

The apparatus consists of a flywheel on a horizontal shaft carried in a pair of similar bearings, the flywheel being used to even out small variations in friction.

The shaft is of mild steel, and interchangeable bearings in a range of materials are provided. This experiment provides an opportunity to study journal bearing friction over a range of commonly used materials including a self lubricating sintered bronze.

For comparison a ball bearing is supplied to demonstrate the advantages of rolling rather than sliding contact. Torque is applied by a loaded cord wrapped round the flywheel shaft. A set of calibrated weights and load hanger is supplied for loading the flywheel.

**Experimental content**

- ▶ Allows students to compare the frictional losses of bearings by measuring the coefficient of sliding friction between pairs of materials
- ▶ Allows students to measure the compare and contrast losses when comparing different bearing types

**Related laws**

- ▶ Automotive
- ▶ Friction
- ▶ Machines
- ▶ Bearing
- ▶ Wear

**Technical specification**

- ▶ Ships complete with four bearing types - cast iron, Tufnel, sintered bronze, ball bearing
- ▶ Load hanger applies torque to flywheel
- ▶ Calibrated weights set supplied: 1 x 0.5N, 1 x 1N, 2 x 2N, 1 x 5N, 2 x 10N
- ▶ Disk size approximately Ø300mm x 40mm (W). Can double as flywheel apparatus if required

**Features / benefits**

- ▶ The wall mounted unit consists of a flywheel Ø300mm x 40mm (W) (approx.) on a horizontal steel shaft. Interchangeable bearing materials house the shaft
- ▶ Bearings are cast iron, Tufnol, sintered bronze and ball bearings
- ▶ Torque is provided by a load hanger and loaded cord wrapped around the flywheel shaft
- ▶ Can be mounted to the SV100 Bench Mounted Frame

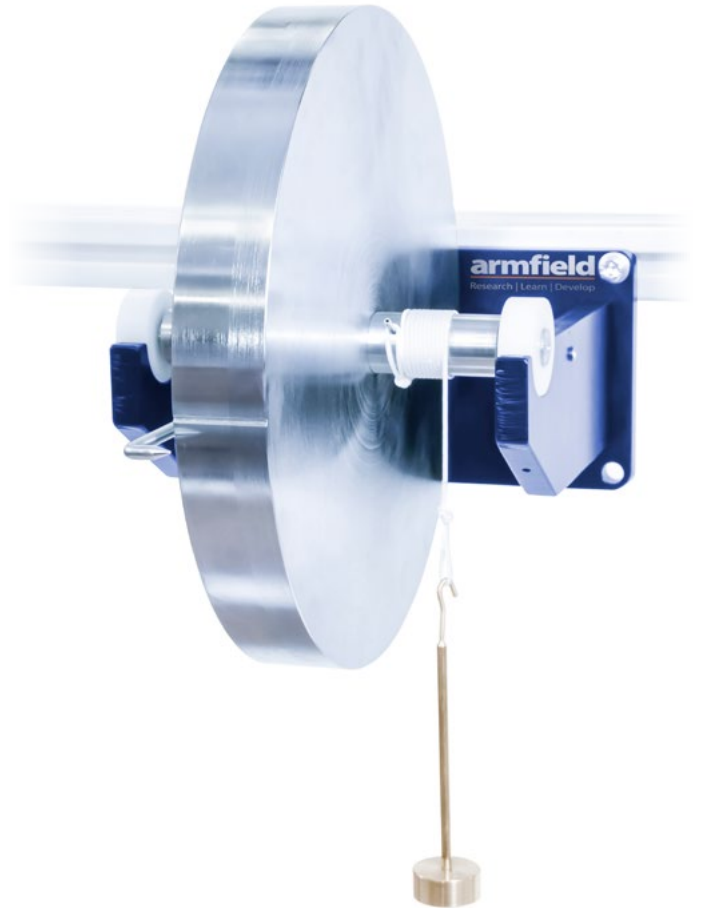
**Overall dimensions**

Length	0.200m
Width	0300m
Height	0.400m

**Packed and crated shipping specifications**

Volume	0.02m <sup>3</sup>
Gross weight	40kg

**COMPARES THE FRICTIONAL LOSSES OF BEARINGS BY MEASURING THE COEFFICIENT OF FRICTION BETWEEN MATERIALS**



**Requirements** **Scale**



- ▶ Rigid vertical support

**Recommended accessories / equipment**

- ▶ SV100 Bench Mounted Frame

**Ordering specification**

- ▶ SV904 Bearing Friction Apparatus
- ▶ 1 x Flywheel Ø300mm x 40mm (W)
- ▶ 4 x types of bearing

**Ordering codes**

- ▶ SV904 Bearing Friction Apparatus
- ▶ SV100 Bench Mounted Frame