

**SAP E & C BREAK LINER FRICTION MEASUREMENT SETUP**  
(PRODUCT CODE: SAP – 85)



**BREAK LINER MEASUREMENT SETUP (SAP – 85)**

The Setup of Automation of Clutch/Brake Liner (SAP – 85) i.e. Friction/Wear Measuring Setup is useful for understanding the principles of Friction/Wear Measurement as well as Data Acquisition System.

**Technical Specification:-**

**(A) DATA ACQUISITION SYSTEM-**

No.	Item Name	Technical Specifications
1	Data Logger-	<b>Input:</b> Universal type, 8 channel. <b>Display:</b> Dual, 3½ digit (for parameter & Channel display) <b>Communication:</b> RS232/USB PC Communication port <b>PC software with features:</b> Digital data recording, Trend display, Excel o/p, Auto e-mail, <b>Dimensions:</b> (92×92) mm, <b>Communication cable:</b> RS232/USB.
2	Current Source-	<b>mA Source, Supply 230V AC, O/P: 0-20mA</b>
3	Banana Socket-	BS-5, Female type

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<b>4</b>	<b>Control Panel-</b>	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''x1'' PVC cable tray.
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**(B) FRICTION / WEAR MEASURING SETUP-**

No.	Item Name	Technical Specifications
<b>1</b>	<b>Brake/Force Applying Mechanism</b>	
<b>2</b>	<b>Brake Liner-</b>	Rotating Brake Liner to measure Friction
<b>3</b>	<b>Digital Force / Pressure Indicator-</b>	2nos. 3 ½ Digit Display, Input: 4-20mA, Range: 0-10 Kg/cm <sup>2</sup>
<b>4</b>	<b>Digital Temperature Indicator-</b>	1 no. 3 ½ Digit Display, Input: 4-20mA, Range: 0-500°C
<b>5</b>	<b>Friction / Wear Indicator-</b>	1 No., 3 ½ Digit Display, Input: 4-20mA, Range: ±5mm
<b>6</b>	<b>Speed Indicator-</b>	1 No., 3 ½ Digit Display, Input: 4-20mA, Range: 0-1500 RPM, Retransmission Output: 4-20mA
<b>7</b>	<b>Pressure Gauge-</b>	2 Nos., Range: 0-10Kg/cm <sup>2</sup> , Dial Size: 4"
<b>8</b>	<b>Pressure Regulator Valves-</b>	2 nos., with Gauge (Range: 0- 10Kg/cm <sup>2</sup> ), ¼" connection
<b>9</b>	<b>Air Supply Manifold-</b>	1 no., 4 way Manifold, ¼" connection
<b>10</b>	<b>Impulse Valve-</b>	2 Nos.: Solenoid Valve, 24 V DC, 4mm Orifice
<b>11</b>	<b>Pressure Transmitter-</b>	2 nos., Input: 0-10Kg/cm <sup>2</sup> , Output: 4-20mA, 2 wire type, Piezoresistive, Supply: 24 V DC
<b>12</b>	<b>Temperature Transmitter-</b>	1No., Input: 0-500°C, Output: 4-20mA, 2 wire type, RTD Type, Supply: 24 V DC
<b>13</b>	<b>Single Acting Cylinder-</b>	2 nos., i) Stroke Length 250mm, Bore: 25mm ii) Stroke Length 75mm, Bore: 25mm
<b>14</b>	<b>LVDT-</b>	1 no., Range ±10mm, Supply: 230 V AC
<b>15</b>	<b>Speed Sensor-</b>	1 no., Inductive Type, PNP NO, Supply 24 V DC
<b>16</b>	<b>Control Panel-</b>	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''x1'' PVC cable tray.
<b>17</b>	<b>Air Compressor (Optional)-</b>	Tank capacity: 25 Litres, Discharge: 2 CFM Motor: 1 H.P. 230 V AC Operated working pressure: 5-6 kg/cm <sup>2</sup>
<b>18</b>	<b>Computer (Optional)-</b>	PC with color monitor: 15", PC Pentium Dual Core, 2 serial communication ports, 160/300 GB HDD, 512MB /1 GB RAM.

**Range of 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.

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**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**).

**System Dimensions-** 1 Ft. (L) X 1 Ft (W) X 2 Ft. (H)

**Services Required-**

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

**Note-**

All descriptive matter and illustrations are intended to give only a general idea of the equipment Detailed specifications may be altered at the company's discretion without any notice.

Manufactured/Marketed By

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