

**SD
SERIES**

Simple Flywheel – SD-1.55

A steel disc Ø250mm diameter and 30mm thick is mounted on a shaft running in precision bearings housed in a substantial wall bracket.

A mark on the flywheel and a pointer on the bracket enables the revolutions to be counted and timed with the stop watch supplied.

A cord, load hanger and set of weights are provided to start the flywheel rotating. From the timings of a known number of revolutions, students can then verify the experimental capabilities of the apparatus.

EXPERIMENT TO VERIFY THE SECOND LAW OF MOTION APPLIED TO A FLYWHEEL

Experimental content

- ▶ To verify the second law of motion applied to a flywheel, i.e. the relationship between torque and angular acceleration
- ▶ To compare experimental and calculated moments of inertia of a disc
- ▶ To study the energy transformations and to demonstrate that a flywheel can be used to store energy

Related laws

- ▶ Newton's Second Law of Motion
- ▶ Rotational Mass
- ▶ Rotational Acceleration
- ▶ Moment of Inertia
- ▶ Angular Acceleration
- ▶ Torque
- ▶ Couple
- ▶ Rotating Machinery

Requirements

Scale

SV
100



Recommended suspension height not to exceed 1.0 metre

Essential accessories/equipment

- ▶ SV100: Bench Mounted Frame

Features / benefits

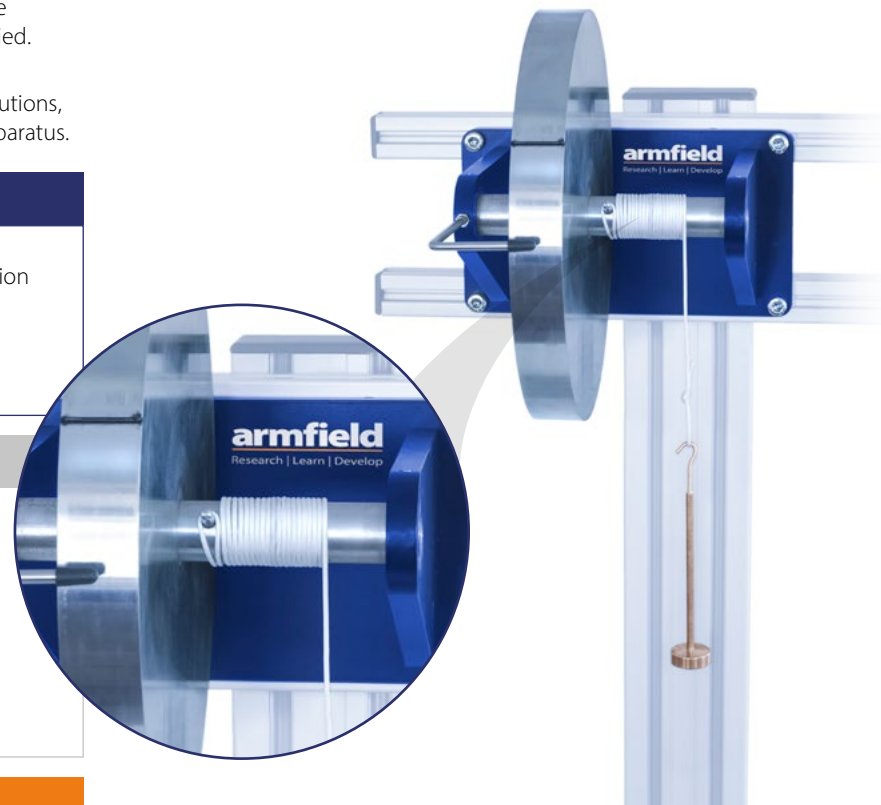
- ▶ Wall mounted apparatus
- ▶ Can be mounted to SV100 Bench mounted frame
- ▶ Flywheel 'locked' before weights applied
- ▶ All hangers and weights supplied
- ▶ Timing system supplied

Overall dimensions

Length	0.19m
Width	0.25m
Height	0.30m

Packed and crated shipping specifications

Volume	0.014m ³
Gross weight	25kg



Technical specification

- ▶ Coated Steel Flywheel
- ▶ Flywheel: Ø250 x 30mm thick
- ▶ **Weights set:** 10 x 0.1N, 10 x 0.2N, 1 x 1N, 2 x 2N, 1 x 5N, 1 x 10N
- ▶ 1 x Load hanger

Ordering specification

- ▶ 1 x SD-1.55 assembled
- ▶ 1 x Load hanger
- ▶ 10 x 0.1N, 10 x 0.2N, 1 x 1N weights
- ▶ 2 x 2N, 1 x 5N, 1 x 10N weights
- ▶ 1 x Stopwatch
- ▶ 1 x Tape measure
- ▶ Spare cord
- ▶ Instruction manual
- ▶ Packing list
- ▶ Test sheet

Ordering codes

- ▶ **SD-1.55** Simple Flywheel
- ▶ **SV100** Bench Mounted Frame

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Issue: 1

URL: <http://www.armfield.co.uk/structures>

Applications

ME CE IP

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