



geometric optics

DL621-1S Optical disc, "demo", on support

For experiments in geometric optics in combination with optical model objects DL620-ff; steel disc, painted matte white, with 360 ° graduations; bracket with support (D=10 mm) on the back side; disc diameter: 280 mm; distance from centre of disc to support end: 180 mm

Optical model objects, magnetic, small

For experiments in geometric optics in combination with optical disc DL621-1S or assembly panels with metallic surfaces; acrylic model objects featuring a contact surface that is painted matte white in order to make the light rays passing through the object more clearly visible; magnets set in the base of the objects; thickness: 20 mm; height: 140 mm

DL620-1A Semicircular object, small, $r=70$ mm

DL620-1C Biconvex object, small, $r=230$ mm

DL620-1B Biconcave object, small, $r=230$ mm

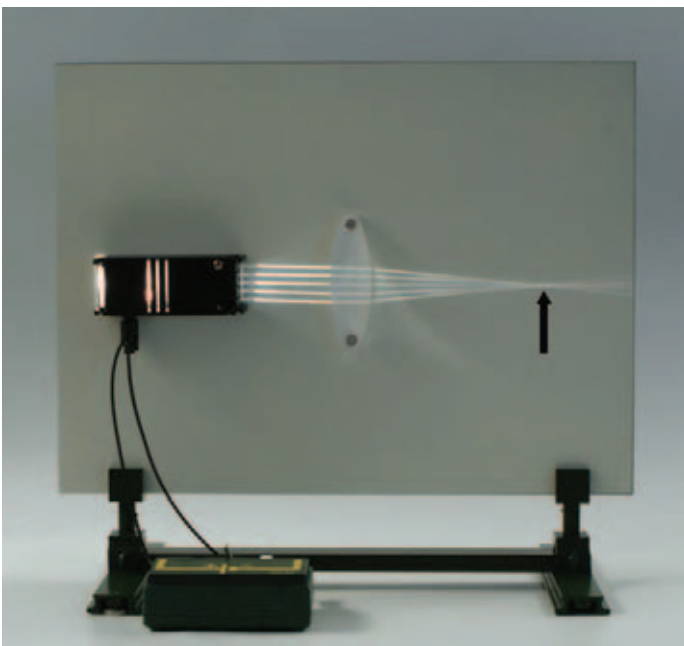
DL620-1D Trapezoid object, small, $90^\circ / 60^\circ$, width=60 mm

