

EFFICIENCY MECHANICAL TRANSMISSION STUDY UNIT



Experimental capabilities

- Study of the efficiency of a cardan transmission joint
- Study of a gear transmission efficiency with straight toothing
- Study of the efficiency of a gear transmission with helical teeth
- Study of the efficiency of a gear wheel transmission and worm screws
- Study of the efficiency of a transmission bevel gear
- Study of the efficiency of a transmission with pulley / V-belt
- Study of the efficiency of a transmission with pinion / chain

SRD200

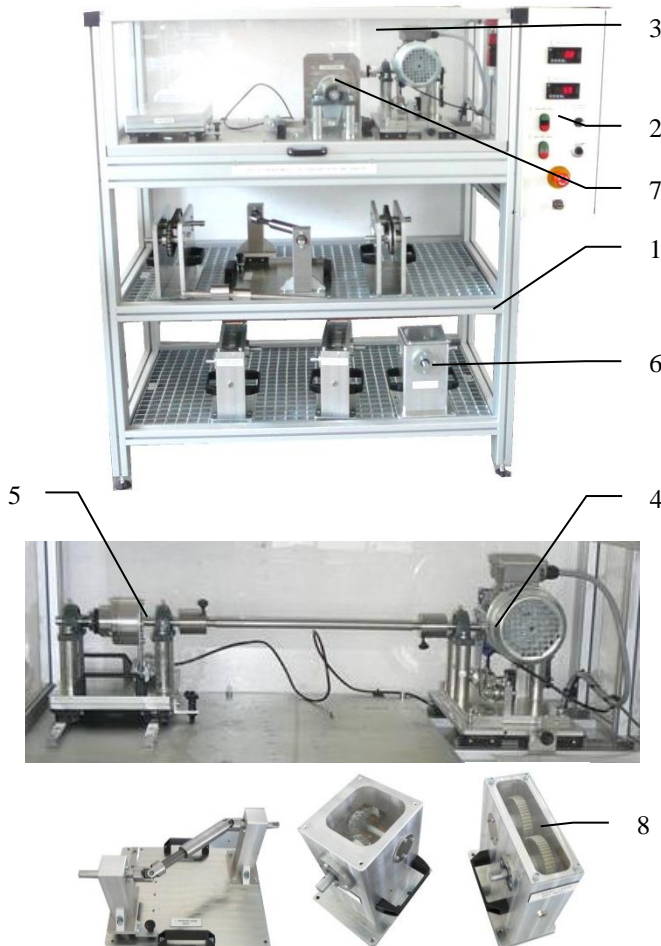


Operating principle

The SRD 200 is a modular bench dedicated to the study and comparison of various mechanical transmissions efficiencies.

It measures the engine torque and the available torque at the output of the transmissions. The ratio between the available moments, modulated by the eventual ratio of rotational speed, allows to obtain the efficiency.

Illustrations



Technical details

1. **Structure in aluminum profiles** allowing to receive 1 motor module, 1 receiver module and 1 transmission module with 4 damper feet for use on benchtop
2. **Electrical box** with bench control pushbuttons, emergency stop, displays the engine torque and braking torque, potentiometer of speed variation and USB connector of the data acquisition card (compatible PC)
3. **Transparent cover** equipped with a key safety switch that allows to cut off the engine power at the opening.
4. Module "**engine suspended**" 1400rev/min, reduction ratio 1/5 - 230V power supply - measurement of engine torque by the reaction moment
5. **Receiver** module allowing to vary the resistive torque and the transverse position of the receiver in function of the frame with the load torque measurement. This receiver can be mounted at **90°** for the applications with angular gearbox and wheel / screw- it is equipped with a torque measurement by measuring the reaction moment
6. Modules of **mechanical transmissions** on storage rack
7. Transmission module in area of "**characterization of its performances**"
8. Example of mechanical transmission modules. The following modules are included with the machine: V-belt, bevel gears with straight teeth gear, helical teeth gear, straight teeth gears, pinion / chain, cardan joint

Services required

- Electrical supply : 230 Vac – 50 Hz – 2 A
- Electrical network : 1 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 1450 x 800 x 1500
- weight (Kg): 250

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 and software (data logger)
- Certificate of conformity CE

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