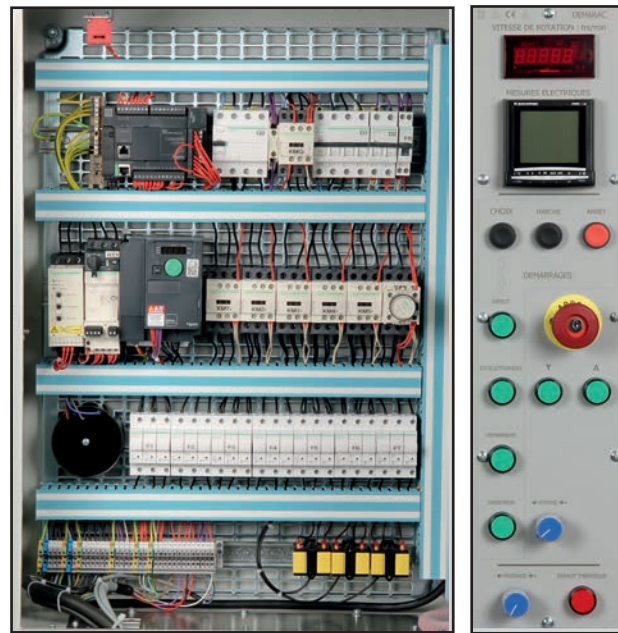


## MOTOR START-UP STUDIES



FRONT



DEMARAC is supplied already wired, with tutorials, diagram, technical instructions and safety leads Ø4mm.

The unit can be supplied without the power unit. Please ask us for details.

Compatibility with motors with a power of up to 1500W, with powder brakes controlled 0-12VDC and all 1000RPM tachometer generators with 0-10V, 0-20V or 0-60V outputs.



BACK

ref. DEMARAC

TEACHING RESSOURCES & PRACTICAL WORKS

### EDUCATIONAL OBJECTIVES

- Understanding the different ways of starting an induction motor

### Proposed Practical Works

- Studying of the functioning star/delta starting, direct, by frequency converter, by soft starter
- Statement of engine characteristics, taking measurement of U and I
- Study of current transformers
- Modification of the acceleration and deceleration ramp of the frequency converter
- Setting the PC connection – PLC

System for studying the start-up of asynchronous motors. For this completely stand-alone system, all you have to do is connect it to a 3-phase 400V mains socket. Selection of the required motor start-up type via push-buttons at the front of the electrical cabinet.

A 300W asynchronous motor, a powder brake and a tachometer generator are fixed directly onto the base with wheels. The power unit and the electrical cabinet are linked together using 4mm safety leads so that measurements can be taken using a hook-on ammeter or voltmeter, etc.

A key-operated switch at the front makes it possible to use the electrical cabinet when it is switched on with the door open. In this way, a qualified individual may take electrical measurements inside the cabinet.

A multifunction measuring unit displays the electrical quantities on the front door.

A digital tachometer shows the motor rotation speed.

A potentiometer at the front is used for varying the motor load.

- Dimensions:  
Base with wheels: 750 x 670mm  
Total height: 1970mm - Weight: 110kg

### FEATURES

- Three-phase 400V supply voltage.
- Protected by residual current device, circuit breakers and fuses.
- Set of lamps and push-buttons for viewing and controlling the required type of start-up.
- Multifunction measuring unit with digital display, which is wired at the start of the circuit measuring the phase-to-ground and composite voltages, the line currents, the active, reactive and apparent power, in total, the power factor, the THD (total harmonic distortion)
- Digital display showing the motor's rotation speed
- Starter/Decelerator Schneider®. All of the settings are adjusted using potentiometers on the front of the device (acceleration time, deceleration time and torque, etc.)  
Acceleration time: from 1.1 to 5 seconds  
Deceleration time: from 0 to 5 seconds  
Torque adjustment: from 20% to 65% of the breakaway torque of the direct motor
- Frequency converter Schneider® (ATV32 type). Possible adjustments:  
- Acceleration ramp  
- Quick stop/free wheel  
- Pre-selected speeds...
- 2 potentiometers at the front of the cabinet adjust the motor's rotation speed and the motor's load.
- Contactor/circuit breaker, wired upstream of the motor, protect against overloads and short-circuits. A display built into the unit indicates the current consumed by the motor and the thermal protection threshold.
- 300W 400V/690V – 1/0.75A asynchronous motor 1500rpm.
- 300W powder brake. 0-10V power supply
- 20V for 1000rpm tachometer generator