DL620-1E Model prism, small

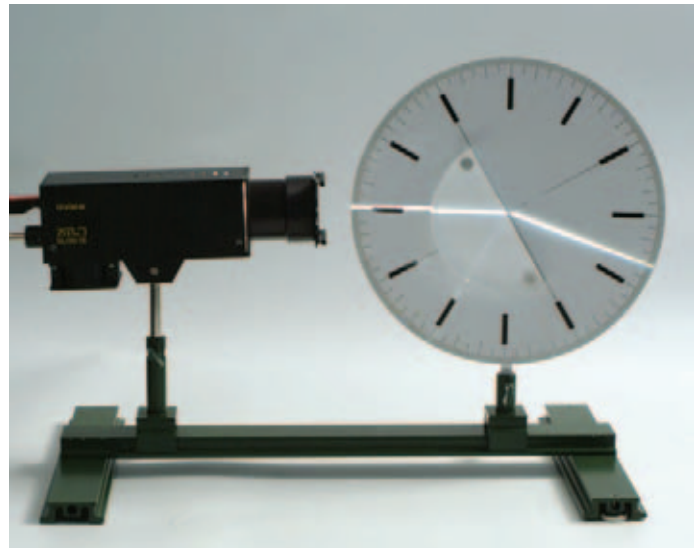
Mirrors, magnetic, small

DL620-1F Mirror, small, planar; mirror surface area: 140x20 mm

DL620-1G Mirror, small, concave-convex, $r=230$ and 250 mm; thickness= 20 mm

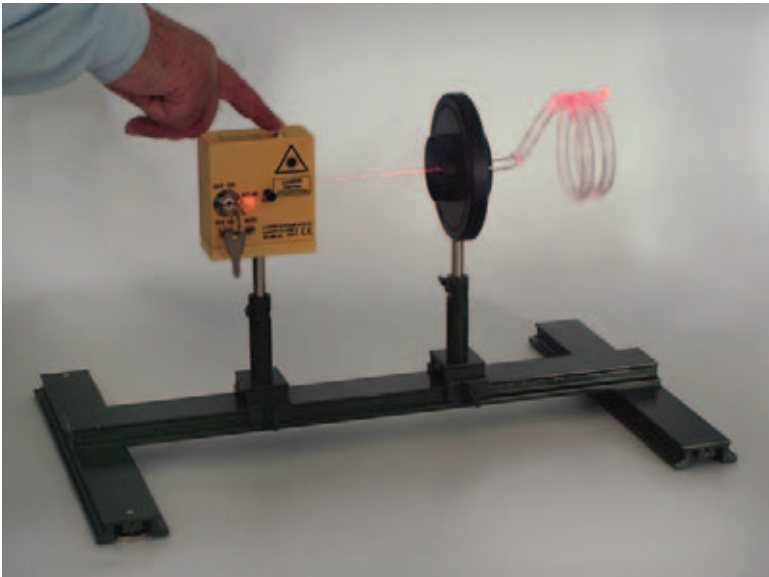
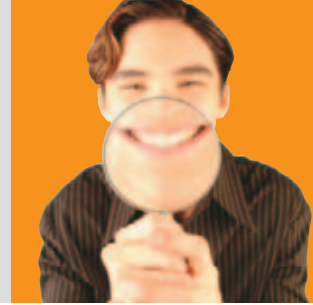


Use: The small, magnetic model objects may be used on metal panels in combination either with the xenon magnetic panel lamp DL100-1XL or with any available magnetic laboratory lamp.



Experiment: Refraction of light

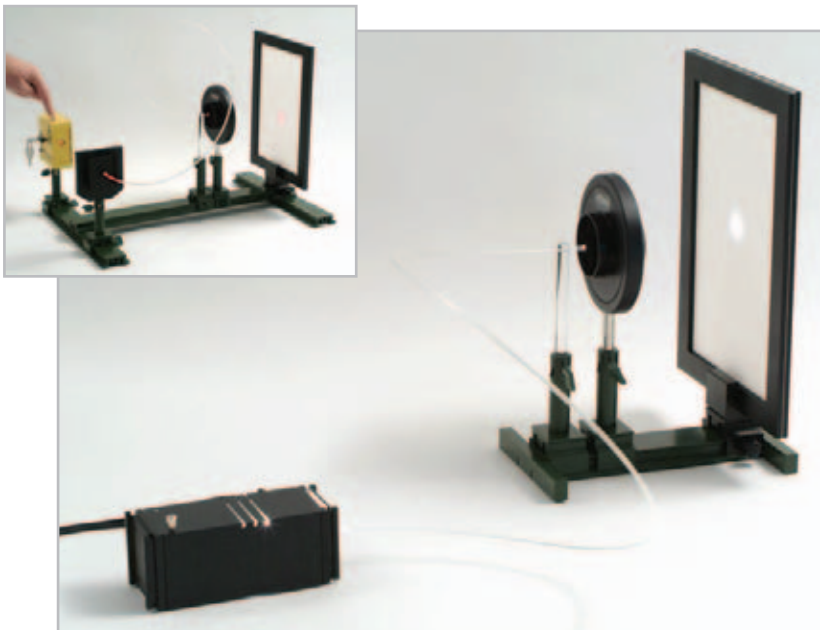
Use of the small, semi-circular object on a support stand in combination with the 50W xenon light for experiments (DL100-1E)



Experiment: Light transmitted by total reflection within a coiled acrylic rod



DL510-1A Model optical fibre, "demo"
For experimentally demonstrating light transmission by total reflection; coiled acrylic rod mounted to pivot in a base on a support (D=10 mm); base diameter: 120 mm
Support length: 90 mm



