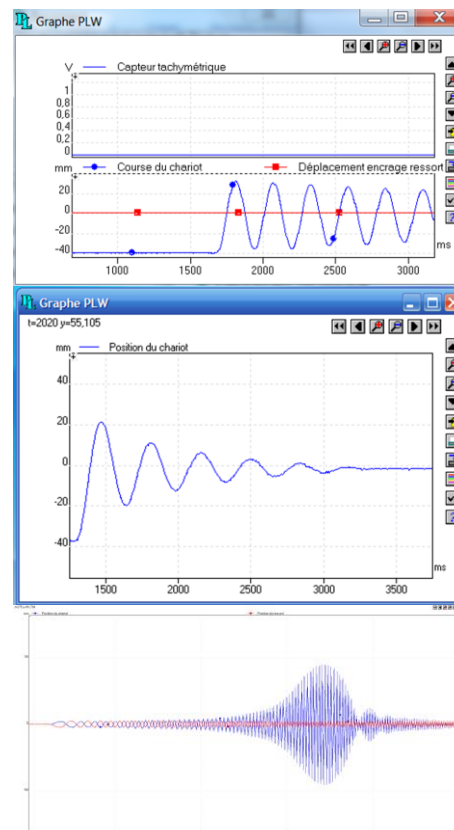
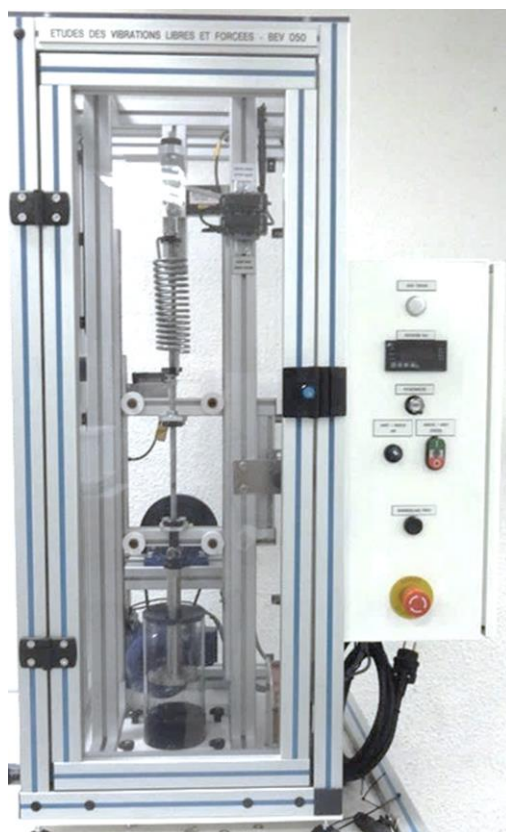


FREE AND FORCED VIBRATION STUDY MACHINE



Experimental capabilities

- Study of a simple mass / spring system
- Study of a system mass / spring / damper
- Determination of the damping factor
- Study of free and forced vibrations
- Experimental determination of the stiffness of a spring
- Experimental determination of the embedded mass
- Determination of the natural mode
- Visualization of mechanical resonances
- ...

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Operating principle

THE BEV050 is a study bench free and forced oscillations systems {mass-spring-damper}

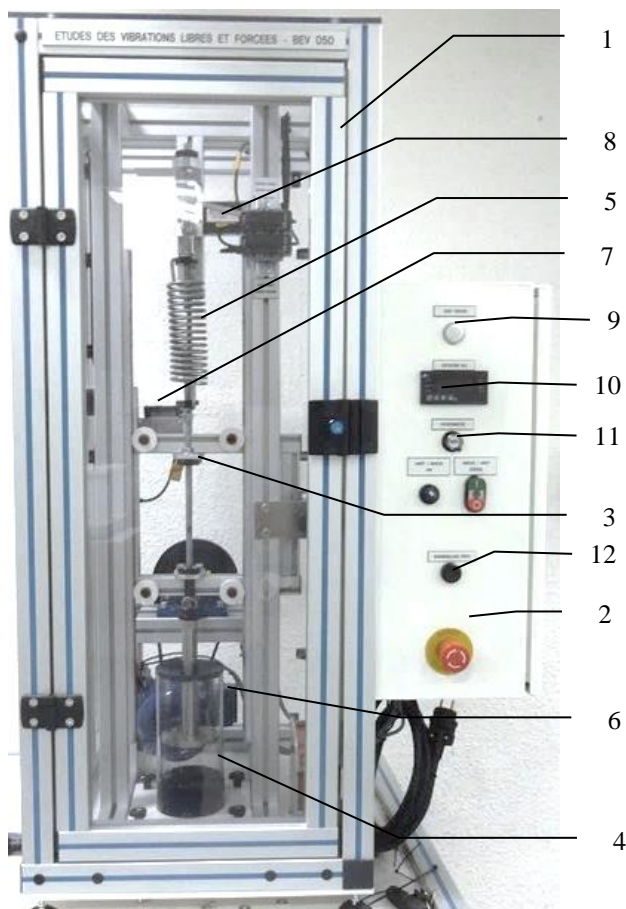
The system configuration is fully configurable, since the embedded variable mass can be adjusted from 0 to 5kg, the springs are supplied in three different stiffnesses and the damping coefficient, can cover the areas ranging from overdamped effect underdamped.

