# Rubber Band 1000702

## Accessories for Spring Oscillations 1000703

## Resonance Wire, Ring Shaped 1000707

## Instruction sheet

**11/15 ALF**

### 1. Description

#### 1.1 Rubber Band (1000702)

The rubber band is used for demonstrating stationary waves and wave propagation using the vibration generator (1000701).

- **Length:** 25 m
- **Diameter:** 2 mm

#### 1.2 Accessories for Spring Oscillations (1000703)

The accessories for spring oscillations is used for impressive demonstrations of standing longitudinal waves in a coil spring using the vibration generator (1000701). It consists of an angled stand rod, coil spring and connector pin for attachment of the spring to the vibration generator.

- **Rod:** 450 mm x 8 mm diam.
- **Spring constant:** 3.9 N/m

#### 1.3 Resonance Wire (1000707)

The resonance wire is a wire ring with 4 mm plug and is used for demonstrating the vibration knots at different frequencies using the vibration generator (1000701).

- **Diameter:** 290 mm

### 2. Operation

To perform experiments the following equipment is also required:

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Vibration generator</td>
<td>1000701</td>
</tr>
<tr>
<td>1 Function generator FG 100 @230 V</td>
<td>1009957</td>
</tr>
<tr>
<td>or</td>
<td></td>
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<tr>
<td>1 Function generator FG 100 @115 V</td>
<td>1009956</td>
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</tbody>
</table>

- **Experiment leads**

- When plugging in or removing accessories, take care not to apply too much pressure or force on the mounting in order to avoid damaging the loudspeaker.
- Hold the mounting still with one hand whilst inserting or removing the accessory with the other.
- Attach appropriate accessories for the experiment to the vibration generator.
- Connect the function generator.
- At the function generator choose sine as the wave form and set a sweep with an initial frequency of about 10 Hz and a final frequency of about 80 Hz.
- Let the sweep run slowly through the selected frequency range and observe the formation of vibration nodes and antinodes at the different frequencies.
- If necessary vary the frequency range.
Fig 1 Experimental set-up with the rubber band

Fig. 2 Experimental set-up with the coil spring

Fig. 3 Experimental set-up with the resonance wire