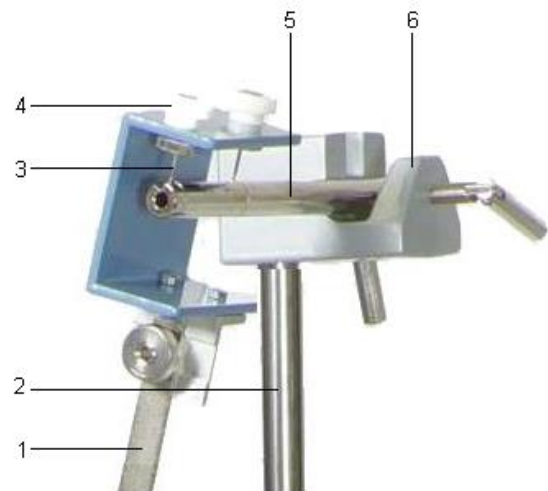


Rod pendulum 1000764

Instruction manual

10/15 ALF



Bearing arrangement for rod pendulum (magnified detail)

- 1 Rod pendulum
- 2 Stand rod
- 3 Needle bearing
- 4 Adjustment screw
- 5 Bearing rod
- 6 Universal clamp

1. Safety instructions

Caution: The pendulum is equipped with a heavy bob and two sharp needle bearings, meaning there is a risk of injury.

- Make sure the pendulum is resting in a safe and secure location.
- The pendulum bob always needs to be secured against falling by means of the knurled screw.
- When setting up the pendulum, always make sure that both needle bearings are correctly situated in the groove.

2. Description

The rod pendulum is designed for investigating simple harmonic oscillations of a weighted pendulum. It is also possible to investigate coupled oscillations with the addition of a second pendulum and a coupling spring.

The pendulum consists of a flat rod with a U-shaped bracket into which two needle bearings are screwed. They fit into a bearing rod with a V-shaped groove, which is attached to a stand rod by means of a universal clamp. The two points of contact for the needle bearings are indicated by circular markings. A disc-shaped weight serves as the pendulum bob.

3. Contents

- 1 Pendulum rod with U-shaped bracket and needle bearings
- 1 Pendulum bob
- 1 Bearing rod with V-shaped groove

4. Technical data

Maximum length of pendulum:	1 m
Mass of pendulum bob:	1 kg
Bearing rod:	10 mm diam.

5. Operation

The following additional equipment is required to set up the rod pendulum in order to carry out experiments:

1 Bench clamp	1002832
1 Stand rod, 1000 mm	1002936
1 Universal clamp	1002830
1 Digital stopwatch	1002811

5.1 Set-up for rod pendulum

- To set up the rod pendulum, attach the stand rod to the bench in an upright position by means of the bench clamp.
- Attach the bearing rod to the stand rod at a suitable height by means of the universal clamp.
- Insert the needle bearings for the pendulum into their intended positions (marked by circles).
- If the bearing rod is not horizontal, then level it with the help of the adjusting screws.
- Move the pendulum bob along the rod to set up the effective length of the pendulum L and secure the bob with the knurled screw.

5.2 Coupled pendulums

To set up a coupled pendulum arrangement, it is necessary to use a second rod pendulum and a coupling spring.

The following equipment is needed:

2 Rod pendulums	1000764
1 Coil spring, 3.3 N/m	1002945
2 Bench clamps	1002832
2 Stand rods, 1000 mm	1002936
1 Stand rod, 470 mm	1002934
4 Universal clamps	1002830

- Set up both pendulums as described in step 5.1.
- You can increase the stability of the set-up by adding a short stand rod between the two long ones.
- Insert the ends of the coil spring into the holes in the pendulum rods to couple the two pendulums together.

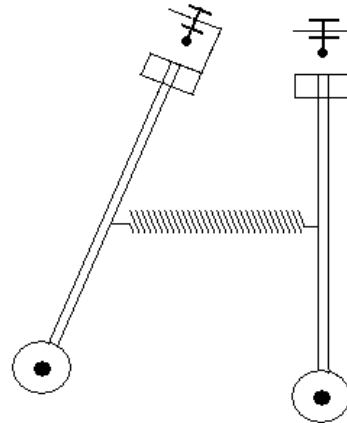


Fig. 1 Coupled pendulums