



The Setup of Automation of Clutch/Brake Liner (52381) i.e. Friction/Wear Measuring Setup is useful for understanding the principles of Friction/Wear Measurement as well as Data Acquisition System.

### Features

- Industrial components are used in the kit so that the students get hands on practical training in using industrial components.
- Compact Ergonomic Design.
- User Friendly, Self Explanatory Systems.
- Robust Construction..
- Enhanced Electrical Safety Considerations.
- Training Manuals, Mimic Charts for Operation Ease.
- Inbuilt Safety Measures to avoid improper usage.
- Computer Interface connectivity for analysis **(Optional)**.

### Experiments

- Study of Friction / Wear Measurement Setup
- Study of Data Acquisition System
- Study of Brake Liner & Brake Applying Mechanism
- Study of Pressure Transmitter, Temperature Transmitter, LVDT, RPM Sensor.

### Services Required

- Electric Supply of 1 $\phi$  230 VAC, 50Hz
- Clean Dry Air Supply 5-6 Kg/cm<sup>2</sup>.

Note: Specifications are subject to change.

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

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### Technical Specification

<b>(A) DATA ACQUISITION SYSTEM</b>		
No.	Item Name	Technical Specifications
1	Data Logger	Input: Universal type, 8 channel. Display: Dual, 3½ digit (for parameter & Channel display) Communication: RS232/USB PC Communication port PC software with features: Digital data recording, Trend display, Excel o/p, Auto e-mail, Dimensions: (92×92) mm, Communication cable: RS232/USB.
2	Current Source	mA Source, Supply 230V AC, O/P: 0-20mA
3	Banana Socket	BS-5, Female type
4	Control Panel	MS Powder coated control panel with Switches & Test Points, Terminal connectors mounted on DIN rail channel, Use of 0.5sq mm Multistrand wire with proper insulated, Lugs, Ferruling & neat wire dressing & clamping Wires & power cables are seated through 1"×1" PVC cable tray.

<b>(B) FRICTION / WEAR MEASURING SETUP</b>		
No.	Item Name	Technical Specifications
1	Brake/Force Applying Mechanism	
2	Brake Liner	Rotating Brake Liner to measure Friction
3	Digital Force / Pressure Indicator	2nos. 3 ½ Digit Display, Input: 4-20mA, Range: 0-10 Kg/cm <sup>2</sup>
4	Digital Temperature Indicator	1 no. 3 ½ Digit Display, Input: 4-20mA, Range: 0-500°C
5	Friction / Wear Indicator	1 No., 3 ½ Digit Display, Input: 4-20mA, Range: ±5mm
6	Speed Indicator	1 No., 3 ½ Digit Display, Input: 4-20mA, Range: 0-1500 RPM, Retransmission Output: 4-20mA
7	Pressure Gauge	2 Nos., Range: 0-10Kg/cm <sup>2</sup> , Dial Size: 4"
8	Pressure Regulator Valves	2 nos., with Gauge (Range: 0- 10Kg/cm <sup>2</sup> ), ¼" connection
9	Air Supply Manifold	1 no., 4 way Manifold, ¼" connection
10	Impulse Valve	2 Nos.: Solenoid Valve, 24 V DC, 4mm Orifice
11	Pressure Transmitter	2 nos., Input: 0-10Kg/cm <sup>2</sup> , Output: 4-20mA, 2 wire type, Piezoresistive, Supply: 24 V DC
12	Temperature Transmitter	1No., Input: 0-500°C, Output: 4-20mA, 2 wire type, RTD Type, Supply: 24 V DC
13	Single Acting Cylinder	2 nos., i] Stroke Length 250mm, Bore: 25mm ii] Stroke Length 75mm, Bore: 25mm
14	LVDT	1 no., Range ±10mm, Supply: 230 V AC
15	Speed Sensor	1 no., Inductive Type, PNP NO, Supply 24 V DC
16	Control Panel	MS Powder coated control panel with Switches & Test Points, Terminal connectors mounted on DIN rail channel, Use of 0.5sq mm Multistrand wire with proper insulated, Lugs, Ferruling & neat wire dressing & clamping Wires & power cables are seated through 1"×1" PVC cable tray.
17	Air Compressor (Optional)	Tank capacity: 25 Litres, Discharge: 2 CFM Motor: 1 H.P. 230 V AC Operated working pressure: 5-6 kg/cm <sup>2</sup>
18	Computer (Optional)	PC with color monitor: 15", PC Pentium Dual Core, 2 serial communication ports, 160/300 GB HDD, 512MB /1 GB RAM.

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