RESONANCE
REED FREQUENCY METER

SWD 01.11

Material:

Item Code	Qty	Description
DW452-2S	1	Vibration generator
DW451-4R	1	Metal reeds, with plug
P3120-1B	1	Rechargeable battery, "inno", 6V/10 Ah
P3120-1G	1	Function generator with digital display "inno"
P3120-4A	1	L-shaped assembly platform
DG507-25	2	Safety connecting lead, 25 cm, yellow

RESONANCE
REED FREQUENCY METER

SWD 01.11

Goal:

If the natural frequencies of springs (here leaf springs) are known, the frequency of the exciting oscillation can be deduced from the occurrence of their resonance oscillations.

Setup:

The vibration generator is placed on a stable base.

The resonance metal reeds with plugs are inserted into the sleeve of the metal cylinder (the cylinder must be locked in place during this process).

The "inno" function generator is plugged onto the "inno" rechargeable battery and both devices are attached to the L-shaped assembly platform.

The function generator is connected to the vibration generator with two connecting leads. The following settings are selected on the function generator:

100 Hz
„Sine ~“
The amplitude is adjusted up to about 30 %.

Experiment:

The frequency at the function generator is adjusted up from 10 Hz. As soon as a leaf spring comes into resonance, the amplitude can still be adjusted so that the vibration maximum becomes clearly visible.

Result:

The longest leaf spring resonates at the lowest frequency, the shortest leaf spring at the highest frequency.

Note:

A harmonica would be a tongue frequency meter if you could determine which tongue is currently resonating.