, black anodized
- 65X65 mm stage
- Load capacity 15kg
- Crossed-roller bearing
- 25 mm travel
- Side position micrometer drive
- Readable 0.01 mm
- 5 microns repeatability
- Full M6 compatibility
- Stack XY
- Stack XYZ with extra bracket



TS25

More info :

- We supply other sizes 25x25 up to 180X80 mm
- We supply other stages from 3 mm to 100 mm travel
- We supply same design stainless steel stages



PART NUMBER	TRAVEL	RESOLUTION	STRAIGHTNESS TRAVEL	WEIGHT	
TS25	25 mm	0.01 mm	0.025 mm	323 g	160 €



BR1

PART NUMBER	
BR1	53 €

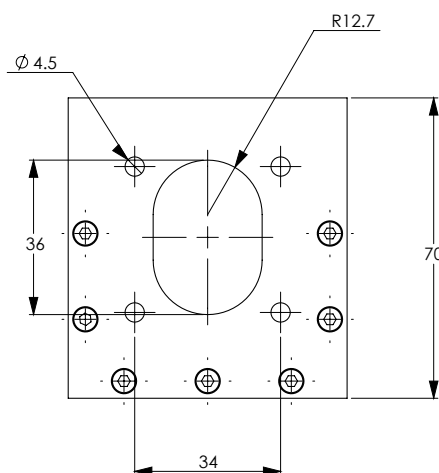
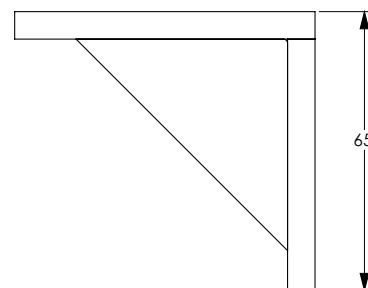
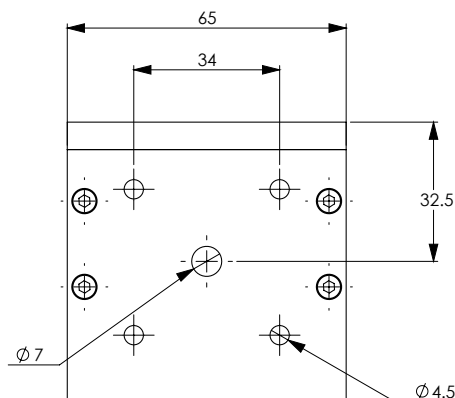


90° Bracket

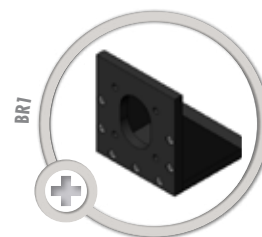
1 item

Overview

- For assembling 3 axis XYZ stages
- Aluminium, black anodized



Dimensions of BR1



Contact us :

sales@opto4u.com

+33 (0)1 41 90 61 80

MOUNTS

POSTS AND BASES

TRANSLATION STAGES

BREADBOARDS

MIRRORS

LENSES

BREADBOARDS :



An **optical table** is a platform that is used to support systems used for optics experiments and engineering. Optical tables are typically often use to act as a low-pass filter to vibrations.

3 items

Solid Aluminium Breadboards

Convenient & light, the best choice for small set up

Overview

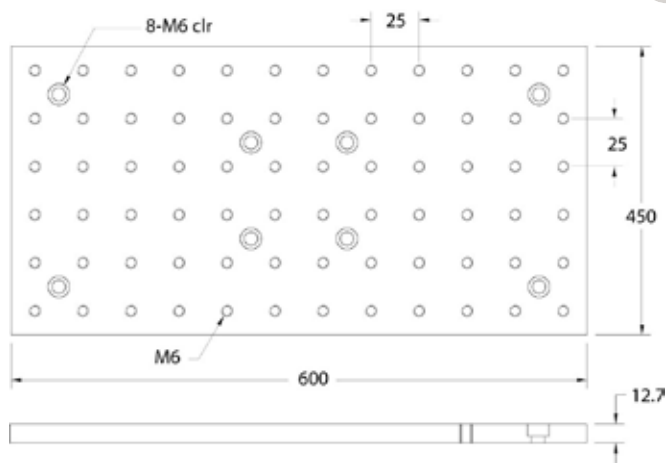
- M6 threaded on 25 mm centers
- Flatness < 0.1 mm
- Material : Aluminium, black anodized



SAB46



SAB22



Dimensions of SAB46

PART NUMBER	SIZE	THICKNESS	WEIGHT	
SAB22	200 x 200 mm	12.7 mm	1.5 kg	70 €
SAB34	300 x 450 mm	12.7 mm	4.5 kg	160 €
SAB46	450 x 600 mm	12.7 mm	9 kg	320 €

Contact us :

@ sales@opto4u.com

+33 (0)1 41 90 61 80



MOUNTS

POSTS AND BASES

TRANSLATION STAGES

BREADBOARDS

MIRRORS

LENSES

Shipments & returns



More info :

Cf page 31 General Terms and Conditions / Price & Delivery

YOUR PACK SHIPMENT

Packages are dispatched within 1 day after receipt of the order and are shipped via TNT.

