



hydromechanics

DM375-1G Weight, 1kg

For explaining the concept of pressure and for demonstrating the magnitude of air pressure; may also be used in demonstrating inertia
 Nickel-plated steel cylinder with centre hole and clamping screw for fitting on steel rod, one end of the steel rod shaped as a cube with 1 cm^2 surface area; cylinder: $D=45 \text{ mm}$, $H=77 \text{ mm}$;
 Rod: $D=10 \text{ mm}$, $L=210 \text{ mm}$



DG420-1H Foam rubber

block 150x100x50 mm

For explaining the concept of pressure and for demonstrating the magnitude of air pressure, used together with 1 kg weight DM375-1G



Experiment: Relationship between pressure and surface area to which it is applied

Syringe samplers

For measuring gas and liquid volumes, ground glass plunger, glass cylinder with scale



C6100-1A Syringe, 50 ml, glass

Plunger $D=25 \text{ mm}$, total $L=240 \text{ mm}$

C6100-1B Syringe, 100 ml, glass

Plunger $D=31 \text{ mm}$, total $L=280 \text{ mm}$



Experiment: Pressure on various surfaces



This press cracks the hardest nut and bends even the thickest nail!

DM405-2P Hydraulic press, working model

Acrylic model for demonstrating how hydraulic force is transferred; this model can be used not only to show the movement of the pressure and press pistons and the valve clearance, even practical examples of use in real life can be demonstrated. The ratio of the surface areas of the two pistons is 1:12, while the sturdy manner in which the press is built allows it to exert up to 500 N of press force!

Piston $D=16 \text{ mm}$ and 56 mm

Free working height: 60 mm

Dimensions: 200x70x285 mm

Accessories included:

DM405-1B Metal bracket with notches

Dimensions: 40x40x20 mm

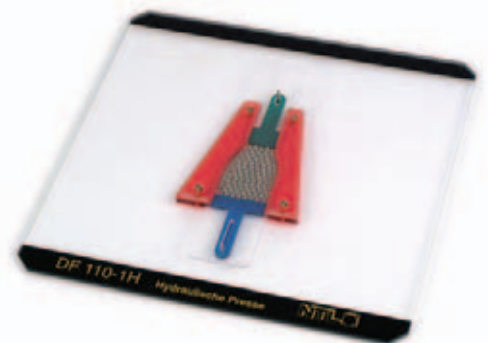
DE300-1F Iron nails, $L=80 \text{ mm}$, set of 20

DM366-1K Styrofoam ball, $D=30 \text{ mm}$

Required accessories:

DM340-2W Vat with drain connector

Acrylic, $D=200 \text{ mm}$, $H=65 \text{ mm}$



DF110-1H Hydraulic press, OFM

Overhead functioning model (OFM) made of acrylic, with individual parts in various colours, with drive shaft; simply designed press, the force transmission ratio equals the ratio of the piston surface areas

Basic panel: 248x248 mm



C6031-1M Manometer tube accessory with stopper SB19

Simple manometer tube made of glass, H=150mm, with silicone stopper 17/22/25 mm, glass tube D=8/5 mm



Simple u-manometer consisting of:

2x C6030-1E Glass tubes, D=8 mm, L=250 mm

1x C7445-7S Hose, silicone, D=9/7 mm, L=100 cm

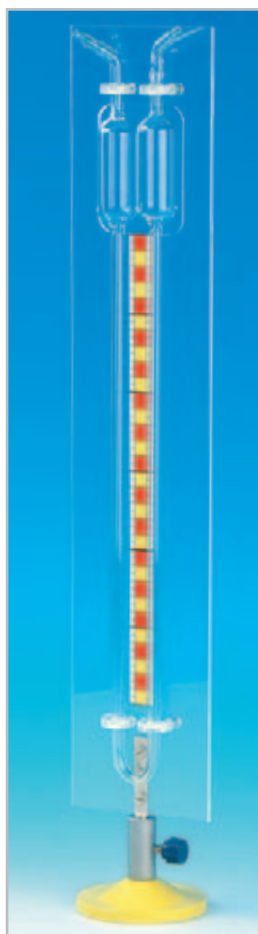
1x P7050-1A Powder dye, red

Food dye in plastic container with snap-on lid, contents approx. 5 g



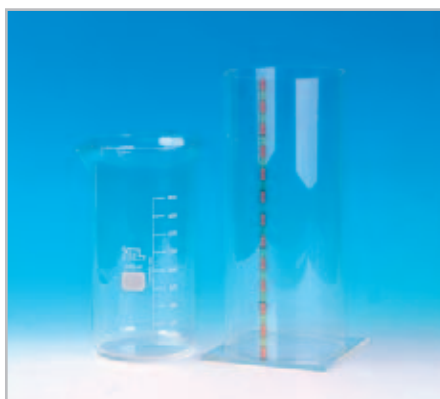
DM420-1T Immersion probes, set of 4

Glass probes for demonstrating that hydrostatic pressure is dependent on depth and is exerted in every direction
Probe L= approx. 320 mm, tube D=8/5 mm



