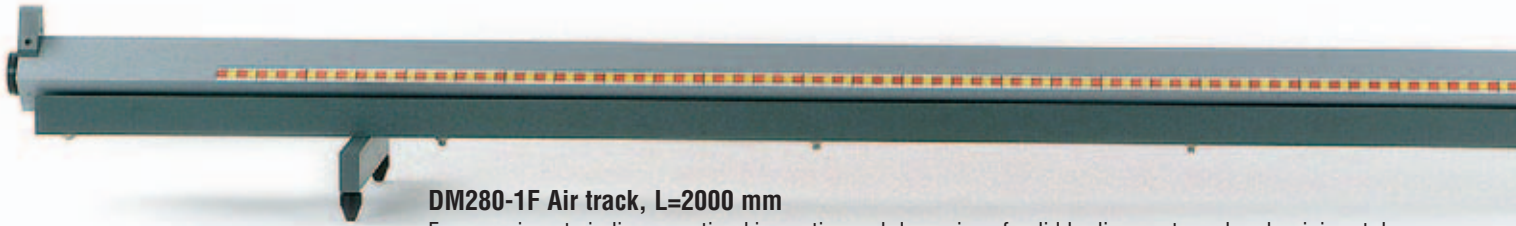




dynamics - air track



DM280-1F Air track, L=2000 mm

For experiments in linear motion kinematics and dynamics of solid bodies; rectangular aluminium tube (cross-section: 55x55 mm) mounted on u-profile frame by means of 7 adjustment screws; aluminium tube is closed at one end, while at the other end there is a receptacle for connecting the air supply DM700-1G by means of the pressure hose DM705-1S; aluminium tube graduated on both sides; two opposite rows of holes (D=1 mm, spaced 20 mm apart) staggered by 1 cm on the upper surface of the aluminium tube; adjustable feet with levelling screws for horizontal height adjustment; means of alternatively fastening launcher DM281-1S, fork with plug DM281-1G or spring bumper P1311-2D at both ends. Dimensions: 2000x250x167 mm

DM280-1K Air track, basic set consisting of:

DM280-1F 1xTrack, L=2000 mm

DM282-1S 2x Gliders

Glider for air track; material: plastic; pins mounted on the side for mounting additional weights, 4 mm hole on the upper edge for fixing screens, 4 mm hole at each end with inserted metal tip or for attaching forks or bumpers

Dimensions: L=125 mm, H=60 mm; weight: 70 g

DM281-1Z 4x Metal pin with plug, 10g

DM282-2M 4x Additional weight, 50 g, L=124 mm

DM281-1S 1x Launcher, mechanical

Aluminium block with tension spring and lever for fixing and releasing launching pin; spring tension may be varied repeatedly, allowing consecutive launching at the same force; two 4 mm plugs for fastening to the end receptacle of the air track