Boxes are amply sized and your items are well-protected. All shipments will be covered by OPTO4U's transport insurance. The Buyer shall report any transport damage immediately.

If Buyer believes that a stock product is defective or did not meet stated specifications, Buyer may return the product within 30 days of invoice date. Prior to return of the product, Buyer must obtain a Return Authorization Number. Buyer should then pack the product carefully and return it to OPTO4U, freight prepaid, together with an explanatory note and the Return Number. The returned product must be in the original package and free of any defect or damage caused by shipping.

MIRRORS :

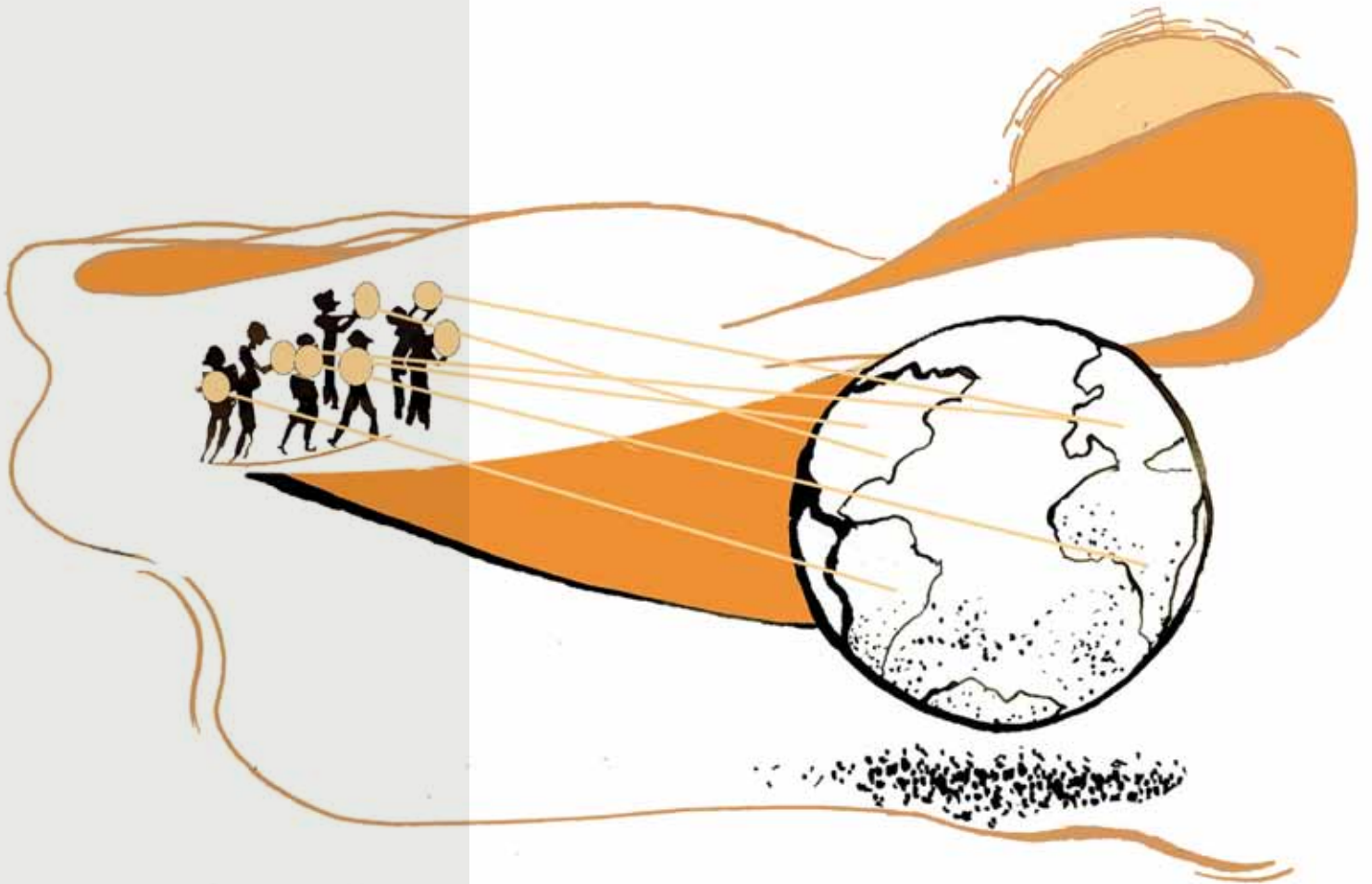
Mirrors are a critical and commonly used component in many optical systems. We are manufacturing our mirrors with excellent surface figure, accurate surface quality and best coating specification.



