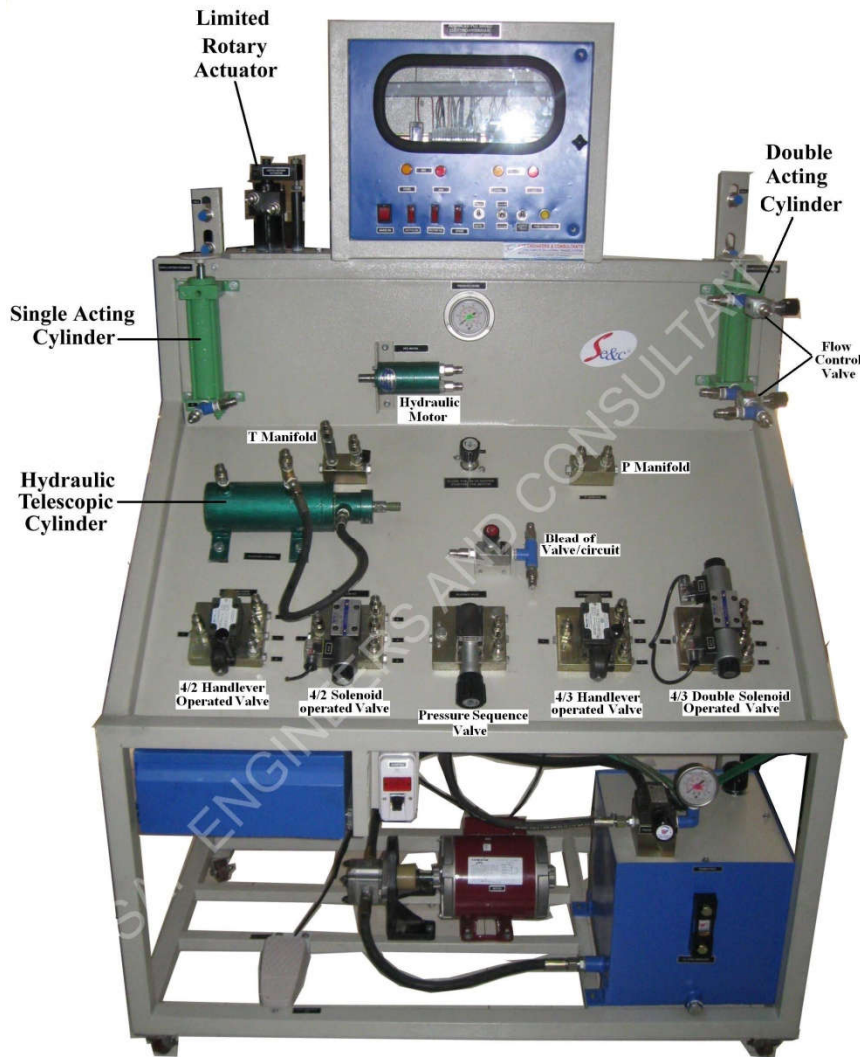


**SAP E & C PLC BASED ELECTRO-HYDRAULIC TRAINER**  
(PRODUCT CODE: SAP – 38B)



The **PLC Based Electro-Hydraulic Trainer (SAP – 38B)** outlines the basic Principle of Hydraulic Control System, basic and advanced hydraulic Control System components & its applications using PLC, electronic Proximity position sensor & electro-mechanical actuators (solenoid valves).

**PLC BASED ELECTRO HYDRAULIC TRAINER**

**Technical Specification:**

No.	Item Name	Technical Specifications
1	PLC-	PLC Make: Siemens Logo / Equivalent, Digital Inputs: 8, Digital Outputs: 4, 24 VDC operated.
2	Single Acting Cylinder-	Bore: 40 mm × Stroke: 75mm/100mm, Mounting: Foot.
3	Double Acting Cylinder-	Bore: 40 mm × Stroke: 75mm/100mm, Mounting: Foot.
4	Solenoid Valve-	2 No.s, 4/3 way, ¼", 24VDC. & 4/2 way, ¼", 24 VDC.
5	Pressure Relief Valve-	¼", 60 Kg/cm <sup>2</sup>
6	Flow Control Valve-	¼" (F), Square Body.
7	Block Manifold-	¼", 4 ways.
8	Male Connector-	¼" Quick Release Couplings.
9	Indicator-	24 VDC Operated.
10	Proximity Sensors-	4 no. Type: Inductive 2 wire, Diameter: 18 mm, Sensing Distance: 5 mm.