Dimensions: approx. 80x47x20 mm

DM280-1E 1x End receptacle

Firmly mounted at one end of the track

DM281-7E 1x End receptacle, adjustable

For setting the desired working distance variably to any point along the track

DM281-1G 4x Fork with plug, with rubber band

Used as bumper, may be plugged into end receptacle or glider

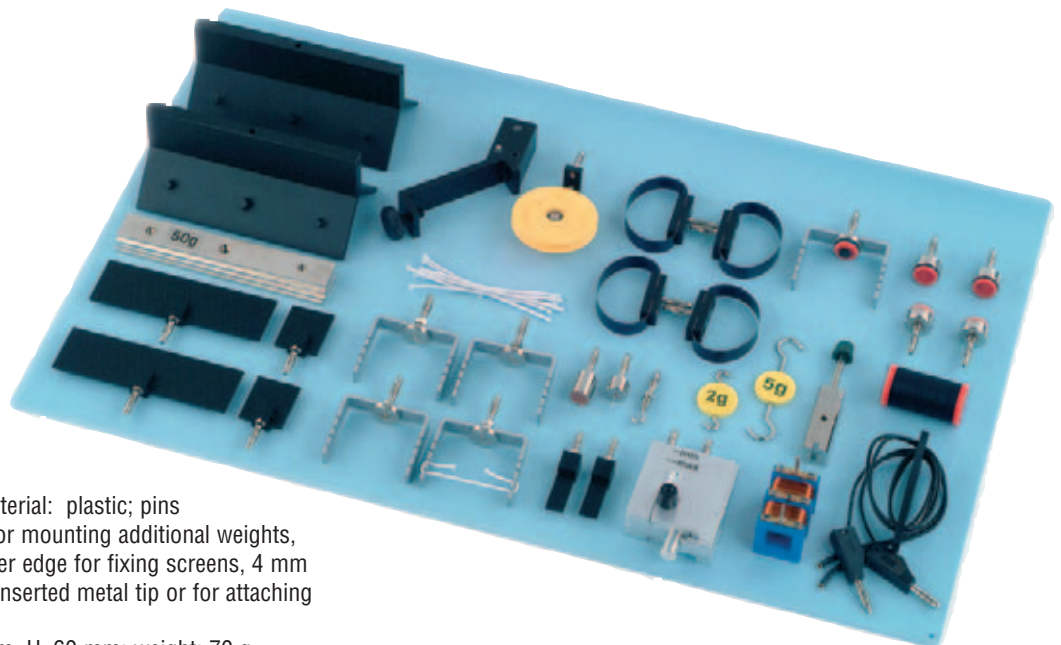
DM281-2G 1x Rubber bands, set

Replacement rubber bands for fork DM281-1G, set of 10

DM281-1P 2x Plate with plug

Reciprocal of fork with rubber band

DM281-2B 2x Screen with plug, L=100 mm, 10g



DM280-1Z Air track, supplementary set

consisting of:

DM280-1R 1x Pulley for deflection, with plug, ball bearing

Special, virtually friction-free plastic pulley (D=50 mm) with ball bearing, mounted on bracket with 4 mm plug pin

DM281-1H 1x Hook with plug

DM281-1B 2x Screen with plug, L=25 mm

P1311-2F 1x Adapter for unelastic collision (set of 2)

P1311-2D 4x Spring bumper

DM281-2M 4x Round magnet with plug, D=13 mm

DM120-1A 1x Weight on hook 2 g

DM121-1A 1x Weight on hook 5 g

P7100-1A 1x Cord, 30 m roll, high tensile strength

Electromagnetic launcher:

P3911-2G 1x Iron core, slotted with screw

P3911-2R 1x Coil with 800 turns, blue

P3310-7S 2x Connecting leads, 4/2 mm

DM281-1M 1x Fork with magnet for retaining

P7811-2L 1x Box Insert Luki-accessoires

P7806-1B 1x Plastic box big, with cover

dynamics - air track



DM700-1G Air supply

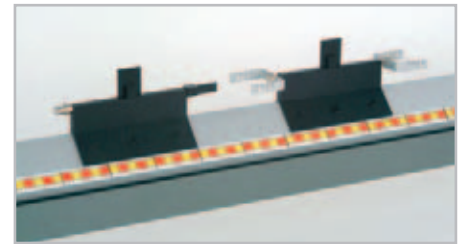
Turboblower, speed continuously adjustable
 Airflow speed: max. 25 m/s
 Dimensions: approx. 300x170x180 mm
 Voltage source: 230 V/50..60 Hz

DM705-1S Pressure hose

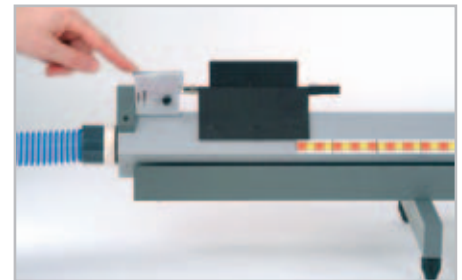
For connecting the air supply with the air track
 D=40 mm, L=1500 mm



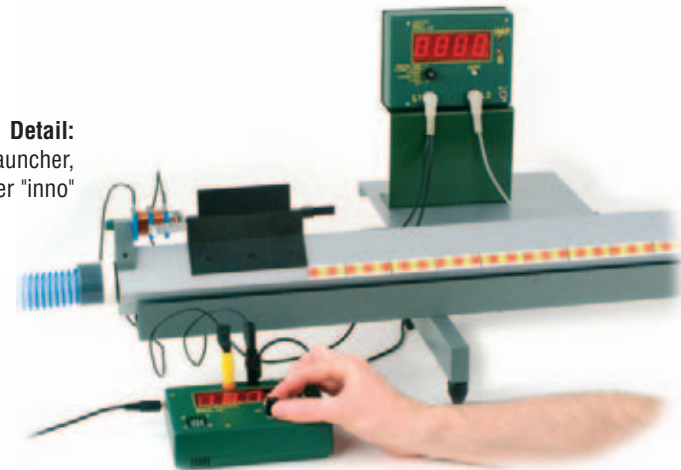
Detail: Pulley for deflecting force and weight driving glider (experiment: uniformly accelerated motion)



Detail: Elastic collision



Detail: Mechanical launching



Detail:

Air track - electromagnetic launcher, time measured using timer "Inno"



Experiment: Uniformly accelerated motion - timing using interface CATT4 P4100-4A together with motion sensor P4120-1B - for detailed technical description please have a look at pages 506ff.