DM450-1M U-tube manometer

For determining the density of liquids or measuring pressure in liquids
Glass u-tube connected to two expansion vessels with hose fittings and mounted on an acrylic panel 500x100 mm, with graduated scale (H=300 mm) and stem (D=10 mm) (round base not included)



DM425-2G

Tower tank with scale

Acrylic cylinder with base and transparent scale, used as a water tank for experiments in hydromechanics; D=150 mm, H=250 mm

C1000-1K Glass beaker, short, 2000 ml

With pouring lip and graduations; D=130 mm, H=193 mm

DM420-1D Hartl capsule
For demonstrating that hydrostatic pressure is dependent on depth and is exerted in every direction
Acrylic capsule sealed with a membrane on one side, connected to a metal tube by way of a silicone hose, capsule may be rotated by means of two pulleys connected by a plastic band
L=400 mm, capsule D=37 mm





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Experiment:
Measuring hydrostatic pressure (using various probes and measuring devices)



DE722-2D Manometer, differential, "inno"

Digital device for magnetic mounting, used to measure pressure differences in gases (under- and overpressure); the 26 mm LED display allows readings to be taken even from a distance; rotating knob for setting to zero; two different measuring ranges:

100 hPa -0.1 hPa units

For low pressure, e.g. immersion probes, capsules, Pitot tube, Venturi tube, 1000 hPa -1 hPa units

For higher pressures, e.g. experiments in compression and expansion

Max. pressure: 2000 hPa; measurement error: max. 1.5%; sensor

inputs are not suitable for use with aggressive media

Power supply: 4 x 1.5 V mignon cells (included), rechargeable cells or external power supply 6 V/500 mA, P3120-6N

Case: plastic, ABS

Dimensions: approx. 160x120x45 mm

Weight: approx. 405 g

Recommended accessory:

C7445-3S Hose, silicone, D=3/6 mm, L=100 cm



DM451-1M Manometer differential „handy“

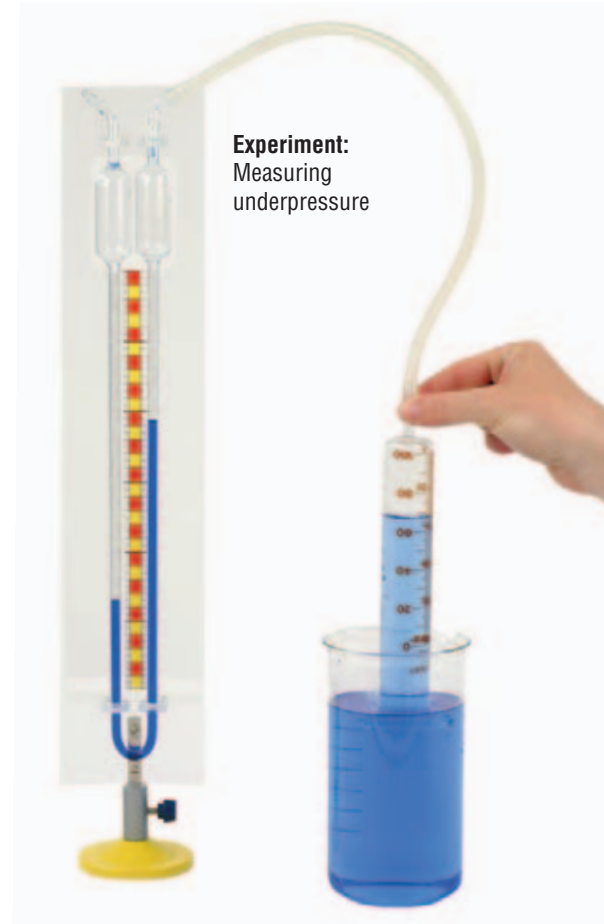
Microprocessor-controlled hand multimeter for measuring under- and overpressure as well as pressure differences; LC display, H=15 mm, "data hold" function, tarring switch, maximum - minimum storage, precision +/- 2 % for the entire measuring range, automatic shutdown
Measuring range: 2000/1 mbar, 29/0.2 psi, 2040/0.01 kg/cm², 1500/1 mm/Hg, 59.5/0.5 inch/Hg, 20.40/0.01 meters/H₂O, 802/0.5 inches/H₂O, 1974/0.001 ATP

