PHYWE

Car, motor driven

11061-00

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Abb. 1: 11061-00 Messwagen mit Antrieb

Operating instruction

CE The unit complies with the corresponding EC guidelines.

TABLE OF CONTENTS

1 SAEFTY PRECAUTIONS

Caution!

- Carefully read these operating instructions completely before operating this instrument. This is necessary to avoid damage to it, as well as for user-safety.
- Only use the instrument for the purpose for which it was designed.
- Only use the instrument in dry rooms in which there is no risk of explosion.
- Do not start up this instrument in case of visible signs of damage to it.

2 PURPOSE AND CHARACTERISTICS

The car is used for showing uniform motion experimentally. An acoustic source or an acoustic receiver can be moved uniformly with the car to show the Doppler effect in acoustic experiments. The car which is driven by a battery-powered motor can be moved with a continuously variable gearbox with selectable speeds (minimum ratio 3:1). The continuously variable speed range lies between approximately 10... 30 cm/s. The car can be switched to forwards or backwards motion. The car is placed on a track (e.g. Track *l* = 900 mm, order no. 11606.00) for the measurement of the displacement/time quotient *s/t*. If required the track can have a slope of about 10%.

3 FUNCTIONAL ELEMENTS

1 Chassis for drive unit 2

1.1 Chassis plate

1.2 Recess with spring

for accepting a Holding Pin (03949-00) for additional weights or an Adapter (11061-02) for a measuring microphone or sound head.

1.3 Slot for drive wheel 2.11

1.4 Intermediate axle (removable) for four-wheel drive

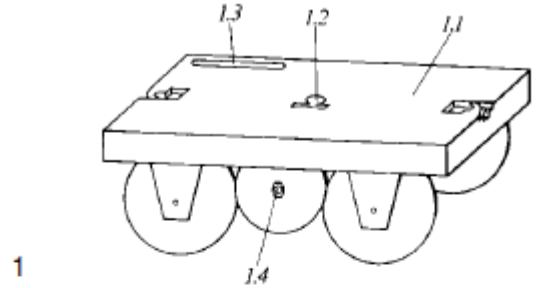
2 Drive unit with motor, gearbox and battery holder

2.1 Switch for selection of „forwards“, „stop“ and „backwards

2.2 Receptacle for additional components (see 1.2)

2.3 Gear lever for selecting the speed

Caution! For constructional reasons, the gear lever cannot be pushed completely to the left!



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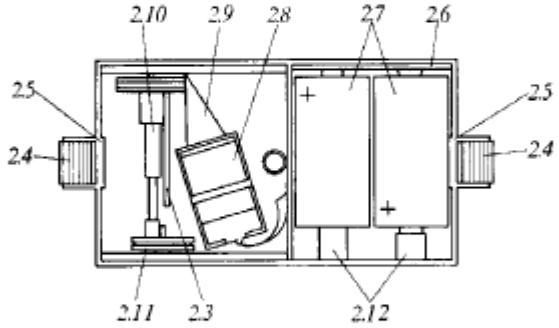

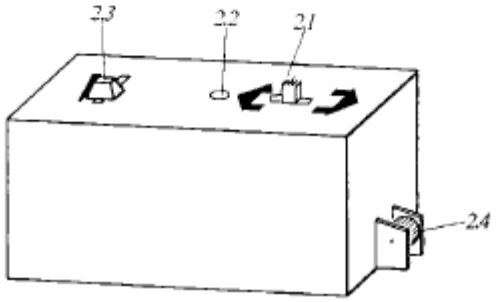

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2.4 Eccentric clamp for strip recording

2.5 Case lugs

for joining chassis to case

2.6 Contact plate for battery series circuit

2.7 Battery compartment (2 x 1.5 V batteries, IEC R14)

2.8 Motor (with radio interference suppression)

2.9 Motor shaft with gear cone

2.10 Gearbox shaft with friction wheels

2.11 Drive wheel

this must be located in the slot *1.3* during assembly

2.12 Battery retaining spring

4 MAINTENANCE

4.1 Battery replacementl

Used batteries should not be left in the car and their proper disposal should be ensured after removal. The chassis can be easily separated from the drive unit for battery replacement by pressing one of the sides of the case outwards and by simultaneously pulling the base plate by the wheel axle from the case. The 1.5 V batteries must be connected in series. Correct polarity should be ensured (see polarity markings on case).

When reassembling, the drive wheel 2.11 must pass though the slot 1.3. To do this, one end is first pushed under the appropriate case lug and the other end is allowed to clip in under pressure.

4.2 Cleaning

If the car runs unevenly due to dirt in the drive system then the relevant parts (drive cone *2.9*, friction wheels on the gearbox shaft *2.10*, drive wheel *2.11* and the wheels on the intermediate axle *1.4*) are cleaned with petrol suitable for cleaning purposes.

5 NOTES ON OPERATION

This instrument is only to be put into operation under specialist supervision in a controlled electromagnetic environment in research, educational and training facilities (schools, universities, institutes and laboratories).

This means that in such an environment, no mobile phones etc. are to be used in the immediate vicinity. The individual connecting leads are each not to be longer than 2 m. The instrument can be so influenced by electrostatic charges and other electromagnetic phenomena that it no longer functions within the given technical specifications. The following measures reduce or do away with disturbances:

Avoid fitted carpets; ensure potential equalization; carry out experiments on a conductive, earthed surface, use screened cables, do not operate high-frequency emitters (radios, mobile phones) in the immediate vicinity.

6 ACCESSORIES

Babyzelle 1,5 V, R14 (2x)	07400-00

7 WARRANTY

We guarantee the instrument supplied by us for a period of 24 months within the EU, or for 12 months outside of the EU. Excepted from the guarantee are damages that result from disregarding the Operating Instructions, from improper handling of the instrument or from natural wear. The manufacturer can only be held responsible for the function and technical safety characteristics of the instrument, when maintenance, repairs and alterations to the instrument are only carried out by the manufacturer or by personnel who have been explicitly authorized by him to do so.

8 WASTE DISPOSAL

The packaging mainly consists of environmentally friendly materials that should be returned to the local recycling stations.

Do not dispose of this product with normal household waste. If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.

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