Experiment: Light transmitted by total reflection



DL931-1L Optical fibre, flexible
Round acrylic profile (D=3 mm, L=75 mm) with one end permanently attached to a black screen (50x50); may be inserted in the slide and screen holder on a support (DL300-1E), in the plug-in slide holder DL300-1F or in the screen holder on magnetic panel lamp DL100-1XL or DL100-1XR

DL931-1K Holder for flexible optical fibre
Acrylic rod with through hole; for holding the loose end of the flexible optical fibre DL931-1L; L=100 mm, D=10 mm

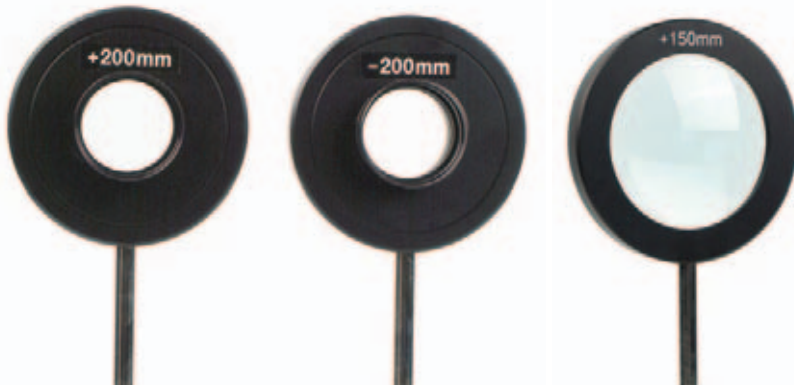


DL513-1K Cell, "demo"
Acrylic cell used in experiments on the path of light rays in liquids; dimensions: 300x80x150 mm

DL513-2F Fluorescein sodium
Used for staining a liquid in order to make the light rays passing through it more easily visible; bottle volume: 25 g



lenses, prisms



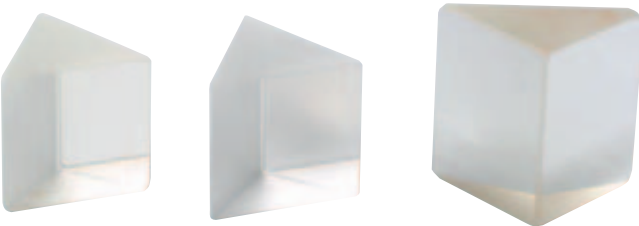
Lenses in frames, "demo", on support

Glass lenses in black plastic frames, on supports; frame labelled with the focal length Support: L=90 mm, D=10 mm
Distance from centre of lens to support end: 150 mm
Lens diameter: 50 mm; frame diameter: 120 mm

- DL500-1A Lens "demo", $f = +50$ mm
- DL500-1B Lens "demo", $f = +100$ mm
- DL500-1D Lens "demo", $f = +200$ mm
- DL500-1E Lens "demo", $f = +300$ mm
- DL500-1F Lens "demo", $f = +500$ mm
- DL500-1G Lens "demo", $f = +1000$ mm
- DL500-2B Lens "demo", $f = -100$ mm
- DL500-2D Lens "demo", $f = -200$ mm
- DL500-2E Lens "demo", $f = -300$ mm
- DL500-2F Lens "demo", $f = -500$ mm

DL500-4A Condenser lens, "demo", on support

Technical specifications as for DL500-ff, except lens diameter = 100 mm and $f = +150$ mm



DL515-1P Prism, crown glass

Angle of refraction: 60° ; average index of refraction: 1.51; average dispersion: 0.008; angle of dispersion: 0.75°
Base length: 32 mm; height: 32 mm

DI515-2P Prism, flint glass

Angle of refraction: 60° ; average index of refraction: 1.62; average dispersion: 0.017; angle of dispersion: 1.77°
Base length: 32 mm; height: 32 mm

DL515-3P Prism, 90°

Right-angle, equal-sided glass prism; angle of refraction: 90° to 45° ; length of short sides: 45 mm; height: 45 mm