The acquisition of associated data allows for the study of the natural frequencies of the system, the damping effects, the phase shift between excitation and oscillation of the system, as well as the visualization of resonance phenomena.

The robust design of this equipment makes it perfectly suited for use in schools. Its anodized aluminum structure on wheels makes it extremely robust as well as great flexibility of integration into your premises. The manufacturing of this equipment meets the European machine directive.

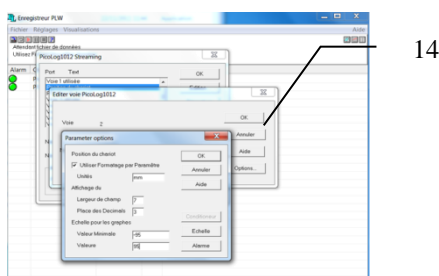
Illustrations

Technical details



General view

1. Anodized aluminum chassis. Equipped with 4 feet dampers
2. Electrical cabinet making control panel office (See details below)
3. Mobile carriage. Guided by 4 roller bearings. Support for the masses (0 to 5 kg / supplied)
4. Damper / water/ or oil. Setting of the damping coefficient by thumbwheel. Removable pot for drainage
5. 3 springs of different stiffnesses - 1 mounted on both the vibration carriage. Fixing with nuts / adjustable position
6. Asynchronous motor 1450 rev/min - toothed belt drive. Rod on crankshaft for excitation of the head of the spring.
7. Measurement laser sensor of position of the mobile carriage
8. Measurement laser sensor of position of the exciter
9. LED powered
10. Tachometer display (system excitation frequency in forced oscillations.
11. Adjustment potentiometer of the excitation speed
12. Control pushbuttons of the machine
13. USB Connector (not visible in photo) - associated with an acquisition card allowing the recording of the positions of the 2 carriages of the system according to time (provided software). Connector located at the front or the back

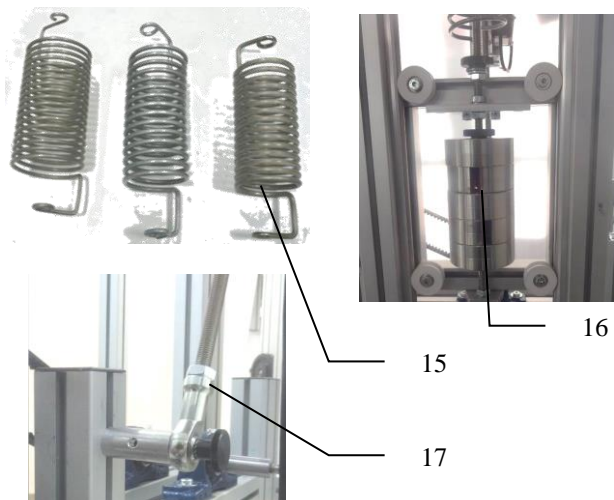


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Accessories included:



14. 1 data acquisition software (compatible with the bench acquisition card) + Connection cable USB
15. 3 springs of different stiffnesses
16. Masses : 5 masses of 1kg.
17. 1 Rod for excitation of the spring head (imposed motion).

Accessories

Services required

- Power supply: 230Vac – 50 Hz – 5 A
- Power supply type: 1 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 800 x 650 x 1250
- weight (Kg): 100
- A riser 500 mm can be provided optional

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Configuration files (PLC, controller)
- Software :
- Certificate of conformity CE