

**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

**DC MOTOR COUPLED WITH DC MOTOR TRAINER****NAME OF EXPERIMENTS**

- Experiment -1 Speed torque curve and efficiency of DC shunt motor with DC motor .
- Experiment -2 Speed torque curve and efficiency of DC series motor with DC motor.
- Experiment -3 Speed torque curve and efficiency of separately excited DC motor with DC motor.
- Experiment -4 Speed torque curve and efficiency of DC compound motor with DC motor.
- Experiment -5 Output volt-amp characteristics of DC shunt generator with DC motor .
- Experiment -6 Efficiency of DC shunt generator with DC motor.
- Experiment -7 Output volt-amp characteristics of DC separately excited generator with DC motor.
- Experiment -8 Efficiency of DC separately excited generator with DC motor.
- Experiment -9 Output volt-amp characteristics of DC series generator with DC motor.

**PANELS PROVIDED**

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

**MOTORS PROVIDED**

- 01 DC Integrated (Trunnion Mounted) Motor
- 02 DC Integrated (Foot mounted) Motor

**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




**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.




**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.



**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.




**LAMP LOAD**

- 1 3 Nos. Lamp 100W with Holder & Switch
- 2 Shrouded socket 12Nos.

**EXTENSION BOARD**  
Order Code - 69715.

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




**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.



**ALUMINUM FRAME - MODULAR PANELS**

Electrical motor trainer rack made up aluminium profile size 40x40mm, foldable and light in weight 10 panel setup can be interchange conveniently to perform experiments. Dimension Length 1100xHeight 1000xDepth 350mm.

### Technical Specification of Motors



**DC INTEGRATED (TRUNION MOUNTED) MOTOR**


**Voltage :**  $V_{arm} = 180V$   $V_{field} = 180V$

**Capacity -** 300W/2 Pole m/c, **RPM - 1500, Shrouded Socket - 12**

**Rotor Construction:** Standard commutator / brush arrangement with laminated stack, brought out on 2 terminals

**Stator construction :** Separately excited field winding with laminated solid yoke 2 pole and series winding brought out on 4 terminals.

**Torque characteristic:** Provision of load cells 6 Kg. 2 No. assembly to measure the torque .



**DC INTEGRATED (FOOT MOUNTED) MACHINE**

**Voltage :**  $V_{arm} = 180V$   $V_{field} = 180V$

**Capacity -** 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 12**

**Rotor Construction:** Standard commutator / brush arrangement with laminated stack, brought out on 2 terminals

**Stator construction :** Separately excited field winding with laminated solid yoke 2 pole and series winding brought out on 2 terminals.

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