



light sources

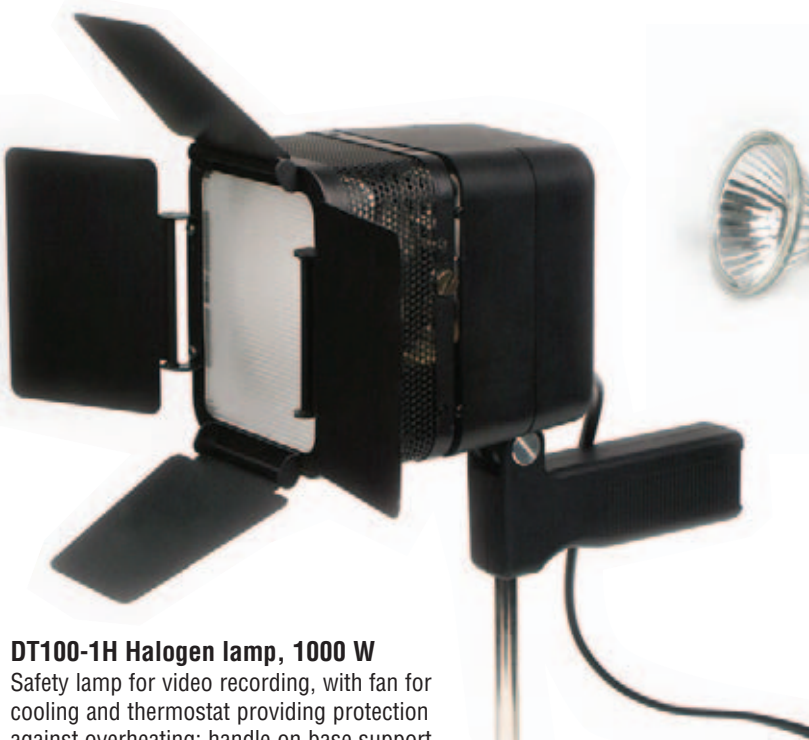


DL101-1K Candle holder on support

Holds candles up to approx. 20 mm in diameter; support, D=10 mm, removable

DL101-2K Candles, set of 5

Diameter: approx. 20 mm
Length: approx. 150 mm



DT100-1H Halogen lamp, 1000 W

Safety lamp for video recording, with fan for cooling and thermostat providing protection against overheating; handle on base support (D=10 mm) may be pivoted 180°; with ON-OFF switch and fuse; 1000 W, 3400 K halogen lamp
Voltage source: 230 V/50-60 Hz
Dimensions: 100x140x190 mm; weight: 1300 g

DT100-1H1 Halogen replacement lamp, 1000 W



DT102-1S Halogen spot lamp, 100 W

Halogen lamp, 100 W, E 27 socket, angle of radiation = 30°, 3500 cd, D = 120 mm

DE312-1L Light bulb socket, E27, on support

E27 ceramic socket; power cord with mains plug, L = approx. 80 cm; on support: L=160 mm, D=10 mm

DE310-1B Filament light bulb, 6V/5A, E14

Light bulb with extremely short filament (point source light)

DE312-1K Light bulb socket, E14, on support

Support: L=160 mm, D=10 mm; power cord with two 4-mm pin plugs, L = approx. 100 cm



P5110-2A Plug-in lamp

6V/3W light bulb in a socket, including diaphragm tube; connected by means of two 4-mm jacks; may be mounted on lens holder on support (DL300-1D) or lens and screen holder P5310-2A

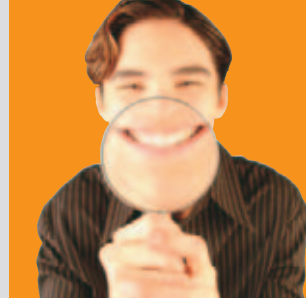


Use: Plug-in lamp with lens and screen holder P5310-2A



Experiment set-up: Umbra and penumbra

light sources



DL100-1E Lamp for experiments, xenon, 50 W, with fan

Very bright universal light source for optics experiments; G6.35 lamp base with 12 V/50 W xenon bulb (included); mounted to pivot and shift for lateral and axial adjustment of the lamp position; condenser lens with focal length of +100 mm mounted in an adjustable and removable aluminium tube; metal case includes a hinged supported for inclining the lamp; cooled by a built-in fan
Voltage source: 12 V by means of two 4-mm jacks
Dimensions: approx. 300x170x180 mm



Replacement light bulbs:

P3320-1Y Xenon light bulb, 12 V/50 W

G6.35 base, replacement bulb for lamp DL100-1E

P3320-1S Halogen light bulb, 12 V/50 W

G6.35 base, replacement bulb for lamp DL100-1E (not shown)