We carry on stock 3 ranges of flat quality mirrors, including **Metal Mirrors**, **Nd Yag Mirrors** and **Ultra Broadband Sputtered Mirrors**.

This is the most popular mirror offering for experiment and industry applications. We answer to all other requests on demand.

Our high-Quality laser mirrors and broadband mirrors provide high level of reflectivity dedicated to most applications.





3 items

Ultra Wideband Sputtered Mirrors

The Semrock 350-1100 nm MaxMirror® Ultrabroadband Mirror covers an exceptionally broad range of wavelengths, designed to replace three or more conventional broadband & laser mirrors. Highly reflecting over near-UV, all visible, and near-IR wavelengths. MaxMirrors simultaneously reflect all states of polarization and all angles of incidence from 0-50° inclusive.

This is the best broadband mirror on the market

More info :

Ask for Package of 10 MaxMirror® ultrabroadband Mirrors; reference MAX10/10

Overview

- Ion Beam Sputtering coating
- Ultra-broadband performance from 350 - 1100 nm
- Ravg > 99% for both S-pol and P-pol incident light
- Maintains performance from 0-50° AOI
- Lambda/10 flatness after coating
- S&D 10-5
- Inspection polish back surface
- LDT; 1 J/cm² @ 355 nm (10 ns pulse width),
2 J/cm² @ 532 nm (10 ns pulse width),
6 J/cm² @ 1064 nm (10 ns pulse width)
- Pulse Dispersion The MaxMirror will not introduce appreciable pulse broadening for most laser pulses that are > 1 picosecond. It is not recommended for femtosecond pulses.

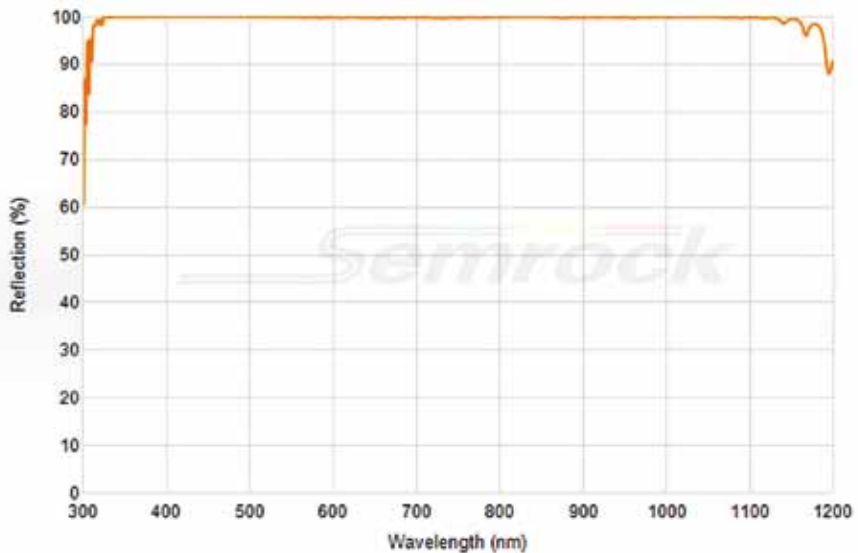


Diagram of 350 - 1100 nm MaxMirror ultrabroadband mirror

PART NUMBER	WAVELENGTH	DIAMETER	THICKNESS	MATERIAL	INCIDENCE	MORE	
MAX05	350-1100 nm	12.7 mm	6	Fused Silica	0-50°		65 €
MAX10	350-1100 nm	25.4 mm	6	Fused Silica	0-50°		85 €
MAX10/10	350-1100 nm	25.4 mm	6	Fused Silica	0-50°	10p Pack	760 €



Overview

- Single stack dielectric coating
- E beam, ultra hard oxides
- Insoluble in solvents
- $\lambda/10$ flatness substrates
- S&D 20-10
- Inspection polish back surface
- 2 arc minutes parallel
- Very high damage threshold

More info :

Ask for Package of 10 Nd-Yag Mirrors;
reference Y110/10 & Y210/10



Nd-Yag Laser flat Mirrors

We have 30 years of experience on laser optics, we manufacture in Europe.

