



Determining Planck's constant

## Equipment list

1 Photocell for determining $h$	558 77
1 Housing for photocell	558 78
1 High pressure mercury lamp	451 15
1 E27 socket on holder	451 19
1 Universal choke 230 V/50 Hz	451 30
1 I measuring amplifier D	532 00
2 Multimeter D	531 911
1 Regulated power supply unit 5 V	522 33
1 Measuring resistor 1 k $\Omega$	536 14
1 Rheostat 1 k $\Omega$	537 22
1 Optical bench, precision type, V-shaped section	460 32
1 Auxiliary bench	460 34
1 Rider, $H = 40$ mm	460 351
6 Rider, $H = 75$ mm	460 352
1 Lens, $f = +50$ mm	460 02
1 Adjustable slit	460 14
1 Projection objective	460 13
1 Direct vision prism	466 05
1 Holder for direct vision prism	466 04
1 Lens, $f = +150$ mm	460 08
Connecting leads	

## 558 77 Photocell for determining Planck's constant

By applying a reverse potential with respect to the photoelectrons produced by an incident beam of light the value of  $h$  can be measured. Also for investigations on the frequency dependency of the photoelectric effect.

- Light-sensitive material: potassium
- Limit of wave length: approx. 700 nm
- Anode: loop made of platinum wire
- Photoelectric saturation current:  $1 \times 10^{-7}$  A/lumen approx.
- Electrical connections: via E 14 socket and 9-mm metal cap
- Dimensions: 9.5 cm x 4 cm dia.

## 558 78 Housing for photocell (558 77)

For screening against stray light and electric fields during the experiment. With highly insulated socket for connection of the measuring lead. Including two-core interconnection cable with two 4-mm plugs.

Specifications:

- Diameter: 60 mm
- Electrical connections: insulated 4-mm socket with spring-loaded contact, 4-mm earthing socket, E 14 socket for the photocell
- Stand rod diameter: 10 mm



558 77/78 on saddle base (300 11)

When the compact arrangement (558 79) is used, the housing for the photocell (558 78) is not necessary.