

#### **SALIENT FEATURES :**

- 01 Facilitates easy and safe wiring by students due to use of 4mm sturdy Shrouded banana patch cords & shrouded socket arrangements.
- 02 All machines are mounted on finely painted sturdy base frame with easy machine interchangeability. Use of gear coupling facilitates screwless coupling. interchangeability. Use of gear coupling facilitates screwless coupling.
- 03 With due emphasis on student safety machines operate upto 300W power levels and upto 1500 RPM, without compromising on didactic use. Able to draw all graphs.
- 04 Trunnion mounted DC Integrated machine is used as Dynamometer for loading other machines (Motors / generators both); unlike magnetic powder brake or eddy current brake which can load only coupled Motors and not generators, with facility to measure shaft power using electronic torque / speed Measurement

#### **3 PHASE SQUIRREL CAGE INDUCTION MOTOR TRAINER**

##### **Name of the Experiments:-**

- Experiment -1 Speed torque charACteristics of 3 phase squirrel cage induction motor.
- Experiment -2 Efficiency, % slip and input power factor measurement of 3 phase squirrel cage induction motor.
- Experiment -3 Speed control of squirrel cage induction motor by pole changing method.
- Experiment -4 'No Load Test' & 'Blocked Rotor Test' on 3 ph. squirrel cage induction motor.

##### **Panels Provided**

- 01 Aluminum Machine trainer Rack
- 02 Input 3 phase DOL Starter panel
- 03 Multifunction Meter (Single Phase/Three Phase AC 50Hz)
- 04 FWD/REV, Star-Delta starter panel
- 05 Rotor Resistor Cum 3Phase Synchronous Motor Control
- 06 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply
- 07 Extension Board

##### **Motors Provided**

- 01 3 Phase Squirrel Cage Induction Motor with loading arrangement

##### **Accessories Provided**


- 01 Hand held digital Tachometer
- 02 Shrouded connecting leads 4mm 50 / 100cm assorted Red & Black

Note: Specifications are subject to change.

#### **Tesca Technologies Pvt. Ltd.**


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### Technical Specification of Panels



**INPUT 3 PHASE DOL STARTER PANEL**

- 1 MCB 4 pole 4Amp.
- 2 DOL 9A Contactor with 415V / 50 Hz / 11VA COIL .
- 3 RYB Indicator
- 4 Emergency Switch
- 5 Shrouded socket 8Nos.
- 6 Push button switch for Stop/Start




**INPUT SINGLE PHASE DOL STARTER PANEL AC DC FIX / VARIABLE SUPPLY**

- 1 MCB 2 pole 10A with indicator
- 2 Emergency Switch
- 3 Push button switch for Stop/Start
- 4 DOL 9A Contractor with 230V / 50 Hz / 11VA Coil .
- 5 Shrouded socket 4Nos.

**Variable AC Supply (0-200V)**  
1 Shrouded socket 6Nos.

**Fix/Variable DC Supply (0-200V)**  
1 Shrouded socket 4Nos.



**MULTIFUNCTION METER (Single Phase/ Three Phase AC 50Hz)**

- 1 Bidirectional Multifunction Meter
- 2 3 Phase 4 wire, 440V, Current 5A
- 3 LED display,
- 4 Aux supply 230V, 45-65Hz, 5W
- 5 To measure parameters ie Voltage Current., KVA, Frequency, Power factor, Active Power (W), Reactive Power (vary) etc.
- 6 Shrouded socket 08Nos. etc.

**EXTENSION BOARD**

- 1 Operating Voltage 230VAC  $\pm$  10% at 50Hz
- 2 ON OFF Switch with indicator
- 3 Eight Nos. five pin 5 Amp Electrical Sockets




**FWD/REV AND STAR-DELTA STARTER PANEL**

- 1 FWD/REV, 3 pole 3 way Switch with centre OFF, 10A/ 440V.
- 2 Star/Delta switch 3 pole, 3 way with centre OFF, 10A/ 440V.
- 3 Shrouded socket 12Nos.



**ALUMINUM FRAME - MODULAR PANELS**

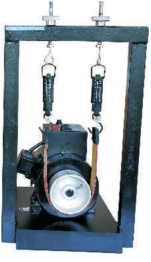
Electrical motor trainer rack made up aluminium profile size 40×40mm, foldable and light in weight 10 panel setup can be interchange conveniently to perform experiments. Dimension Length 1100×Height 1000×Depth 350mm.



**ROTOR RESISTOR CUM 3PHASE SYNCHRONOUS MOTOR CONTROL**

- 1 Rotor resistors of 30E/5A with 3 taps of 15E, 21E, 30E each - 3 Nos.
- 2 Rotor resistor selector switch, 3 pole. 6 Way 10A/440V.
- 3 DC Rotor excitation with circuit breaker (3Amp)
- 4 Shrouded socket 8Nos.

### Technical Specification of Motor



**3 PHASE SQUIRREL CAGE INDUCTION MOTOR WITH LOADING ARRANGEMENT**

**Voltage :** 415 VAC, 50Hz  
**Capacity** 300W/4 Pole m/c **RPM** 1500 **Terminals** 12  
**Rotor Construction :** Diecast Squirrel cage motor  
**Stator construction :** 6x2 terminals brought out to run machine at two speeds using pole changing method (Dahellander Winding)  
**Loading arrangement:**  
 Friction brake pulley (60.5mm dia) for loading arrangement with 20Kg spring balance for torque

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