Power supply: 9V battery

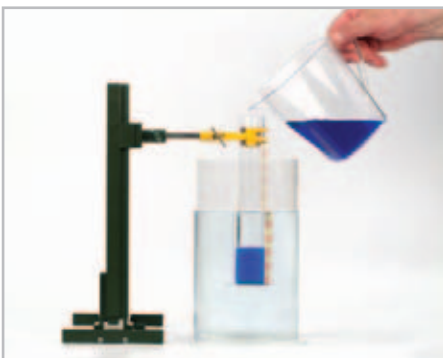
Dimensions: 185x78x38 mm; weight: 345 g



Experiment: Measuring hydrostatic pressure using the Hartl capsule and the "inno" differential manometer



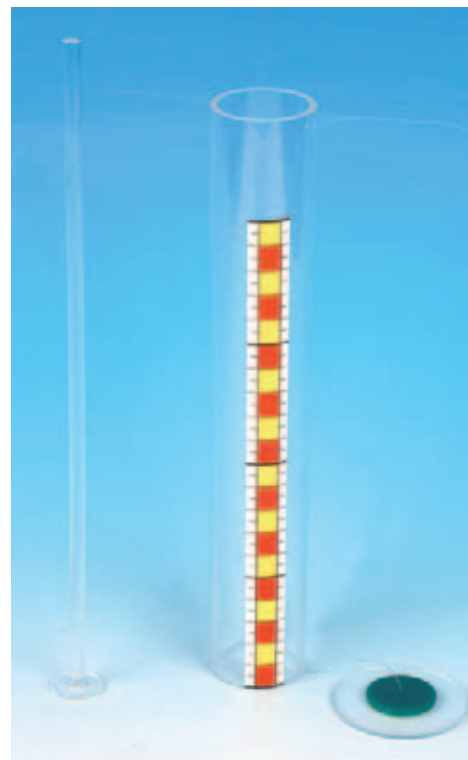
Experiment: Measuring underpressure



Experiment: Hydrostatic pressure in an upwards direction



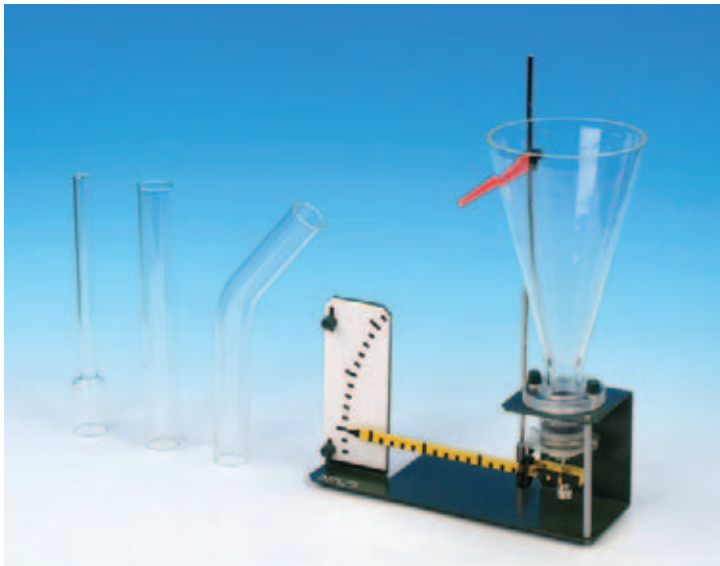
DM440-1A Upwards hydrostatic pressure apparatus



For demonstrating hydrostatic pressure in an upwards direction; acrylic cylinder with scale, disk with cord attaching it to the cylinder for closing the lower end of the cylinder, plastic rod with base for holding slotted weights DM120-ff in order to weigh down the disk under water; D=40 mm, H=240 mm