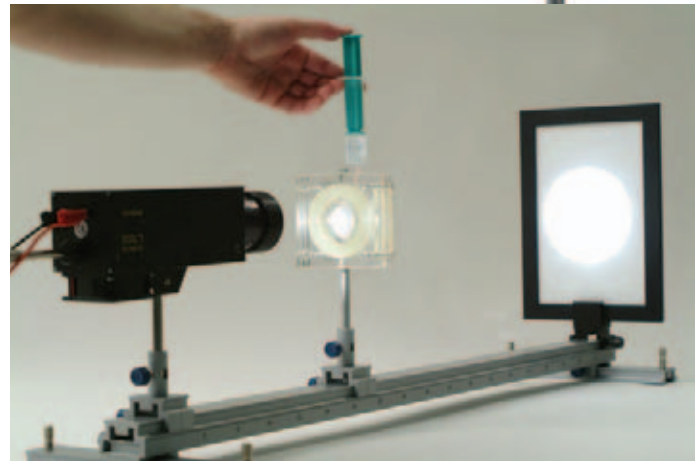
DL500-3A

Cylinder lens

Plano-convex glass lens, $f = +150$ mm, may be inserted in the slide and screen holder on a support (DL300-1E) or the plug-in slide holder (DL300-1F)
Lens dimensions: 50x50 mm

DL500-9V Lens, variable, "demo", on support

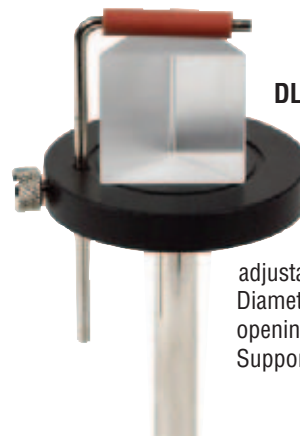
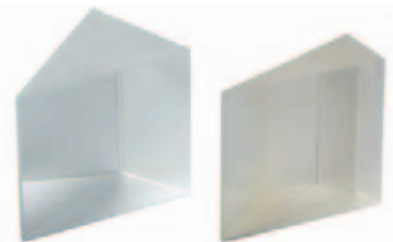
For demonstrating how the lens of the eye works; two pieces of highly transparent foil stretched over a watertight acrylic frame; includes an opening for filling with a syringe as well as a breathing valve; supplied with plastic syringe; filled with water; centre of lens and end of support 150 mm apart; frame: 100x100 mm
Diameter of lenses (foil): 50 mm



Experiment: How the lens of the eye works

DL515-4P Achromatic prisms, pair

For demonstrating colour correction using an achromatic prism; angle of refraction: 20° and 40° ; length of sides: 48 mm; height: 35 mm



DL512-1R Prism table, "demo"

For mounting prisms on the optics bench; plastic plate on a support with a clamp of adjustable height; Diameter: 60 mm; max. clamp opening: 60 mm; Support length: 150 mm

lenses, prisms



DL517-1U Deflection prism, "demo", mounted

For reversing an image without changing directions and for deflecting light rays at a right angle; equal-sided crown glass prism with mirroring hypotenuse surface; may be pivoted and fixed to any desired angle in the mount
Support: D=10 mm, L=70 mm
Length of sides: 70 mm
Height: 52 mm



DL511-1H Hollow prism

For investigating the index of refraction of liquids; equal-sided, 60° prism assembled from acrylic plates; includes opening for filling and stopper
Base length: 60 mm
Height: 60 mm



