### 4.1 - D.C. MACHINES

- **Design:** with typical industrial characteristics.
- **Input/output:** with standard 4 mm safety sockets.
- **Manual explaining theory and practice**
- **Other speed available like 3600rpm**
- **Other supply voltage available**
- **Protection against thermal overload**

- **Rail base and shaft joints available for fast and easy coupling.**
- **Optional double shaft ends**
- **Accessories:**
  - STARTING RHEOSTAT
  - EXCITATION RHEOSTAT
  - POWER AND EXCITATION SUPPLY

---

#### Mod.4140 - Shunt Wound Machine 3000rpm
**Mod.4140-4 - Shunt Wound Machine 1500rpm**

- **Modes:** self and externally excited Motor/Generator
- **Nominal voltage:** 220Vdc
- **Excitation voltage:** 100÷210Vdc
- **Nominal speed:** 3000/1500rpm
- **Nominal power:** 1,1Kw (mot.) 0,8kW(gen.)

---

#### Mod.4150 - Series Wound Machine 3000rpm
**Mod.4150 - Series Wound Machine 1500rpm**

- **Modes:** series Motor/Generator.
- **Nominal voltage:** 220Vdc
- **Nominal speed:** 3000/1500rpm
- **Nominal power:** 1,1Kw (mot.) 1kW(gen.)

---

#### Mod.4160 - Compound Wound Machine 3000rpm
**Mod.4160-4 - Compound Wound Machine 1500rpm**

- **Modes:** self and externally excited Motor/Generator.
- **Nominal voltage:** 220Vdc
- **Excitation voltage:** 100÷210Vdc
- **Nominal speed:** 3000/1500rpm
- **Nominal power:** 1,1Kw (mot.) 1kW(gen.)

---

#### Mod.4165 - Multi circuit Wound Machine 3000rpm
**Mod.4165 - Multi circuit Wound Machine 1500rpm**

- **Modes:** Shunt wound, compound wound, series wound Motor/Generator.
- **Nominal voltage:** 220Vdc
- **Excitation voltage:** 100÷210Vdc
- **Nominal speed:** 3000/1500rpm
- **Nominal power:** 1,1Kw (mot.) 1kW(gen.)