

DIDACTIC

BENCH

STRENGTH **O**F **M**ATERIAL




la Qualité made in France



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STRENGTH **O**F **M**ATERIAL

Designed for an instructive/educational and experimental approach of knowledge acquired during strength of materials and structural analysis classes

The **BED 100** was made for teaching and can apply controlled strain on basic or complex frameworks in order to put in practice law of statics, the dimensioning and the study of stresses and displacements in a framework and to links.

DESCRIPTION

■ MODULARITY :

The mechanical interface enables to clamp a structure and apply controlled stresses/displacements. A wide range of supports and links makes possible a lot of different combinations.

■ ERGONOMY :

Wheeled control panel, electrical and computer equipment, ready to use. Quick handover of the didactic bench to make several experiments during practical work.

■ EFFICIENCY :

Easy user controlled interface for an intuitive and optimized use.

■ PEDAGOGY :

The analysis of results with Excel© makes possible the processing of rough values obtained during the experiment and the work of evolution graphs of strain and displacements.



Practical work lessons can be focused on:

- The determination of quadratic moments of basic and complex structures
- The check of the strain of complex structures
- The characterization of materials and assemblies
- The study of links, torsors
- The dimensioning and the application of the theory of beams, simple and composed loads

BED 100

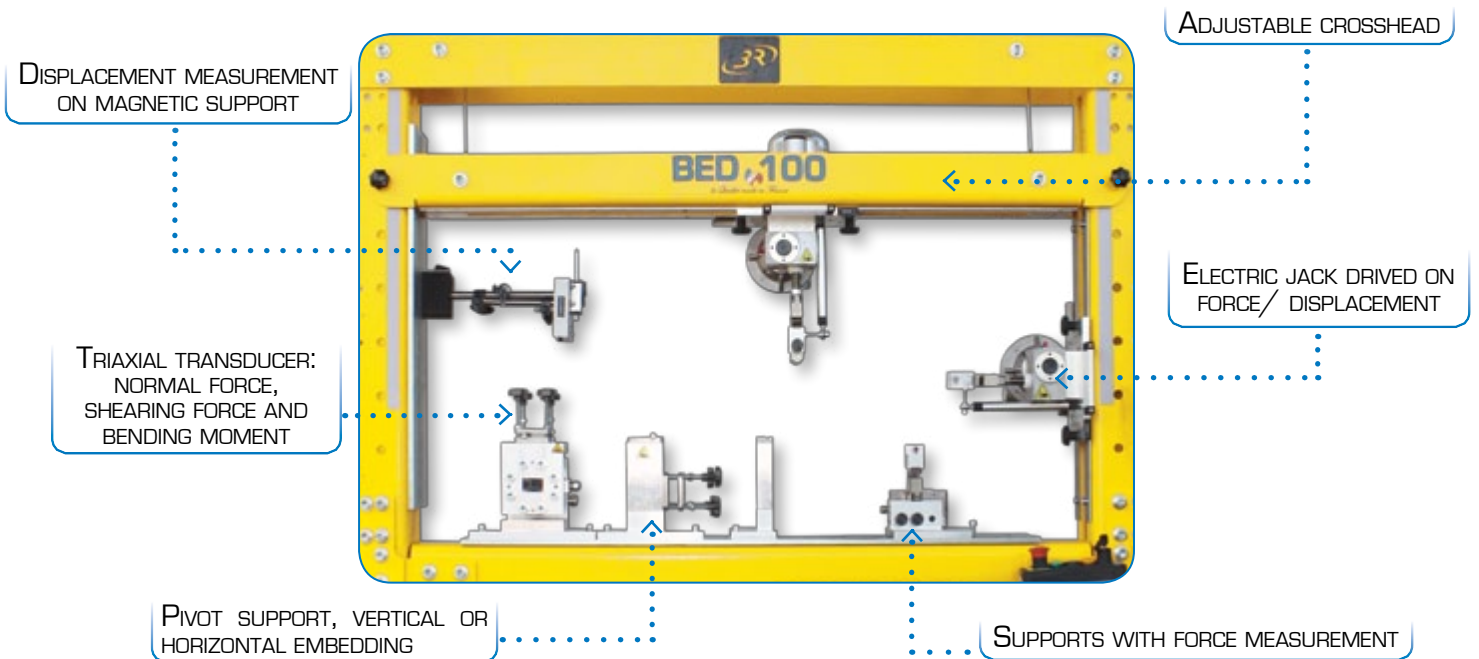


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Developed in partnership with mechanics and engineering science teachers, for high school, Advanced Vocational diploma and Engineering schools

WORKING SPACE

The watchword would be MODULARITY : the working space can be modified endlessly. The supports, the motor units, the displacement transducers are interchangeable and removable, in order to make personal studies' configurations.