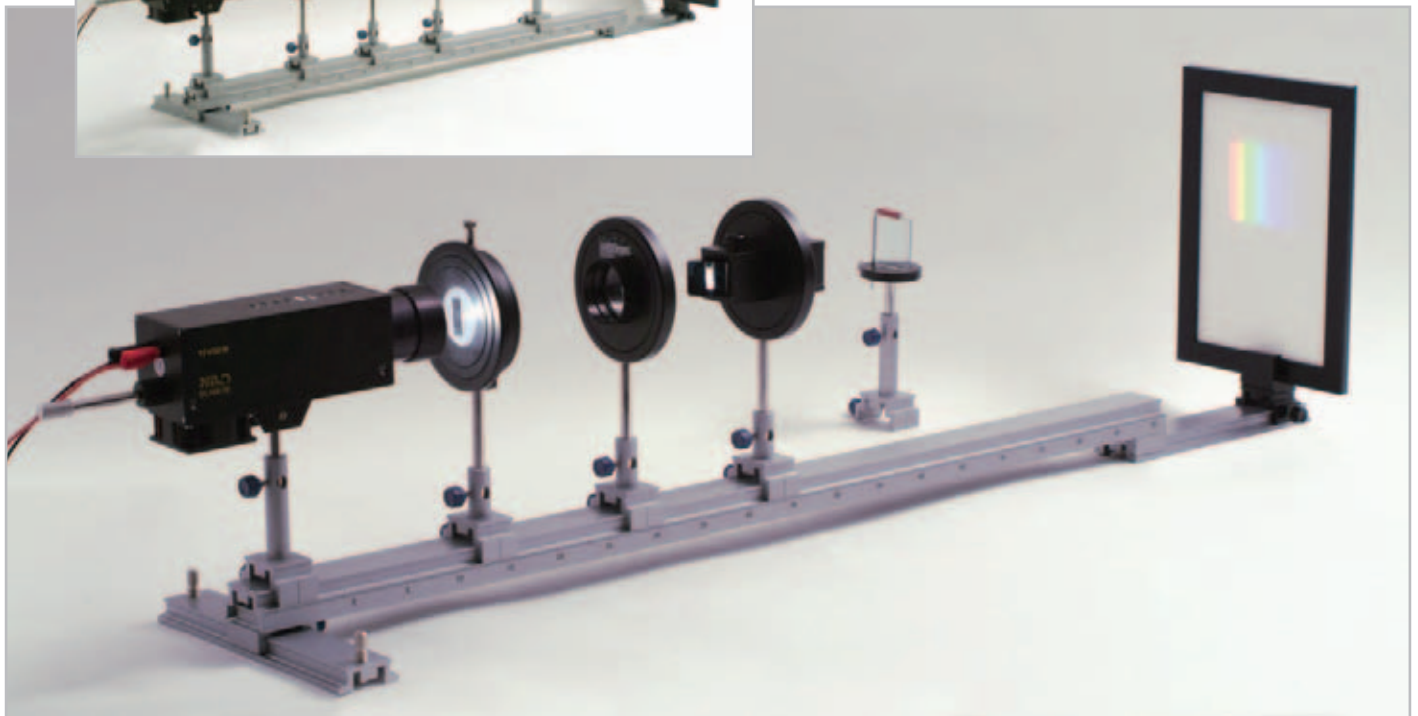
DL516-1P Direct-vision prism

For spectral experiments without deflection of rays; an Amici prism consisting of one crown glass and one flint glass prism
Angle of dispersion: 4.23°
Cross-section: 30x30 mm
Length: approx. 120 mm



DL516-1G Mount for direct-vision prism

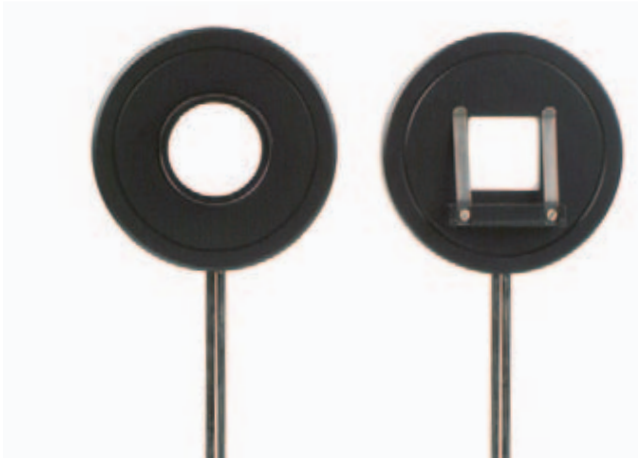
For mounting direct-vision prism DL516-1P along on optical axis; black plastic base on a support, including a square screening tube and two plastic knurled-head screws
Support: L=90 mm, D=10 mm
Base diameter: 120 mm
Distance from centre of base to support end: 150 mm (direct-vision prism not included)



