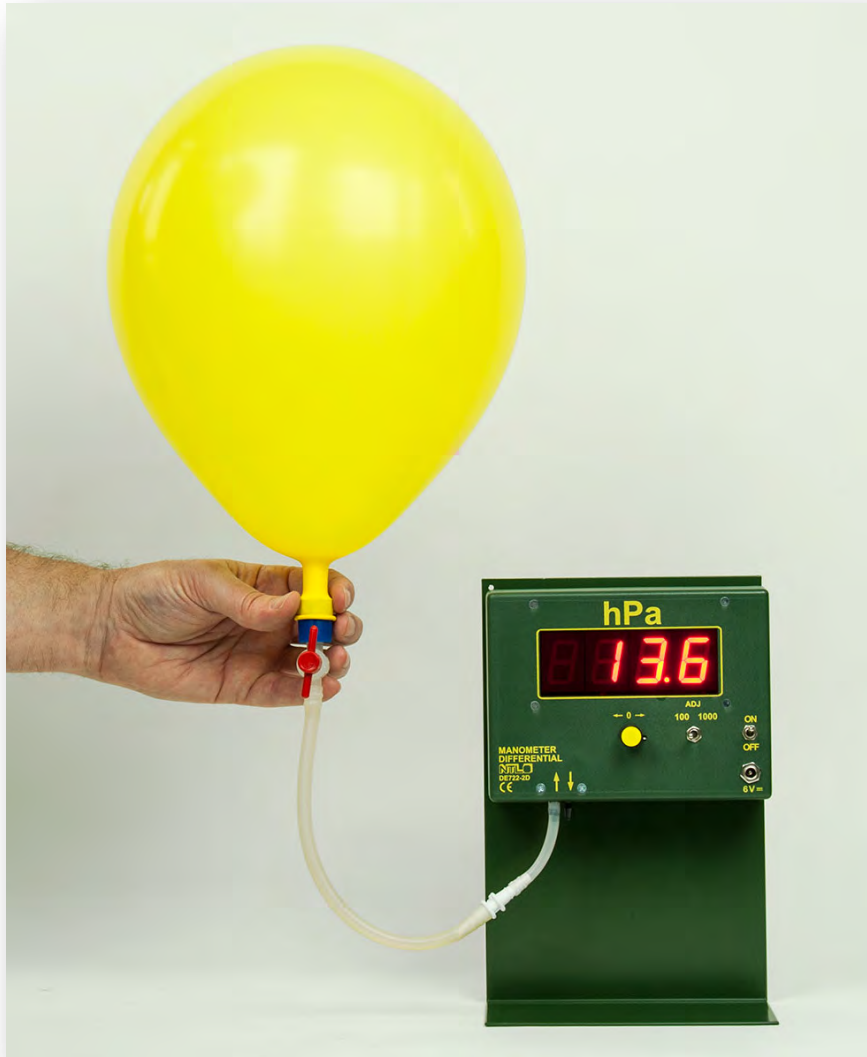


MEASURING THE PRESSURE IN A BALLOON

MED 16.15



Material:

Item-no.	Qty.	Description
DM340-8B	1	Balloons, set
C7320-2B	1	Stopper silicone, 17/22/25 mm, 1 hole, for SB 19
C6210-1B	1	Stopcock, plastics
C7445-7G	1	Hose, rubber, D=7/10 mm, L=100 cm
DE722-2D	1	Manometer, differential, "inno"
P3120-4A	1	L-shaped assembly platform

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Purpose

Measuring of the pressure in the balloon and determining the dependence of the pressure on the inflation state and whether the balloon has already been inflated or not.

Preparation

- put the opening of the balloon over the bigger diameter of the silicone stopper
- afterwards press the stopcock firmly into the silicone stopper
- open the stopcock and blow as much air as possible into the balloon
- close the stopcock, make sure that it is airtight
- place the “inno” Manometer on the L-shaped assembly platform
- connect the stopcock with the silicone hose to the Manometer



Experiment 1

Turn the Manometer on and set the measuring range to „100 hPa“, afterwards tare (set to 0).

Open the stopcock and read off the pressure of the balloon at the Manometer.

Afterwards close the stopcock again.

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Experiment 2

Remove the hose from the stopcock.

Afterwards open the stopcock, let around half of the air flow out and close the stopcock again.



Connect the balloon to the Manometer,
afterwards tare the pressure (set to 0.)

Open the stopcock and read the pressure off
from the Manometer.

Afterwards close the stopcock again.

Experiment 3 (optional)

Repeat the same procedure as in the 2nd experiment.

The balloon should be blown up to its full volume again as it was in the 1st experiment.

Again the pressure is measured and compared to the value from the 1st experiment.

Note

Balloons are made of Indian rubber.

Unfortunately this material changes its properties over the year; it becomes sticky and cracked. Therefore always try to have “fresh” balloons in the laboratory.