

Physics

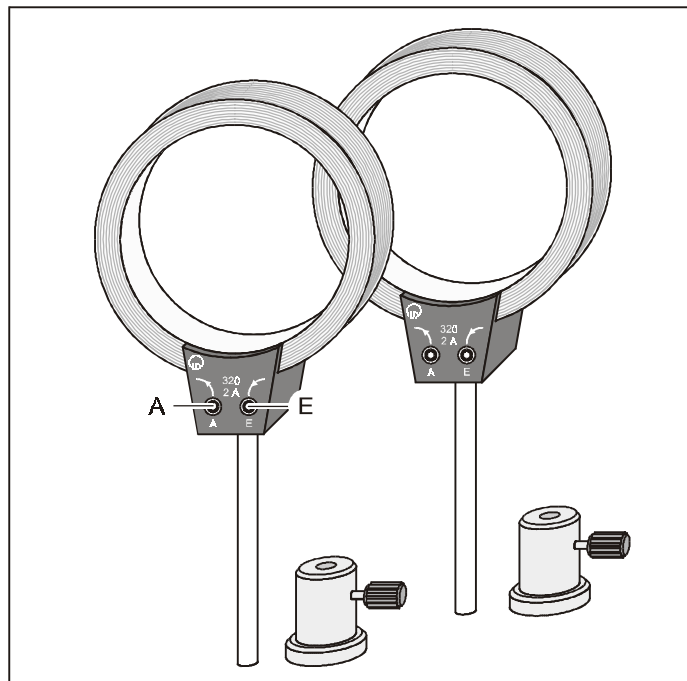
Chemistry · Biology

Technology



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06/05-W97-Sel



## Instruction sheet 555 604

Helmholtz pair of coils (555 604)

- A Connection to beginning of coil
- E Connection to end of coil

### 1 Description

The Helmholtz pair of coils is intended for use on the tube stand (555 600) and adapted to the dimensions of the LD demonstration tubes (555 610 ff). During arrangement in the distance which is marked on the tube stand with H an approximately homogeneous magnetic field is produced.

### 2 Scope of supply

- 2 coils on support with stand rod
- 2 magnetic feet

### 3 Technical data

#### Technical data of one coil:

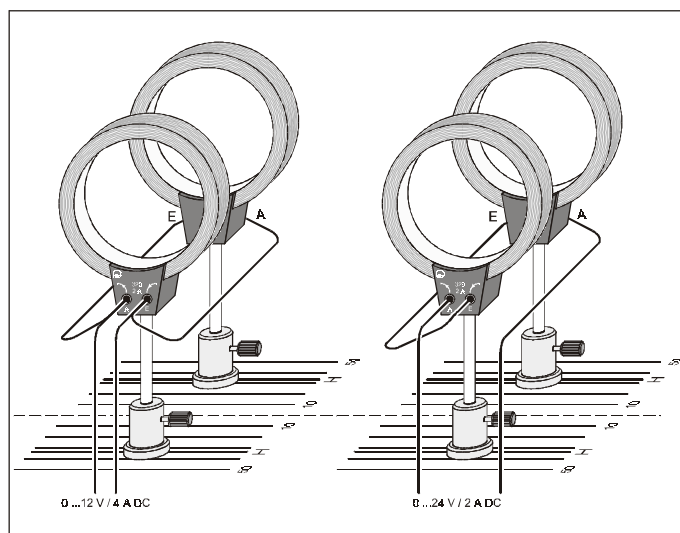
|                     |                     |
|---------------------|---------------------|
| Max. current load:  | 2 A                 |
| DC resistance:      | 6 Ω                 |
| Number of turns:    | 320                 |
| Connections:        | 4 mm safety sockets |
| Stand rod:          | 130 mm × 10 mm Ø    |
| Mean coil diameter: | 13.4 cm             |

#### Helmholtz arrangement:

Mean coils distance: 6.7 cm

Magnetic induction  $B$ :  $B = 4.25 \text{ mT} \cdot \frac{I}{A}$   
 $I$ : current through one coil

### 4 Helmholtz arrangement



- Arrange the coils in such a way that the connection sockets point outward.
- For parallel connection, connect the sockets A and E of coil 1 with the sockets E and A of coil 2, respectively, and to a DC voltage source 0...12 V / 4 A.
- For series connection, connect socket E of coil 1 with socket E of coil 2 and the sockets A of both coils to a DV voltage source 0...24 V / 2 A.