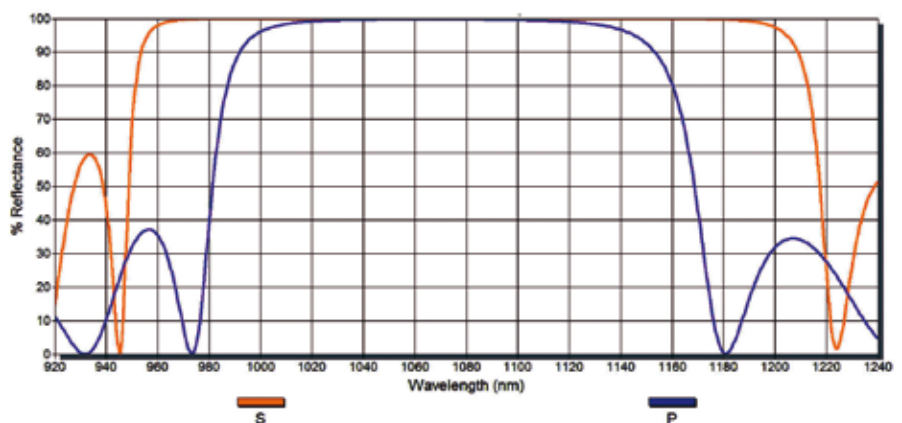
Our mirrors are the industry standard, performing to withstand laser damage threshold measured over 10GW/cm² at 1064 nm, tested at the Megajoule facility.

We manufacture high energy laser cavity mirrors, beam steering mirrors, output couplers, beamsplitters, dichroics, harmonic separators...


We give one year warranty on laser damage.

We achieve the highest specifications on the P polarisation at 45°, which is the most demanding polarisation.

Both S polarisation and S+P/2 polarisation are easier specifying due to larger coating bandwidth, therefore their reflectivities always exceed the P Reflectivity.



>99.2%R @ 1064 nm/45° S & P

PART NUMBER	WAVELENGTH RANGE	DIAMETER	THICKNESS	MATERIAL	INCIDENCE	MORE	
Y110	1053-1064 nm	25.4 mm	6.3	BK7	45°		95 €
Y110/10	1053-1064 nm	25.4 mm	6.3	BK7	45°	10p Pack	760 €
Y120	1053-1064 nm	50.8 mm	9.5	BK7	45°		130 €
Y210	527-532 nm	25.4 mm	6.3	BK7	45°		95 €
Y210/10	527-532 nm	25.4 mm	6.3	BK7	45°	10p Pack	760 €
Y220	527-532 nm	50.8 mm	9.5	BK7	45°		130 €
Y310	351-355 nm	25.4 mm	6.3	Fused Silica	45°		95 €
Y320	351-355 nm	50.8 mm	9.5	Fused Silica	45°		140 €
Y410	263-266 nm	25.4 mm	6.3	Fused Silica	45°		95 €
Y420	263-266 nm	50.8 mm	9.5	Fused Silica	45°		140 €



Metal coated flat Mirrors



High-quality optical mirrors are available for use with light throughout the UV, VIS, and IR spectral regions.

► We offer 2 different metal coatings as stock items :

- Aluminium coating with silicon dioxide protected layer and silver protected coating.
- Silver has higher reflectance than Aluminium but its range is limited down to 400 nm.

More info :

www.opto4u.com

λ (NM)	250	300	350	400	500	600	700	800	1000	2000
Al R%	92	92.3	92.5	92.4	91.8	91	89.7	86.7	94	98
Ag R%	29	17.5	80	95.6	98	98.6	98.9	99.2	99.4	99.4
Au R%	33	38	36	39	47.7	92	97	98	98.6	99.1

■ Bare metals (Aluminium, silver, Gold) reflectance at 0°



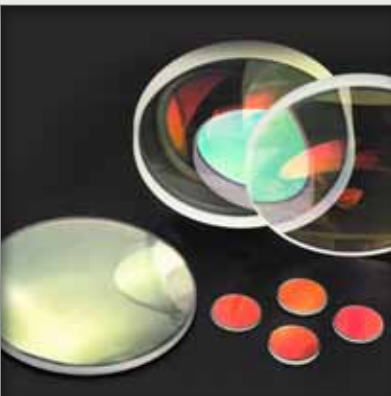
Overview

- material BK7
- 2 arc minutes parallel
- $\lambda / 10$ Flatness specified over 90% aperture
- S&D 10-5
- Diameter tolerance : +0/-0.2 mm
- Thickness tolerance : +/-0.2 mm
- Inspection polish back surface

PART NUMBER	METAL	WAVELENGTH	DIAMETER	THICKNESS	FLATNESS	S&D	MORE	
AL10	Aluminium	350-2000 nm	25.4 mm	6.3	$\lambda / 10$	10-5		34€
AL10/10	Aluminium	350-2000 nm	25.4 mm	6.3	$\lambda / 10$	10-5	10p Pack	300€
AL20	Aluminium	350-2000 nm	50.8 mm	9.5	$\lambda / 10$	10-5		68€
AG10	Silver	400-2000 nm	25.4 mm	6.3	$\lambda / 10$	10-5		36€
AG10/10	Silver	400-2000 nm	25.4 mm	6.3	$\lambda / 10$	10-5	10p Pack	320€
AG20	Silver	400-2000 nm	50.8 mm	9.5	$\lambda / 10$	10-5		72€

LENSES :

Opto4U has selected a range of singlet spherical lenses made of BK7 or Fused silica, that fit most applications in UV, visible and near IR ranges.