Series of experiments: Dispersion of white light by a direct-vision prism and recombining the spectral colours, yielding white, using a cylinder lens



optics components

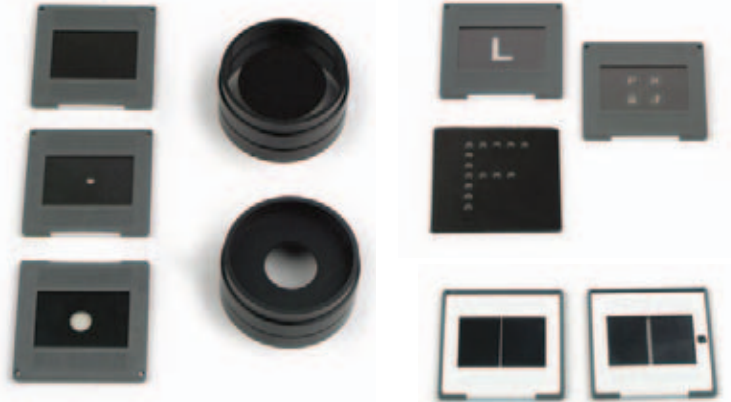


DL300-1D Lens holder, "demo", on support

Black plastic frame on a support with a round cutaway area (D=50.1 mm) for holding lenses up to 50 mm in diameter; with two threaded aluminium clamping rings
Support: L=90 mm, D=10 mm
Frame diameter: 120 mm
Distance from centre of frame to support end: 150 mm

DL300-1E Slide and screen holder "demo", on support

Black plastic frame with a square cutaway area on a support; two spring clamps on one side, for holding slides and screens, and a ring on the other side for holding plug-in slide and screen holder DL300-1F
Support: L=90 mm, D=10 mm
Frame diameter: 120 mm
Distance from centre of frame to support end: 150 mm



Screens and image objects

Made of plastic foil, in 50x50 mm slide mounts with glass covers; may be inserted in the slide and screen holder on a support (DL300-1E) or the plug-in slide holder (DL300-1F)

P5400-1K Round apertures, set of 3

Apertures 1, 3 and 8 mm in diameter

P5400-1E Slide with "L"

P5400-1F Slide with images

P5400-2F Bead slide "F"

Black plastic slide inlaid with glass beads in the form of an "F"
Dimensions: 50x50 mm

P5400-1A Slide with slit

P5400-1V Slide with adjustable slit

P5410-1G Round aperture, mounted, D=20 mm

P5410-1H Round aperture, mounted, D=34 mm

For demonstrating the various focal lengths of lenses with rays close to the axis and far from it; black plastic frame (D=52 mm) with round aperture; may be plugged into "demo" mounted lenses on supports (DL500-ff) or "demo" lens holder on support (DL300-1D)



DL400-11 Iris diaphragm, "demo", on support

Continuously variable blade aperture mounted in black plastic; aperture diameter: 2 -30 mm
Support: L=90 mm, D=10 mm
Mount diameter: 120 mm
Distance from centre of mount to support end: 150 mm



DL402-1S Slit diaphragm, variable, "demo", on support

For experiments in diffraction and interference; precision slit diaphragm mounted to pivot on support; slit width may be set symmetrically from 0 to 5 mm
Slit length: 30 mm
Support: L=90 mm, D=10 mm
Mount diameter: 120 mm
Distance from centre of mount to support end: 150 mm



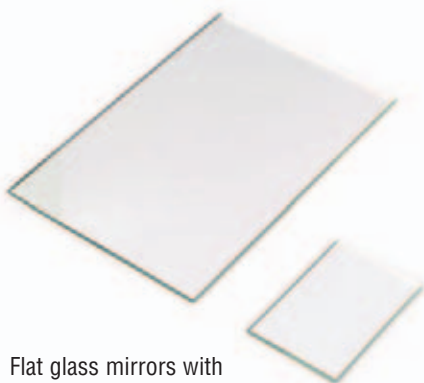
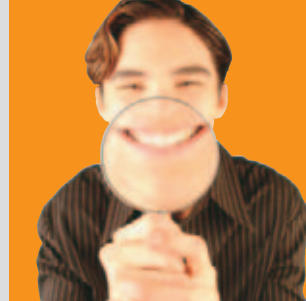
DL300-1F Slide and screen holder, plug-in