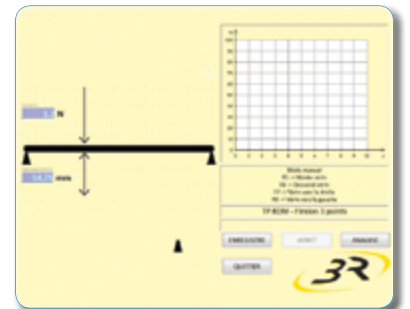


CONFIGURATION

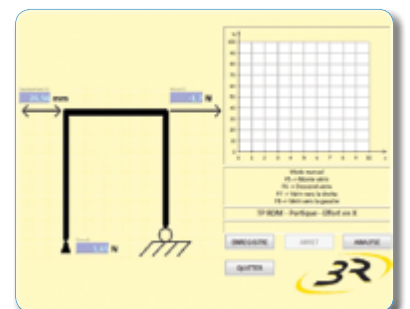
Each motor unit and sensor is plug-and-play, linked via USB to the unit control that managed them as output/input devices. Some configurations examples enable to underline the mechanical characteristics of the studied structures.



The motor unit is driven in force or displacement, and then it is possible to apply a predetermined stress or to impose to the structure a displacement.

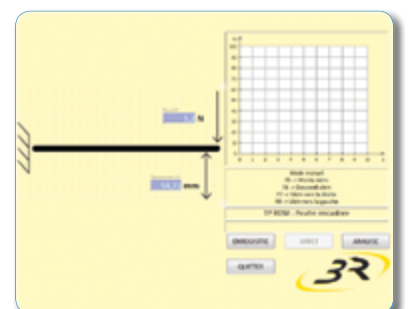


The user can decide to measure a force, a moment, a displacement relating to load in several points of the structure.



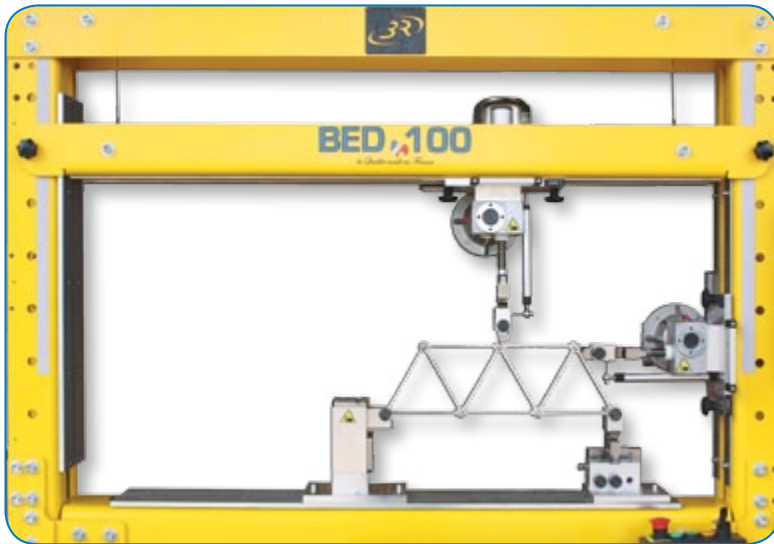
Among the possibilities :

- Bending 3, 4, 5 points
- Potent / frame structures
- Coherence torsor
- Tension / Compression
- Assemblies
- Composed loads



Other examples :

Study of a truss structure



Coherence torsor



Potent



RESULTS

■ DATA PROCESSING :

Experiments parameters and data from transducers are recorded with Excel®.

■ ANALYSIS :

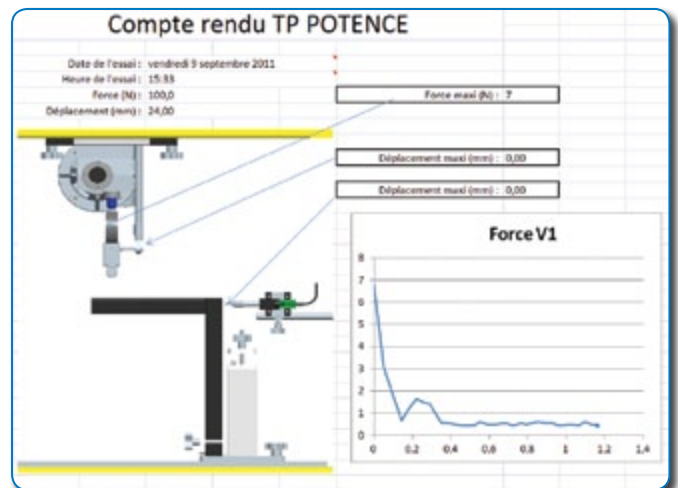
Calculation tools are supplied in the form of Excel® macros that can help to do quickly and easily calculation about data extracted from experiments. The user can record calculation models and apply them for future experiments.

■ REPORTS :

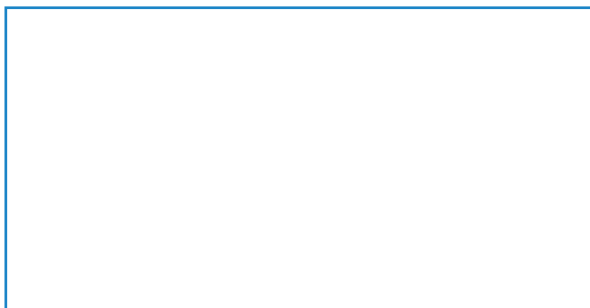
Excel® macros help adding quickly data, modifying curves and setting data extracted from experiments. These macros also manage uploading one or several results into report models.

■ COMPATIBILITY :

Excel® is compatible with all documents from Microsoft Office®, PowerPoint® for instance or web page, etc.



Retailer :



WWW.3R-LABO.COM



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