More info :

We offer uncoated lenses, as well as visible 400-700 nm AR coated BK7 lenses and near infrared 700-1100 nm AR coated BK7 lenses

We are manufacturing all other kind of singlets in various shapes & materials. Just ask us.

Plano Convex Lenses

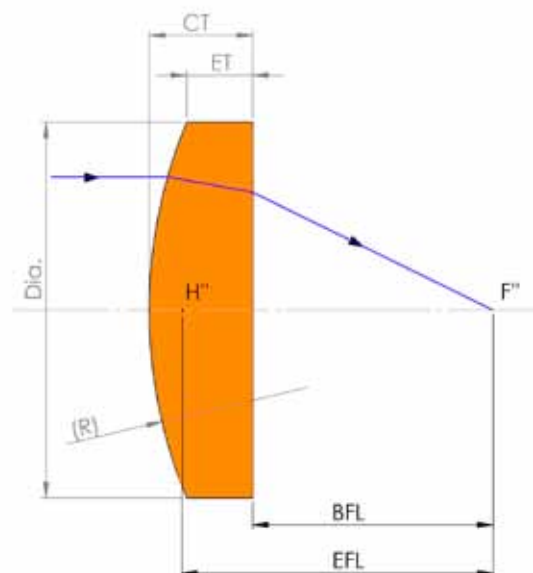
69 items


The plano convex lenses are the most common lenses for focusing lasers. The plano convex shape is minimizing the spherical aberration for imaging a distant object or focusing a laser beam.


These lenses are working close to diffraction limit when the focal length is exceeding 10 times the beam diameter.

Overview

- Diameter tolerance : $\pm 0.1\text{mm}$
- Thickness tolerance : $\pm 0.1\text{mm}$
- Focal length tolerance : $\pm 1\%$
- Focal length is calculated at 546.1nm
- Surfaces accuracy : $\lambda/4 @ 632.8\text{nm}$
- S/D < 60/40
- Centration : < 3 arc minutes
- Coating (Multi layers) : AR < 1 % (abs) / 0-15°
- Damage threshold of broadband AR coating : $> 5\text{J/cm}^2$, 20ns, 20Hz, 1064nm



P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Plano Convex Lens, 12.7dia								
PLX05-25	12,7	25	12,94	3,6	2	22,6	–	14 €
PLX05-25-A	12,7	25	12,94	3,6	2	22,6	400-700nm AR	21 €
PLX05-25-B	12,7	25	12,94	3,6	2	22,6	700-1100nm AR	21 €
PLX05-50	12,7	50	25,95	2,8	2	48,2	–	14 €
PLX05-50-A	12,7	50	25,95	2,8	2	48,2	400-700nm AR	21 €
PLX05-50-B	12,7	50	25,95	2,8	2	48,2	700-1100nm AR	21 €
PLX05-100	12,7	100	51,88	2,4	2	98,5	–	14 €
PLX05-100-A	12,7	100	51,88	2,4	2	98,5	400-700nm AR	21 €
PLX05-100-B	12,7	100	51,88	2,4	2	98,5	700-1100nm AR	21 €