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11	<b>Oil Hydraulic power pack-</b>	MS Powder Coated Oil Tank, Capacity: 25/30 Liters. With Oil Level Indicator, Gear Pump: 3-5 LPM, 40-70 Bar, Breather, Oil filter & suction, <b>Electric Motor-</b> Single Phase, 230VAC / 3 Phase 415 V AC, ½ HP/ 1 HP, DOL starter.
12	<b>Pressure Gauge-</b>	100 Kg/cm <sup>2</sup> , Dial Size: 50 mm, Glycerin Filled.
13	<b>Hydraulic Hoses-</b>	10 nos.
14	<b>Pressure sequence valve</b>	¼" (F), Square Body, 60kg/cm <sup>2</sup> .
15	<b>Hydraulic Accumulator (Optional)-</b>	Capacity: 0.075 Liters, mWP bar: 250 bar, Weight: 0.62 Kg, Connection: ½" BSP.
16	<b>Hydraulic Motor (Optional)-</b>	3 LPM, Flange mounting type.
17	<b>Meter-in Circuit &amp; Meter Out Circuit.</b>	
18	<b>Bleed-off Circuit.</b>	
19	<b>Pulley Arrangement to carry load applied to the actuator, i.e., Double Acting Cylinder (Optional).</b>	
20	<b>Transverse &amp; Feed Circuit (Optional).</b>	
21	<b>Hydraulic Telescopic Cylinder (Optional).</b>	
22	<b>Limited Rotary Actuator (Optional).</b>	

**Range of experiments:**

- ❖ Study of fundamental principles of Hydraulics & its applications
- ❖ Study of sequencing operation of two cylinders using PLC and electro-hydraulic components.
- ❖ Study of Pressure control, Speed Control & Flow Control.
- ❖ Study of direction control.
- ❖ Study of hydraulic valves
- ❖ Study of cylinder control.
- ❖ Study of power pack characteristics.
- ❖ Study of sequencing of two cylinders using Pressure sequence valve
- ❖ Study of PLC based electro-hydraulic control.
- ❖ Study of hydraulic Motor (Optional).
- ❖ Study of Hydraulic Accumulator (Optional).
- ❖ Study of operation of Telescopic Cylinder (Optional).
- ❖ Study of operation of Limited Rotary Actuator (Optional).

**Features: -**

- ❖ Compact Ergonomic Design.
- ❖ User Friendly, Self Explanatory Systems.
- ❖ Leak proof Safety Measures, sturdy piping & Robust Construction.
- ❖ Training Manuals, mimic Charts for Operation Ease.
- ❖ System Frame with Caster Wheel Arrangement for ease in movement.
- ❖ M.S. fabricated powder coated with necessary fittings, couplings and hydraulic mountings.
- ❖ Inbuilt Safety Measures to avoid improper usage.
- ❖ Wall mounting assemblies of hydraulic actuator & self-reciprocating cylinder.
- ❖ QRC couplings provided, Tubing for circulation of pressure.
- ❖ Manifold for distribution.
- ❖ Oil Hydraulic power pack for power supply.
- ❖ Optional component are available to allow fault operation and diagnosis training.
- ❖ Hydraulic motor (Optional) & Hydraulic Accumulator (optional).

**System Dimension-** 3.5 Ft. (L) X 2Ft. ((W) X 4.5 Ft (H)

**Services Required:**

- ❖ Electric supply 1 $\phi$  230 V AC / 3 $\phi$  supply of 415 V, 50 Hz suitably used for direct on line starting of an induction motor

**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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