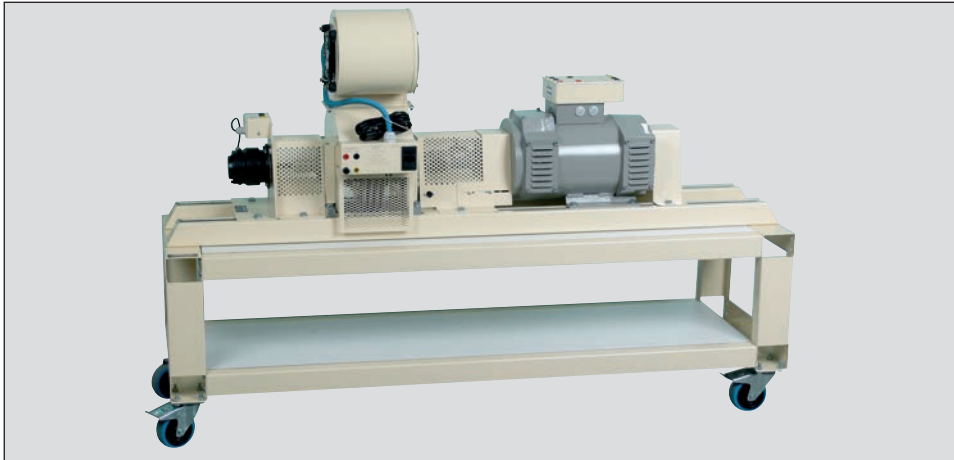


## STUDYING THE 1.5KW DC MOTOR

### DESCRIPTION OF THE 19 ITEMS INCLUDED PACK-DC1 REFERENCE



DC motor Ref. CC20 - Qty 1	Powder brake Ref. FP2 - Qty 1	Stand on wheels Ref. CTC - Qty 1 Guide rails Ref. RGC - Qty 1
Rotary torque sensor Ref. CR2-V2 - Qté 1	DC tachogenerator Ref. DYTA2 - Qté 1	



DC variable supply  
Ref. COMPAK40 - Qty 1



Wattmeter  
Ref. W17 - Qty 1



Magnetolectric voltmeter  
Ref. V1001 - Qty 2



20A magnetolectric  
Ammeter  
Ref. A11 - Qty 2



Power supply  
master/slave  
Ref. GPS3303 - Qty 1



Torque measuring interface  
for brushless sensor  
Ref. INTER-SB - Qty 1



Multimeter  
Ref. TRG803 - Qty 2



Safety starter Rheostat  
Ref. REDA34 - Qty 1



Rheostat  
Ref. ECO1-470 - Qty 1



Set of 46 safety leads  
Ref. 400S - Qty 1 set

ref. PACK-DC1

ALSO AVAILABLE IN 300W. CONSULT US.

### TUTORIAL WITH PACK-DC1

- **Study of connection schematics with shunt excitation and separate excitation (independent).**
  - Understanding and undertaking motor wiring depending on the selected excitation type.
  - Measurements and comparisons of the various consumed power, voltage and current values depending on the selected excitation type.
- **Calculation method used for determining the resistance value:**
  - of the start-up rheostat
  - of the excitation rheostat
- **Study of the motor's operation when unloaded, when loaded and when overloaded with separate excitation (independent) and with shunt excitation:**
  - Theoretical reminders of the mathematical formulae applying to a DC motor.
  - Understanding and undertaking motor wiring with measuring devices.
  - Creation of a table containing calculations and measurements of electrical and mechanical quantities at various points of the motor load:
    - ✓ Current consumption of field system/in the rotor
    - ✓ Power consumption of field system/in the rotor
    - ✓ Rotation speed
    - ✓ Useful power
    - ✓ Motor torque
    - ✓ Counter-electromotive force
    - ✓ Rotor Joule decrease
    - ✓ Efficiency
- **Plotting of properties based on motor measurements:**
  - Rotation speed as a function of the field system current
  - Rotation speed as a function of the rotor current
  - Efficiency as a function of the rotor current
  - Torque as a function of the rotor current
  - Power consumption as a function of the rotor current
- **Analysis of results and conclusion**



Delivered with teaching resources  
Student booklet: theoretical studies and practical works  
Teacher booklet: with correct versions of the practical works