PHYWE
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Speed measuring attachment

11229-30

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Operating instructions

CE The unit complies with the corresponding EU guidelines

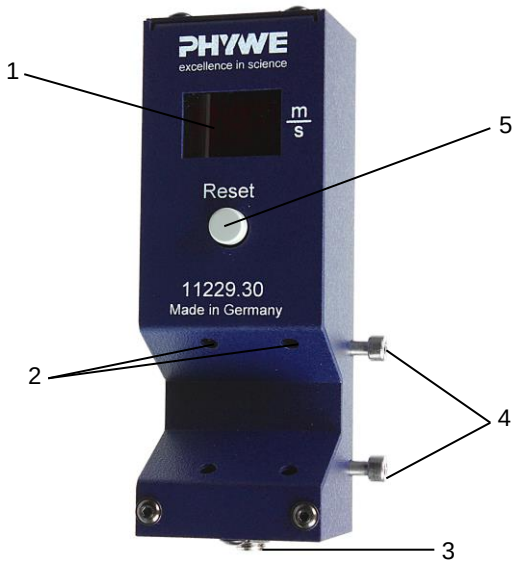

Fig. 1: Speed measuring attachment 11229-30.

CONTENTS

1 SAEFTY PRECAUTIONS

- 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 should there be visible signs of damage to it.
- The optical path is composed of non-visible infrared radiation. Do not look into the emitter (optical path).

2 PURPOSE AND CHARACTERISTICS

The speed measuring attachment serves in combination with the ballistic unit/ballistic pendulum (order no.: 11229-00) for the determination of the starting speed of ball-shaped projectiles. The attachment contains two light barriers, which are fixed apart at a measurement distance of *l* = 20 mm in the direction of projection. The speed of the projectile is shown directly in the 3-figure LED display in the dimension m/s.

3 FUNKTIONAL AND OPERATING ELEMENTS

1 3-figure LED display

2 Pair of light barriers

3 Socket
For plugging in the external supply of power

4 2 Screws
for connection

5 Reset button
for preparing the attachment for a new measurement

4 NOTES ON OPERATION

This high-quality instrument fulfills all of the technical requirements that are compiled in current EC guidelines. The characteristics of this product qualify it for the CE mark. 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 display may go outside of the given tolerances when the instrument is used in the vicinity of fields from strong high frequency emitters (e.g. radios). ESD's (electrostatic discharges), bursts of energy (rapid interference signals from the line) and high frequency fields can cause changes to the operating mode of the instrument and the loss of data. 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. After a total blackout, carry out a "Reset" (new start) of the complete system.

5 HANDLING

The speed measurement is fixed with the two included screws to the catapult of the ballistic pendulum.

By pressing the reset button, a new measurement is prepared.

6 TECHNICAL DATA

(typical for 25°C)
Operating temperature range 5...40°C
Relative humidity < 80%

LED-Display	3-figure; *h* = 9 mm
Measurement range	0.00...9,99 m/s
Light barrier spacing	20.0 mm
Steel sheet housing (mm)	45 x 150 x 37 (B, H, T)
Weight	approx. 0.25 kg

Necessary power supply	
Power supply 5 VDC/2.4 A with DC-socket 2.1 mm	13900-99

7 PARTS SUPPLIED

- Speed measurement attachment 11229-30
- 2 Screws M4 x 50 / 1 hexagon srewdriver

8 WASTE DISPOSAL

The packaging consists predominately of environmentally compatible materials that can be passed on for disposal by the local recycling service.

Should you no longer require this product, do not dispose of it with the household refuse.

Please return it to the address below for proper waste disposal.

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