

Set of 3 Cylinders, Equal in Volume 1000752

Instruction sheet

12/24 ALF/UD



- 1 Aluminium cylinder
- 2 Iron cylinder
- 3 Brass cylinder

1. Description

The set of three cylinders, equal in volume, is used for determining the densities of different solid bodies. The set consists of one cylinder each of aluminium, iron and brass. As they are of identical volume, the difference between the densities is immediately obvious to the student.

Each cylinder is equipped with a hook.

- Fill the graduated cylinder with water and read off the volume V_1 in ml.
- Hang the cylinder on a sufficiently long piece of the fishing line.
- Immerse the cylinder completely in the water and read off the volume V_2 in ml.
- Note the volume difference $V = V_2 - V_1$ and compare it with the calculated volume of the cylinder.

The cylinder displaces as much water as its volume.

2. Technical data

Materials: Aluminum, Iron, Brass
 Dimensions of cylinders: 40 mm x 20 mm dia.

- Calculate the density of the cylinder using the equation

$$\rho = \frac{m}{V}$$

- Repeat the measurements with the other cylinders and compare the results.

3. Sample experiment

Determination of the densities of solid bodies

To determine the density the following equipment is also required:

1	Electronic Balance 220 g	1022627
1	Graduated Cylinder, 100 ml	1002870
1	Fishing Line, 10 m	4009036

- Place a cylinder on the balance and record the weight.
- Calculate the volume of the cylinder from its dimensions.