P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Plano Convex Lens, 25.4dia								
PLX10-30	25,4	30	15,56	8,6	2	24,3	–	17 €
PLX10-30-A	25,4	30	15,56	8,6	2	24,3	400-700nm AR	24 €
PLX10-30-B	25,4	30	15,56	8,6	2	24,3	700-1100nm AR	24 €
PLX10-40	25,4	40	20,74	6,3	2	35,8	–	17 €
PLX10-40-A	25,4	40	20,74	6,3	2	35,8	400-700nm AR	24 €
PLX10-40-B	25,4	40	20,74	6,3	2	35,8	700-1100nm AR	24 €
PLX10-50	25,4	50	25,95	5,3	2	46,5	–	15 €
PLX10-50-A	25,4	50	25,95	5,3	2	46,5	400-700nm AR	22 €
PLX10-50-B	25,4	50	25,95	5,3	2	46,5	700-1100nm AR	22 €
PLX10-60	25,4	60	31,19	4,7	2	56,9	–	15 €
PLX10-60-A	25,4	60	31,19	4,7	2	56,9	400-700nm AR	22 €
PLX10-60-B	25,4	60	31,19	4,7	2	56,9	700-1100nm AR	22 €
PLX10-75	25,4	75	38,82	4,1	2	72,3	–	15 €
PLX10-75-A	25,4	75	38,82	4,1	2	72,3	400-700nm AR	22 €
PLX10-75-B	25,4	75	38,82	4,1	2	72,3	700-1100nm AR	22 €
PLX10-100	25,4	100	51,88	3,6	2	97,6	–	15 €
PLX10-100-A	25,4	100	51,88	3,6	2	97,6	400-700nm AR	22 €
PLX10-100-B	25,4	100	51,88	3,6	2	97,6	700-1100nm AR	22 €
PLX10-150	25,4	150	77,75	3	2	148	–	15 €
PLX10-150-A	25,4	150	77,75	3	2	148	400-700nm AR	22 €
PLX10-150-B	25,4	150	77,75	3	2	148	700-1100nm AR	22 €
PLX10-200	25,4	200	104,01	3	2,2	198	–	15 €
PLX10-200-A	25,4	200	104,01	3	2,2	198	400-700nm AR	22 €
PLX10-200-B	25,4	200	104,01	3	2,2	198	700-1100nm AR	22 €
PLX10-250	25,4	250	129,58	3	2,4	248	–	15 €
PLX10-250-A	25,4	250	129,58	3	2,4	248	400-700nm AR	22 €
PLX10-250-B	25,4	250	129,58	3	2,4	248	700-1100nm AR	22 €
PLX10-300	25,4	300	155,91	3	2,5	298	–	15 €
PLX10-300-A	25,4	300	155,91	3	2,5	298	400-700nm AR	22 €
PLX10-300-B	25,4	300	155,91	3	2,5	298	700-1100nm AR	22 €
PLX10-500	25,4	500	258,47	3	2,7	498	–	15 €
PLX10-500-A	25,4	500	258,47	3	2,7	498	400-700nm AR	22 €
PLX10-500-B	25,4	500	258,47	3	2,7	498	700-1100nm AR	22 €

MOUNTS

 POSTS AND
BASES

 TRANSLATION
STAGES

BREADBOARDS

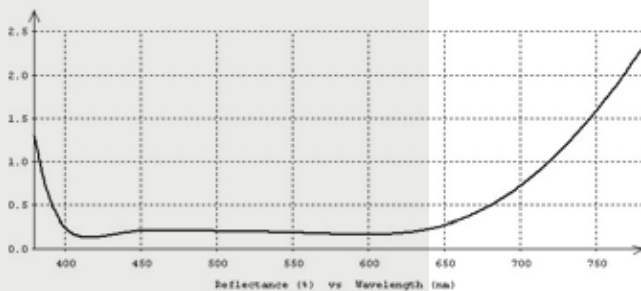
MIRRORS

LENSES

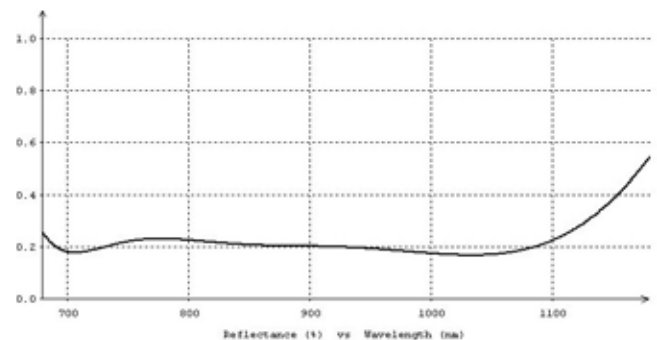
P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Plano Convex Lens, 50.8dia								
PLX20-60	50,8	60	31,19	16	3	49,5	—	27 €
PLX20-60-A	50,8	60	31,19	16	3	49,5	400-700nm AR	34 €
PLX20-60-B	50,8	60	31,19	16	3	49,5	700-1100nm AR	34 €
PLX20-100	50,8	100	51,88	9,6	3	93,7	—	23 €
PLX20-100-A	50,8	100	51,88	9,6	3	93,7	400-700nm AR	30 €
PLX20-100-B	50,8	100	51,88	9,6	3	93,7	700-1100nm AR	30 €
PLX20-150	50,8	150	77,75	7,3	3	145,2	—	23 €
PLX20-150-A	50,8	150	77,75	7,3	3	145,2	400-700nm AR	30 €
PLX20-150-B	50,8	150	77,75	7,3	3	145,2	700-1100nm AR	30 €
PLX20-200	50,8	200	104,01	6,2	3	195,9	—	23 €
PLX20-200-A	50,8	200	104,01	6,2	3	195,9	400-700nm AR	30 €
PLX20-200-B	50,8	200	104,01	6,2	3	195,9	700-1100nm AR	30 €
PLX20-250	50,8	250	129,58	5,5	3	246,4	—	23 €
PLX20-250-A	50,8	250	129,58	5,5	3	246,4	400-700nm AR	30 €
PLX20-250-B	50,8	250	129,58	5,5	3	246,4	700-1100nm AR	30 €
PLX20-500	50,8	500	258,47	5,2	4	496,6	—	23 €
PLX20-500-A	50,8	500	258,47	5,2	4	496,6	400-700nm AR	30 €
PLX20-500-B	50,8	500	258,47	5,2	4	496,6	700-1100nm AR	30 €
PLX20-1000	50,8	1000	518,3	4,6	4	997	—	23 €
PLX20-1000-A	50,8	1000	518,3	4,6	4	997	400-700nm AR	30 €
PLX20-1000-B	50,8	1000	518,3	4,6	4	997	700-1100nm AR	30 €

