



Bearing Friction Apparatus (SMT-MM-05)

This experimental unit allows investigations of friction on slide bearings with different bearing shells and on roller bearings. A shaft with a cable drum and flywheel is mounted on a base plate. The weight of the heavy flywheel generates bearing forces. A moment is applied by means of weights, which is equal to the friction moment at the start of the rotation. Replaceable bearing shells are used as slide bearings. The coefficients of friction are determined in experiments. Bearing shells made of different materials are included in the scope of delivery in order to study different friction pairings. The bearing friction is very low when using the roller bearing. In this case, the flywheel can be used for basic experiments on rotational dynamics.

The experimental unit is designed to be fixed to a wall.

TECHNICAL SPECIFICATIONS

Specifications:

- Comparison of dynamic friction and rolling friction.
- Experiments on rotational dynamics are possible.
- Bearing shells of different materials as slide bearings.
- Drive via cable drum and weights.

Technical Data:

- Bearing shells as slide bearing, half shells:
 - GG-25, Red bronze, PTFE (Teflon).
- Deep-groove ball bearing:
 - Type 6203.
- Shaft bearing journal:
 - $\varnothing=17\text{mm}$.
- Flywheel:
 - $\varnothing=300\text{mm}$, Weight: 22,5kg.
- Weights:
 - 1x 1N (hanger).
 - 5x 1N, 1x 2N, 3x 5N.
- Base plate:
 - LxW: 250x200mm.
- LxWxH: 200x330x300mm
Weight: approx. 30kg



Experimental Data:

- Determine the frictional moment in slide bearings with various friction pairs
- Determine the frictional moment of a rolling bearing
- Comparison of slide and rolling bearings
- Basic experiments on rotational dynamics