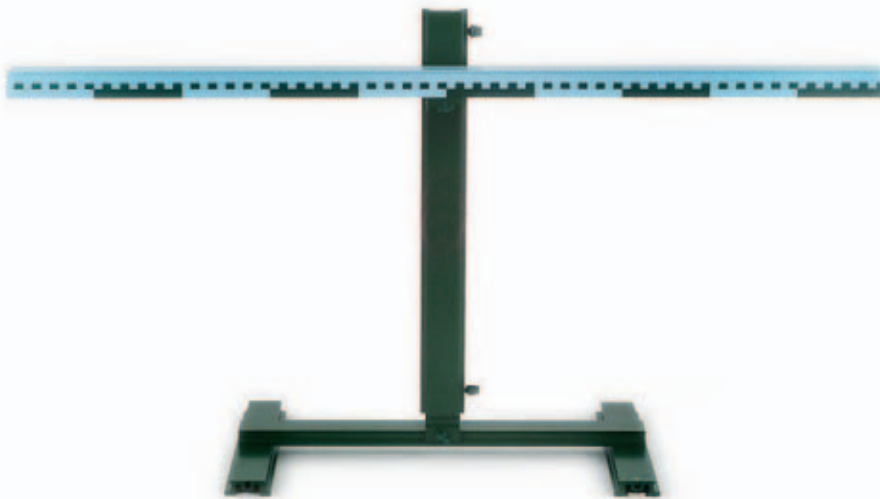


dynamics - air track



P1320-3LR Light gate

Precision light gate with infrared light source for controlling external timing devices; variable control with LED indicator for adjusting intensity to surrounding lighting conditions; with hole and capstan-head screw for fixing on rods of up to 10 mm in diameter; measuring precision: 0.1 mm. Signal output and power supply by way of 3-pin DIN jacks, for the direct connection to the counter "inno" P3120-2Z or digital counter, universal DR260-1D. Internal gate width: 74 mm, external dimensions: 175x130 mm



P1320-1H Rail holder for light gates

For fastening the light gate to a track or rail
Dimensions: 135x185x30 mm;
Support: 10x40 mm