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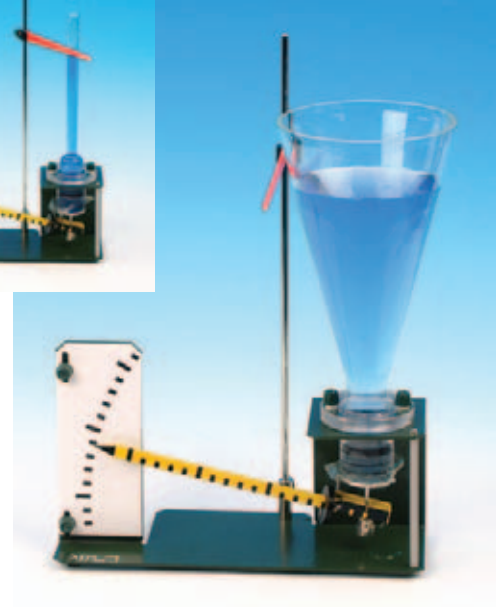


DM410-1B Pascal's Vases

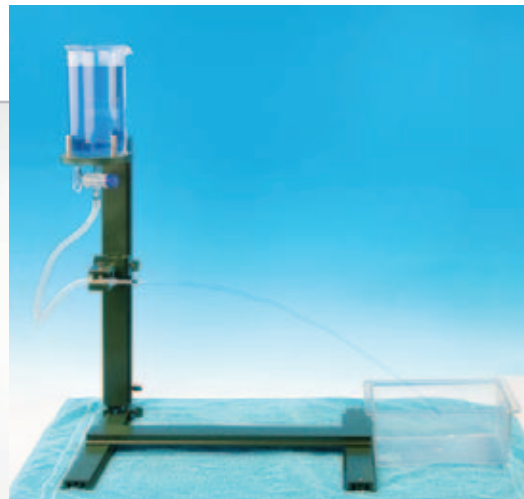
For demonstrating the hydrostatic paradox; by means of a membrane deforming under pressure, downward hydrostatic pressure in the vessel is transferred to a 200 mm lever and displayed on a large scale; 4 glass vessels of various shapes; height: 220 mm each, internal Diameter at mouth = 23 mm, adjustable pointer for marking height to which filled; Dimensions: 260x100x100(360) mm



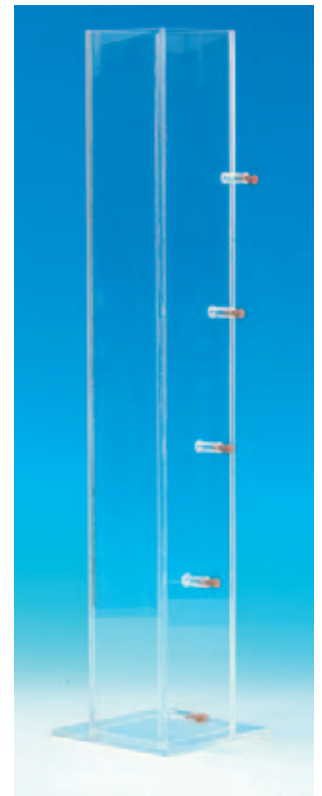
Experiment:
Hydrostatic paradox



Experiment: Lateral pressure and flow velocity of discharge



Experiment:
Flow velocity of discharge



DM430-1A Leaky vessel with 5 stoppers

For demonstrating fluid pressure on the sides of a vessel; with 5 outlets (with rubber stoppers) spaced 100 mm apart from each other, dimensions: 80x80x540 mm

DM430-2A Stoppers for leaky vessel (replacements)

Set of 5 (not shown)



Experiment: Distribution of pressure in fluids



DM400-1D Pressure distribution syringe

For illustrating the even distribution of pressure in fluids;
glass bulb with outlets and cylinder with plunger
Bulb D=60 mm, total L=310 mm



DM465-1K Communicating vessels and watering pot

Illustrates the principle of communicating vessels and shows how a watering pot works; glass vessel with two attachment tubes of different shapes (D=12 mm), dimensions: approx. 310x100x180 mm



DM465-1V Discharge beaker with stopcock,
Beaker, volume 1000 ml, with one-way, glass stopcock and vertical drainpipe, used in hydromechanics as a water reservoir or with the diving bell set DM890-1G as an air bell
Dimensions: D=94 mm, H=275 mm
DM461-3A Connecting tubes, set
Three glass tubes of differing shape (D=7.5/10 mm):

- Glass tube, straight, L=200mm
- Glass tube, s-shaped, L=200 mm
- Glass tube, acute-angled, L=200+100 mm, can also be used with hose D=7 mm as an overflow tube for overflow beaker

Recommended accessory:

C7445-7S Hose, silicone, D=7/9 mm, L=100 cm



Experiment:
Communicating vessels

Recommended accessories:
C7445-7S tube silicon, D=7/9 mm, L=100 cm