MOT050

MOTOR STARTER TEACHING BENCH



Experimental capabilities*

- **Identification of the electrical components of an engine starting system**
- **Study of engine start modes (direct, star-triangle, reversal of direction, speed variation)**
- **Study of speed variation and regulation**
- **Flexible configuration for different modes**
- **Standardised wiring, harting connector for the motor and double-well sockets for measurements**
- **Study of star/delta switching**
- **Characterization of the behavior of an asynchronous motor**

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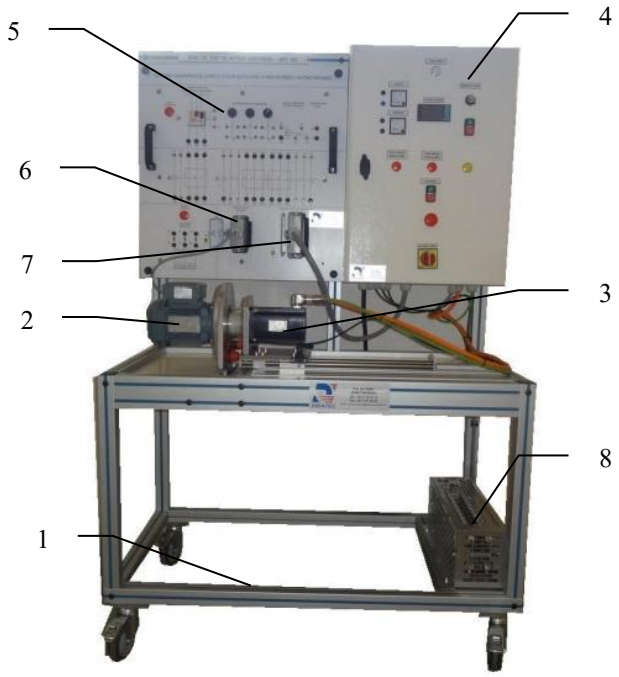
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Operating principle

The electric motor test bench is a bench dedicated to the characterization of the behavior of an asynchronous motor according to the control and power circuit associated with it.
The bench is composed of a basic modular structure that allows the different elements to be integrated.
The wiring of the control and power part is carried out using 4mm double well safety cables, with a keying to prevent crossings between 24V control circuits and 230 or 400V voltages.

The bench is equipped with a charging motor that allows a resisting torque or a driving torque adjustable by potentiometer to be applied to the characteristic motor.
The whole thing is completely safe and prevents any operation if all the components and protective elements are not in place.

Illustrations



1. Chassis in anodised aluminium profiles equipped with 4 braked swivel wheels.

2. Engine to be characterized.
   0.25KW Asynchronous Motor
   Flange fastening
   Magnetic safety sensor.

Technical details

3. Adjustable Load Motor (Variable Load)
   Type brushless Schneider Lexium
   Couple nominal 5N.m,

4. Electrical box/ command and control console. General power distribution on the machine-disconnector/differential/circuit breakers, general on/off button, on/off load motor variator, load adjustment potentiometer, voltmeter, ammeter, torque, speed, power displays, status lights.

5. Control and power distribution board for the motor with measuring points for reading voltages and currents:
   -Direct start stage
   - Triangle star turntable
   - Turntable reversal of meaning
   - Turntable speed variation

6. Industrial connector for connecting the motor to the control and power board.

7. Industrial connector allowing the connection of the plate to the main electrical box of the machine (distribution of the different voltage levels, management of the safety loop, etc.).

8. Dissipation resistance of the load motor (braking)

Services required

- Electrical supply : 400 Vac – 50/60 Hz – 10 A
- Electrical network : 3 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 1500 x 800 x 1600
- weight (Kg): 100

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
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Configuration files (frequency inverter, display)
- Certificate of conformity CE

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