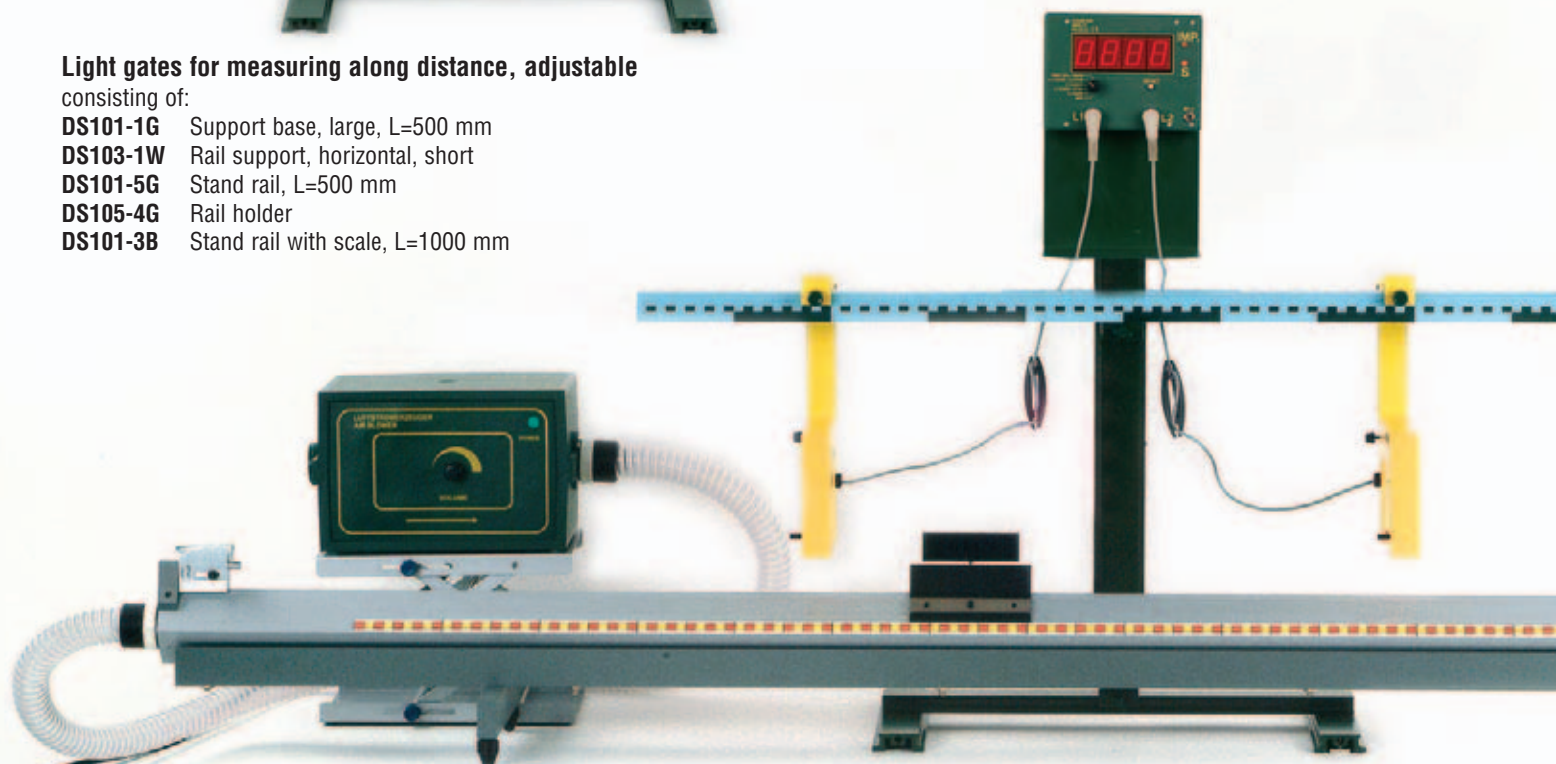
P1320-2M Magnetic holder for light gate

For holding the light gate in place magnetically
Dimensions: 30x125 mm;
Support: 10x60 mm

Light gates for measuring along distance, adjustable

consisting of:

- DS101-1G** Support base, large, L=500 mm
- DS103-1W** Rail support, horizontal, short
- DS101-5G** Stand rail, L=500 mm
- DS105-4G** Rail holder
- DS101-3B** Stand rail with scale, L=1000 mm



Experiment: Air track with air supply, variable distance measurement, light gates and timer "inno"



P3120-2Z Universal timer "inno"

Digital timer with magnetic holder for universal use, can be connected to light gates P1320-3LR and to falling body apparatus DM340-1F, with LED display 26 mm in height, resolution: 1 ms

Functions:

- Time measurement during free fall
- Time measurement in dynamics (L1 start - L2 stop)
- Counting pulses (L1 count)
- Time measurement of pendulum (L1 start - stop)
- Measurement of transit time (L1 - gate)
- L1 start - automatic stop after 10 s

Reset button, LED display for pulse and second mode

Signal input by way of two 5-pin DIN jacks

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

Case: plastic, ABS

Dimensions: approx. 160x120x45 mm

Weight: approx. 425 g



Recommended accessories:

P3120-6N Mains transformer

6V/500 mA DC

P3120-5B S-shaped

assembly platform



DR260-1D Digital counter, universal

Universal digital demonstration counter for measuring time, frequency and pulse rates; display: 7 segment LED display, 6 digits; digit height 26 mm

Time measurement:

4 measuring ranges from $10^1 \dots 10^4$ s times the value displayed; measurement can be controlled using any signal source or light gate e.g. P1320-3LR; the two time value inputs may be combined logically in every possible way; adjustable signal threshold of time value inputs using potentiometer; light-emitting diodes for monitoring operation

Frequency measurement:

Fully automatic in 4 ranges from $10^1 \dots 10^4$ kHz times the value displayed; signal may be monitored audibly by switching on loudspeaker

Pulse rate measurement:

Input for Geiger-Müller tube; anode voltage may be set in 12 steps from 325 to 600 V; measurements scaled down by 1:100 possible; signal may be monitored audibly by switching on loudspeaker

Dimensions: 260x150x210 mm

Voltage source: 230 V/50...60 Hz

