



VERITAS Engineering

Catalog
Of

Electrical Machine Trainer

Brand: VERITAS

Model: VEMT-003

Features

- This is a well-designed tabletop electrical machine training system,
- It offers integrated solution for the electrical & mechanical performance test,
- Verification and measurement of different AC/DC motors.
- User can select different electrical machines on this system to realize related test experiment
- Motors/generators come with standard aluminium profile mounting base, coupling for easy experimental combination via universal shaft couplings.
- The experiment of each motor is operated with electrical panel through 4mm safety sockets.
- The frame adopts complete aluminium profile as support frame with engraved and colored printed panel be inserted into grooved aluminium profile.



Picture: Electrical Machine Trainer

List of Experiment

- Rotation of electric motors
- Electric motor safety
- Motor speed measurement
- Motor winding resistance measurement
- DC series, shunt, compound motors
- DC permanent magnet motor
- AC resistor starting motor
- AC capacitor starting/ running motors
- Three phase AC induction motors
- Two speed induction motor
- Slip ring induction motor

Synchronous motor / generator Configuration:

➤ **Frame part:**

- Complete grooved aluminum profile frame structure
- Rubber cushions on frame bottom
- Engraved and colorized printed inclined panel of 60-degree angle
- Motor mounting plate of 810mm*240mm*20mm grooved aluminum profile
- Circular connectors for main frame with power/rotary encoder
- Size: 855 405mm*460mm (approx.)

- **DC calibrated machine:** 220V, 1500r/min, 2.2A, 355W

➤ **AC power supply:**

- Through 4mm safety socket
- Short current & leakage protection, phase indication
- Start, stop and emergency switches
- Three phase 380V output
- Three phase 220V output
- Single phase 220V output

➤ **DC power supply:**

- Fixed DC 24V output, max 2A with power switch, indicator and short circuit protection
- Variable DC 0- 24V, max 4A output with voltage indication, indicator and short circuit protection
- Fixed DC 220V output, max 0.5A with power switch and short circuit protection
- Variable armature DC 0-220V output with voltage indication, power switch and short circuit protection

➤ **Load resistor:**

- Variable resistor 0 Ω /30 Ω /60 Ω /90 Ω /infinite, max 0.3A, with selective switch
- Load resistor 300 Ω , 100W, max 0.5A
- Field resistor 1k Ω , 100W, max 0.38A with rotary switch
- Field resistor 2k Ω , 150W, max 0.27A with rotary switch



- **Load lamp & switch unit:**
 - Lamp AC220V, green x 3
 - One-way toggle switch x 2
 - Three-way toggle switch x 2
- **Voltage & Current measurement:**
 - Voltmeter digital AC0 ~ 450V
 - Voltmeter digital DC0 ~ 300V
 - Ammeter digital AC0 ~ 3A
 - Ammeter digital DC0 ~ 5A
- **Speed measurement:**
 - Digital Tachometer: 0 ~ 9999 rpm
 - Optical encoder with synchronous belt and wheel,
- **Accessories:**
 - Shaft couplings for each motor
 - Safety whole sealing cable:
 - conductor cross section: 16AWG tinned copper wire, 3kV, 20A, with axial socket
 - Experiment guide book
 - Wiring instruction map

List Of Motors:

- **Squirrel cage motor (1):**
 - Type: 3P asynchronous;
 - Voltage: 380V (A);
 - Current: 1.12A;
 - Power: 180W;
 - Speed: 1430r/min
- **Squirrel cage motor (2):**
 - Type: 3P asynchronous;
 - Voltage: 220V (A)/380V (Y);
 - Current: 1.14A/0.66A;
 - Power: 180W;
 - Speed: 1430r/min
- **Squirrel cage motor (3):**
 - Type: 3P asynchronous;
 - Voltage: 220V (A);
 - Current: 0.5A;
 - Power: 100W;
 - Speed: 1420r/min
- **Squirrel cage motor (4):**
 - Type: 3P dual speed,
 - Voltage: 220V (A/YY),
 - Current: 0.6A Power: 90W / 120W,
 - Speed: (2820/1400) r/min,



- **Wound rotor motor:**
 - Type: 3P
 - Voltage: 220V(Y)
 - Current: 0.6A
 - Power: 120W
 - Speed: 1380 r/min
- **Synchronous motor/generator:**
 - Type: 3P
 - Voltage: 220V
 - Current: G (0.45A), M (0.35A),
 - Power: G (170W), M (90W)
 - Speed: 1500 r/min,
- **Resistor split phase motor:**
 - Type: 1P,
 - Voltage: 220V
 - Current: 1.45A,
 - Power: 90W,
 - Speed: 1400 r/min,
- **Capacitor running motor:**
 - Type: 1P,
 - Voltage: 220V,
 - Current: 1A,
 - Power: 120W,
 - Speed: 1420 r/min,
- **Capacitor starting motor:**
 - Type: 1P,
 - Voltage: 220V,
 - Current: 1.45A,
 - Power: 90W,
 - Speed: 1420 r/min,
- **DC series motor:**
 - Type: DC motor,
 - Voltage: 220V,
 - Current: 0.8A,
 - Power: 120W,
 - Speed: 1400 r/min,
- **DC shunt motor:**
 - Type: DC motor,
 - Voltage: 220V,
 - Current: 1.2A,
 - Power: 185W,
 - Speed: 1600 r/min,



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- **DC compound generator:**
 - Type: DC generator,
 - Voltage: 220V,
 - Current: 0.5A,
 - Power: 100W
 - Speed: 1600 r/min
- **DC permanent magnet motor:**
 - Type: DC motor,
 - Voltage: 220V,
 - Current: 1.5A,
 - Power: 200W,
 - Speed: 1800 r/min
- **Three phase voltage regulator:**
 - Power: 1KW regulator,
 - variable output: 3 Phase 0 ~ 450V, 1 Phase 0 ~ 250V
 - Indicating Lamp R/G/Y
 - Output voltage monitoring meter x3
 - Selective input and output voltage display,
- **Spring gauge force readout mechanism:**
 - Dynamometer of limit load 50N
 - Coupling for motor connection
 - Belt connection with micro bearing mechanism