

Clutch Plate Friction Apparatus – SV901

The wall mounted apparatus comprises a lower stationary plate attached to a sturdy wall mounting bracket.

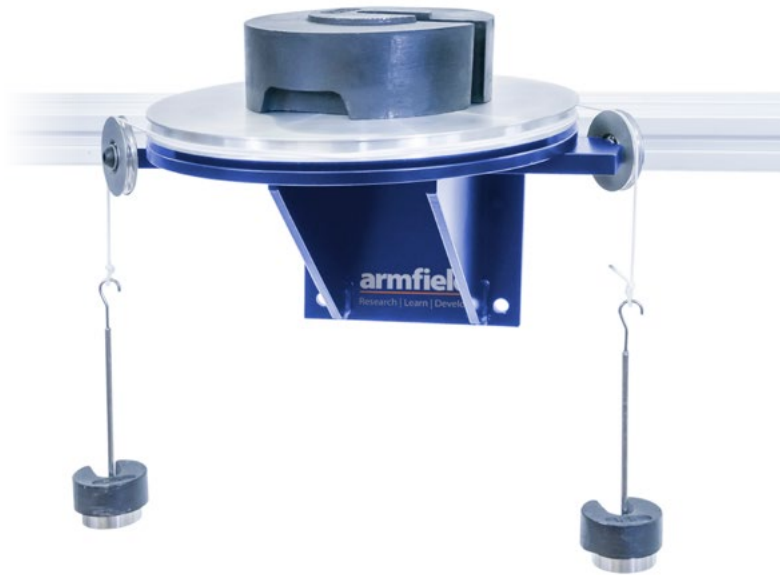
On top of this stationary disc sits an upper aluminium alloy plate whose shaft rotates in ball bearings but which is in direct contact with the stationary plate.

Sandwiched between the lower and upper plate are three friction discs, each of different diameters. Each disc is positively located on pins to ensure they remain stationary. The minimum force on the friction disc is the self weight of the upper plate, but the contact pressure can be increased by adding weights to the upper plate.

Pure torque is applied to the upper plate through two loaded cords and pulleys. The cords wrap around a groove in the upper plate.

A set of calibrated weights is supplied which enable the loading force to be varied and applied torque to be adjusted also.

A VERTICALLY MOUNTED EXPERIMENT TO DETERMINE THE COEFFICIENT OF FRICTION OF THE PLATE MATERIAL



Experimental content

- ▶ To determine the coefficient of friction of the plate material
- ▶ To show that the minimum torque to maintain rotation is proportional to the axial load and diameter of the friction disc

Related laws

- ▶ Automotive
- ▶ Friction
- ▶ Machines
- ▶ Clutches
- ▶ Brakes
- ▶ Plate pressure
- ▶ Wear
- ▶ Torque
- ▶ Slip

Essential accessories / equipment

- ▶ SV100 Bench Mounted Frame

Features / benefits

- ▶ Wall mounted apparatus
- ▶ Can be mounted to the SV100 Bench Mounted Frame
- ▶ Three friction discs supplied
- ▶ Each friction disc with different diameter
- ▶ Discs tested individually or all together
- ▶ Contact pressure applied vertically
- ▶ Pure torque applied using weights

Overall dimensions

Length	0.340m
Width	0.280m
Height	0.190m

Packed and crated shipping specifications

Volume	0.02m ³
Gross weight	25kg

Requirements

Scale

SV
100



- ▶ Rigid vertical support

Technical specification

- ▶ 3 x Friction discs: Ø300, Ø200, Ø100mm, 5mm (W)
- ▶ Friction disc material: Ferodo brake material
- ▶ Turntable diameter: Ø250mm
- ▶ Weights set: 6 x 0.1N, 8 x 0.2N, 2 x 1N; 4 x 2N; 2 x 5N; 2 x 10N; 2 x 20N; 2 x 50N; 1 x 100N
- ▶ 2 x Load hangers

Ordering specification

- ▶ SV901 Clutch Plate Friction Apparatus
- ▶ 1 x Friction disc set
- ▶ 2 x Load hanger
- ▶ 1 x Tape measure
- ▶ 6 x 0.1N; 8 x 0.2N; 2 x 1N; 4 x 2N; 2 x 5N; 2 x 10N; 2 x 20N; 2 x 50N; 1 x 100N
- ▶ Instruction manual

Ordering codes

- ▶ SV901 Clutch Plate Friction Apparatus
- ▶ SV100 Bench Mounted Frame