P3320-1X Xenon light bulb, 6 V/20 W

G4 base, replacement bulb for magnetic panel lamp DL100-1XL or DL100-1XR

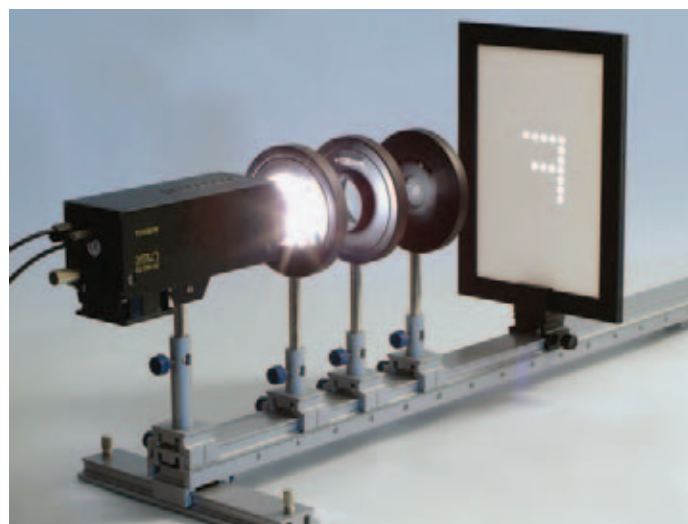
DE309-3S Light bulb, 6 V/0.5 A, E10, set of 5

E10 base, replacement bulb for plug-in lamp P5110-2A



Stand assembly: Optical disc - law of reflection

Experiment: Camera aperture



DL100-1XL Lamp for magnetic panel, xenon, connectors at left

Lamp for experiments, made of black powder-coated aluminium, magnetic, including a condenser lens for parallel light rays;

in order to obtain divergent light rays, the condenser lens may be removed from the path of rays by pulling out a pin on the upper surface of the lamp; a screen holder and rectangular opening at one end for performing geometric optics experiments, and a screen with a 20-mm aperture for use on the optics bench at the other end;

Voltage source: 6 volts supplied by means of two 4-mm safety jacks

Light bulb: xenon 6 V/20 W; dimensions: 150x60x60 mm



DL101-1A Platform on support

Metal platform on support (D=10 mm), especially designed for mounting magnetic panel lamp DL100-1XL/ or DL100-1XR on a support stand or the optics bench
Dimensions: 150x60 mm



Use: Magnetic panel lamp resting on the platform on support



light sources



Spectral lamps

Light sources used when high illumination density and spectral purity are required, particularly in experiments on the line spectra of inert gases and metal vapours; Pico 9 base, 1 A operating voltage

DL102-HG Spectral lamp Hg
DL102-NA Spectral lamp Na

Additionally required:

DL102-3G Spectral lamp housing
 DL102-3D Spectral lamp power supply



DL102-3G Spectral lamp housing

For housing and operating spectral lamp DL102-HG or DL102-NA with Pico 9 base; black metal housing with a small aperture, and with removable lid and front plate to facilitate changing bulbs; cooled by built-in fan; power supply cord with Terko plug; supplied with screw-on support rod (D=10 mm)

Dimensions: 78x78x236 mm

Note: spectral lamp power supply DL102-3D is required in order to operate the lamp.



DL102-3D Spectral lamp power supply

With choke coil for operating spectral lamp DL102-HG or DL102-NA with Pico 9 base; ABS plastic case, light indicates readiness to operate, Terko receptacle for connecting lamps

Current rating: 1 A

Voltage source: 230 V/50...60 Hz

Dimensions:

210x95x200 mm



Note: spectral lamp housing DL102-3D is required in order to operate the lamp.



DL103-1M High pressure mercury vapour lamp

Specially designed for investigating the mercury spectrum; black glass base with aperture, E27 socket; dimensions (incl. socket): D=approx. 65 mm, H=approx. 170 mm

Note: for operating the lamp, the E27 Terko light bulb socket (DE312-3P) and the spectral lamp power supply (DL102-3D) are required.

DE312-3P Light bulb socket, E27, Terko

E27 ceramic socket; power cord with Terko plug, L=approx. 80 cm; on support: L=160 mm, D=10 mm

light sources



Experiment set-up:
Observing the sodium spectrum



DL105-1H Spectral tube holder

Securely holds spectral tubes DL104-ff and ensures electrical contact; nickel-plated brass rod with 4-mm holes; two slidably, insulated flat contact plates for holding the tubes; on support rod (D=10 mm) Contacts from 190 to 260 mm apart Total length: approx. 350 mm



DL104-1A Slitted shade

Black powder-coated aluminium tube; fits over spectral tubes DL104-ff while allowing observation of the spectrum in the capillary Dimensions: L=190 mm, D=20 mm



Spectral tubes

Used in investigating the line and band spectra of various gases and vapours; glass capillary tubes with widened ends; metal caps hold the tubes and serve as electrical contacts; tubes may be clamped in spectral tube holder DL105-1H (not included) Ignition voltage: approx. 3 ... 6 kV (but operating voltage <5 kV)

(no x-ray emission!)

Abmessungen: L=220 mm, D=15 mm; Kapillarrohr-L=75 mm

- DL104-AR Spectral tube Ar
- DL104- H2 Spectral tube H2
- DL104- HB Spectral tube H2 - **Balmer**
- DL104-HE Spectral tube He
- DL102-HG Spectral tube Hg (with argon)
- DL104-N2 Spectral tube N2
- DL104-NE Spectral tube Ne
- DL104-O2 Spectral tube O2

Suitable power supplies:

- P3171-1A High-voltage power supply, 10 kV, with digital display, "demo"
- or
- P3127-1V High-voltage power supply, 18 kV, "inno", magnetic



Experiment: Line spectrum of a mercury vapour lamp