P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
Fused Silica Plano Convex Lens, 25,4dia								
PLX10-50-UV	25,4	50	23	5,8	2	46	—	70 €
PLX10-100-UV	25,4	100	46,03	3,8	2	97,4	—	60 €
PLX10-150-UV	25,4	150	69,02	3,2	2	147,8	—	60 €
PLX10-200-UV	25,4	200	91,62	3	2,1	198	—	60 €
PLX10-250-UV	25,4	250	114,82	3	2,3	248	—	60 €
PLX10-500-UV	25,4	500	230,21	3	2,6	498	—	60 €

► Anti-Reflection Coatings



■ 400-700nm AR coating / One side at 0°



■ 700-1100nm AR coating / One side at 0°



18 items

Negative lenses

A collimated beam of light passing through a negative lens - plano concave or biconcave - is diverged.

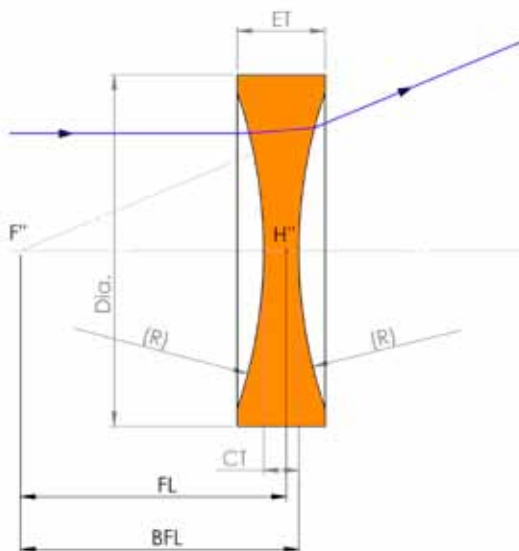
The negative single lenses are often used in combination with plano convex lenses to expand a beam diameter or make a different combination focal length while decreasing the residual spherical aberration.

More info :

We offer uncoated lenses, as well as visible 400-700 nm AR coated BK7 lenses and near infrared 700-1100 nm AR coated BK7 lenses


Overview


- Diameter tolerance : $+0/-0,1\text{mm}$
- Thickness tolerance : $+/-0.1\text{mm}$
- Focal length tolerance : $+/-1\%$
- Focal length is calculated at 546.1nm
- Surfaces accuracy : $\lambda/4 @ 632,8\text{nm}$
- $S/D < 60/40$
- Centration : <3 arc minutes
- Coating (Multi layers) : AR $<1\%$ (abs) / 0-15°
- Damage threshold of broadband AR coating : $>5\text{J}/\text{cm}^2$, 20ns, 20Hz, 1064nm



Biconcave Lens

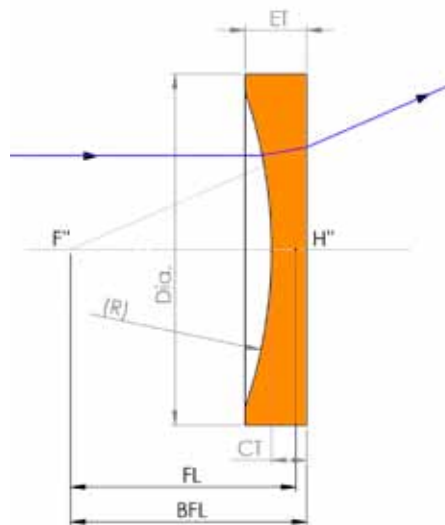
P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Bi Concave Lens, 12.7dia								
BIC05-10	12,7	-10	10,63	2	6,2	-10,6	-	18 €
BIC05-10-A	12,7	-10	10,63	2	6,2	-10,6	400-700nm AR	25 €
BIC05-10-B	12,7	-10	10,63	2	6,2	-10,6	700-1100nm AR	25 €

