**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

**REPLUTION MOTOR TRAINER****Name of the Experiments :-**

- Experiment-1 Study of speed torque characteristics of Repulsion motor.  
Experiment-2 Study of efficiency and input power factor measurement of single phase Repulsion motor.  
Experiment-3 Speed control and reversal of direction of rotation of repulsion motor.

**PANELS PROVIDED**

- 01 Aluminum Machine trainer Rack
- 02 Multifunction Meter (Single Phase/Three Phase AC 50Hz)
- 03 DC voltmeter & Ammeter and Torque Measurement Meter
- 04 Variable DC Power Supply
- 05 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply
- 06 DC Load Resistor
- 07 Extension Board

**MOTORS PROVIDED**

- 1 Repulsion 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

#### 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.

#### DC LOAD RESISTOR



- 1 750E/600E/300E/212E/162E/125E/112E/100E/400W /8 taps + OFF + separate 60E tap For DC series Gen.
- 2 Load Resistance switch 3 POL 7 Way/10Amp.
- 3 Cooling Fan size 4" 230V Operated
- 4 Shrouded socket 6Nos.

#### DC VOLTMETER & AMMETER WITH TORQUE MEASUREMENT METER



- 1 TWO DPM DC voltmeter (0-1000V)
- 2 TWO DPM DC Ammeter (0-20A)
- 3 Torque Measurement Meter
- 4 Shrouded socket 16Nos.

#### 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

#### VARIABLE DC POWER SUPPLY



- 1 Half bridge SCR based 0V-200V / 3 Amp cosine firing with linear characteristics, 3 Nos. Switch SPDT to On/Off with indication
- 2 Three Nos. of these supplies required for DC Armature, DC motor field and AC generator field.
- 3 Shrouded socket 8Nos.

#### ALUMINUM FRAME - MODULAR PANELS



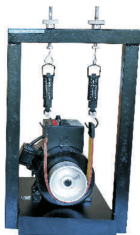
Electrical motor trainer rack made up aluminium profile size 40×40mm, foldable and light in weight 10 panel setup can be interchange conveniently to perform experiments. Dimension Length 1100×Height 1000×Depth 350mm.

#### 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.

### Technical Specification of Motor



#### REPULSION MOTOR(69307) WITH LOADING ARRANGEMENT

**Voltage :** 230 VAC, 50Hz

**Capacity** 300W/4 Pole m/c **RPM** 1500 **Terminals** 2

**Rotor Construction :** Standard commutator brush but short circuited.

**Stator construction :** Stator brought out on 2 terminals. Settable handle to rotate brush position w.r.t. Neutral axis.

**Loading arrangement:**

Friction brake pulley (60.5mm dia) for loading arrangement with 20Kg spring balance for torque measurement.

Note: Specifications are subject to change.

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