Black plastic frame with a square cutaway area for holding slides and screens up to 50x50 mm; may be plugged into "demo" mounted lenses on supports (DL500-ff) or "demo" lens holder on support (DL300-1D)



Experiment: Dispersion of white light into spectral colours

optics components



Flat glass mirrors with polished edges

DL601-1L Mirror, planar, 180x120 mm
P5600-3P Mirror, planar, 75x50 mm



DL610-1S Mirror on ball joint

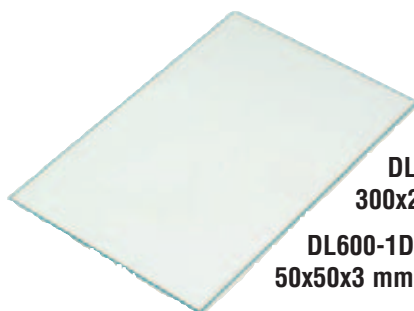
Flat mirror in a frame on a support (D=10 mm, L=40 mm) with ball joint
 Dimensions: 125x185 mm



DL601-1H Concave and convex mirror, "demo", on support

Concave and convex mirror mounted in black plastic on a support

Focal length: +/-200 mm
 Mirror diameter: 100 mm
 Support: L=90 mm, D=10 mm
 Frame diameter: 120 mm
 Distance from centre of frame to support end: 150 mm



Glass plates with polished edges

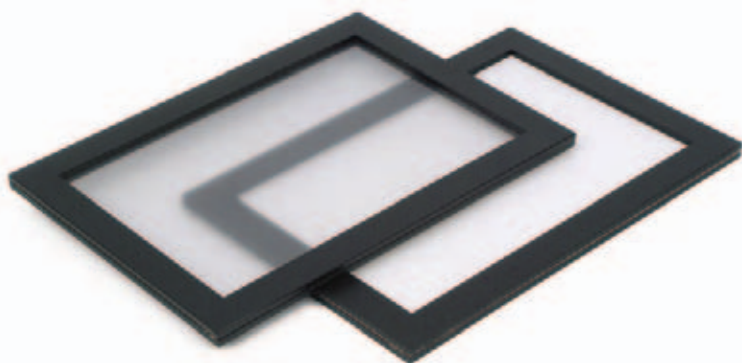
DL600-1G Glass plate, 300x200x4 mm

DL600-1D Glass plate, 50x50x3 mm



DL600-2A Zinc sulphide screen

For demonstrating the presence of UV radiation; metal screen coated with zinc sulphide on a support (D=10 mm, L=85 mm)
 Dimensions: 100x80 mm



DL600-1S Screen, "demo", transparent

For observing spectra as well as interference and diffraction phenomena; durable, diffuse plastic foil in a black wooden frame; may be mounted in plate clamp on support DS404-1M or horizontal square slider DS140-2R
 Dimensions: 295x210 mm

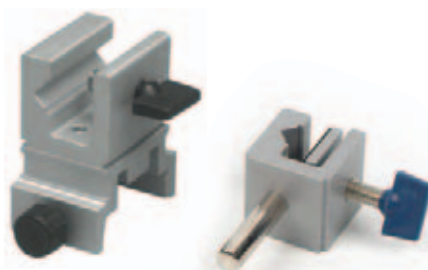
DL600-1W Screen, "demo", white

White plastic plate in a black wooden frame; may be mounted in plate clamp on support DS404-1M or horizontal square slider DS140-2R
 Dimensions: 295x210 mm



DL499-1E Plug-in board

For maintaining a good overview when storing optics components on supports; wooden block with 17 holes taking supports up to 10 mm in diameter
 Dimensions: 600x140x40 mm



DS404-1M Plate clamp on support
DS140-2R Square slider, horizontal