P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Plano Concave Lens, 12.7dia								
PLC05-25	12,7	-25	12,942	2	3,6	-26,3	—	14 €
PLC05-25-A	12,7	-25	12,942	2	3,6	-26,3	400-700nm AR	21 €
PLC05-25-B	12,7	-25	12,942	2	3,6	-26,3	700-1100nm AR	21 €
PLC05-50	12,7	-50	25,954	2	2,8	-51,3	—	14 €
PLC05-50-A	12,7	-50	25,954	2	2,8	-51,3	400-700nm AR	21 €
PLC05-50-B	12,7	-50	25,954	2	2,8	-51,3	700-1100nm AR	21 €
PLC05-100	12,7	-100	51,88	2	2,4	-101,3	—	14 €
PLC05-100-A	12,7	-100	51,88	2	2,4	-101,3	400-700nm AR	21 €
PLC05-100-B	12,7	-100	51,88	2	2,4	-101,3	700-1100nm AR	21 €

P/N	DIA	FOCAL LENGTH	RADIUS	CENTER THICKNESS	EDGE THICKNESS	BACK FL	COATING	
BK7 Plano Concave Lens, 25.4dia								
PLC10-50	25,4	-50	25,954	2	5,3	-51,3	—	15 €
PLC10-50-A	25,4	-50	25,954	2	5,3	-51,3	400-700nm AR	22 €
PLC10-50-B	25,4	-50	25,954	2	5,3	-51,3	700-1100nm AR	22 €
PLC10-100	25,4	-100	51,88	2	3,6	-101,3	—	15 €
PLC10-100-A	25,4	-100	51,88	2	3,6	-101,3	400-700nm AR	22 €
PLC10-100-B	25,4	-100	51,88	2	3,6	-101,3	700-1100nm AR	22 €

More info :

www.opto4u.com 



■ Plano Concave Lens

General Terms & Conditions

For further information, please contact us :

Opto4U

21-23 Rue Aristide Briand
92170 VANVES - France

Email : sales@opto4u.com
Tel. : [+33 \(0\)1 41 90 61 80](tel:+33(0)141906180)

PRICE & DELIVERY

Items in stock will be shipped within 1 business day from receipt of order.

Delivery at customer' office within 2 days from receipt of order.

All prices are ex works Paris – France, plus the applicable VAT at the time of purchase. All transportation costs shall be paid by the Buyer.

There is no minimum order.

Minimum shipping charges are 15 € within Europe, up to 1.5 kg weight.

TNT grid pricing will be used for heavier parcels or shipments outside Europe. TNT shop will automatically calculate the carriage charge based on the weight of the goods ordered.

All shipments will be covered by OPTO4U's transport insurance. The Buyer shall report any transport damage immediately.

PRODUCT SPECIFICATIONS

The specifications provided in our website, catalog, or in any written quotations are intended to be accurate. However, OPTO4U reserves the right to change specifications and makes no claim about the suitability of its products for any particular intended purpose.

Catalog items conform to the OPTO4U published specs.

Certificate of Conformance if needed must be requested through the formal quote process.

WARRANTY

The Buyer shall inspect the goods immediately upon delivery and give written notice of any defects to OPTO4U. If goods turn out to have been defective prior to the transfer of risk, OPTO4U will either repair the defective part or replace it free of charge at his sole option.

Opto4u stock optical products are warranted to meet or exceed the stated specifications, and to be free from defects in material or workmanship. This warranty shall be valid for thirty days from invoice date and is subject to the Return Policy set forth in these Terms and Conditions.

Any form of warranty expires if a defect is due to or resulting from injudicious or improper use.

Buyer neither can have a claim for warranty if the defect is due to circumstances OPTO4U cannot have any influence on.

DISTRIBUTION

Websales are handled direct.

Written orders for France, Germany, Italy will be invoiced through the French, German, and Italian OPTOPRIM entities -

<http://www.optoprim.com/>

MOUNTS

POSTS AND BASES

TRANSLATION STAGES

BREADBOARDS

MIRRORS

LENSES



JANUARY

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



FEBRUARY

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		



MARCH

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



APRIL

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4 5 6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



MAY

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



JUNE

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						



JULY

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4 5 6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



AUGUST

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



SEPTEMBER

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4 5 6 7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					



OCTOBER

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4 5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



NOVEMBER

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



DECEMBER

MON	TUE	WED	THU	FRI	SAT	SUN
						1 2 3 4 5 6 7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				