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Product Name :	Product Code :
Dry Friction	ALABS-A104-273

Description :

Dry Friction

Friction is a key factor in mechanical engineering.
Static friction needs to be adequate to fix components to each other, such as parking brakes, self-locking threads and frictionally engaged connections. Dynamic friction needs to be kept as low as possible, such as on bearings, in guideways or in shaping tools. Consequently, great attention is paid to the topic in engineering mechanics, and understanding of it is enhanced by clearly laid-out experiments. The unit provides a broad range of experiments relating to static and dynamic friction between solid bodies which are in contact with each other and moving relative to each other. Various influences on friction can be investigated, such as surface properties and material pairing. A support friction surface slides beneath the stationary friction body.
The support friction surface is held in a carriage which is drawn along by a motor at uniform speed by a motor. The friction body is connected to a height-adjustable force measuring unit. This ensures that the lines of action of friction force and tensile force are parallel. The force measuring unit is essentially a force gauge which is fitted with an air damper to compensate as far as possible for slip/stick effects and so indicate a mean friction force (with no spiking). Three support surfaces and two friction bodies are available. The normal force can be varied

by adding weights. Experiments can be performed at two constant speeds. The air damping is adjustable. When it is inactive, slip/stick effects can also be observed. The various elements of the experiment are clearly laid-out and housed securely on a tray. The well-structured instructional material sets out the fundamentals and provides a step-by-step guide through the experiments.

Specification:

1. Mechanical friction between 2 solid bodies

2. Friction body stationary, support friction surface in a moving carriage

3. 2 friction bodies each with 2 different surfaces

4. 3 support friction surfaces with a total of 4 different surfaces

5. Carriage driven by cable pulley and motor

6. 2 driving speeds via a graduated cable drum

7. Force measuring unit: force gauge and adjustable air damper

8. Force measuring unit height-adjustable

9. Lines of action of friction force and tensile force always parallel

10. Adjustable air damper – with damping: measurement of a mean friction force adjusted by disturbances, without damping: slip/stick effects measurable

11. Tray to house the components

Features:

- Fundamentals of mechanical friction
- Stationary friction body, uniformly moving support friction surface
- Force gauge with air damping cylinder