

Relation Between Angular and Linear Speeds – SD-1.58

SD
SERIES

The stepped shaft is secured to a main shaft, which itself is secured within a bracket. The bracket can be bench or wall mounted.

Wrapped around the circumference of each step of the shaft is cord. At the ends of each cord is a single adjustable mass. The adjustment of the mass can be made to ensure that the starting positions of each mass is the same even though the steps are different diameters.

Alternatively the starting position of each mass can be made different.

The shaft is rotated by a handle which can be locked by a retaining screw. The angular movement of the shaft and the corresponding linear movement of the weights can be compared.

Experimental content

- ▶ To find the relationship between angular rotation and the peripheral movement of the stepped shaft
- ▶ Compare actual results with theory

Related laws

- ▶ Rolling movement
- ▶ Bicycles
- ▶ Vehicles
- ▶ Circumference

Requirements

Scale

SV
100

Sturdy vertical support

Essential accessories/equipment

- ▶ SV100: Bench Mounted Frame

Features / benefits

- ▶ Very visual teaching apparatus
- ▶ Relationship between angular rotation and tangential speed
- ▶ 'Stepped' shaft with three different diameters
- ▶ Adjustable masses
- ▶ Timer and measuring device supplied

Overall dimensions

Length	0.21m
Width	0.15m
Height	0.08m

Packed and crated shipping specifications

Volume	0.003m ³
Gross weight	4kg

EXPERIMENT TO UNDERSTAND THE RELATIONSHIP BETWEEN ANGULAR ROTATION AND TANGENTIAL SPEED



Technical specification

- ▶ Stepped Shaft diameters: $\varnothing 25$, $\varnothing 50$, $\varnothing 75$ mm
- ▶ 3 x Mass: $\varnothing 25 \times 25$ mm long

Ordering specification

- ▶ 1 x SD-1.58 assembly
- ▶ 1 x Tape measure
- ▶ Spare cord
- ▶ Packing list
- ▶ Test sheet

Ordering codes

- ▶ **SD-1.58** Relation Between Angular and Linear Speeds
- ▶ **SV100** Bench Mounted Frame