

**ADVANCED CUSTOMIZED
ELECTRO HYDRAULIC TRAINER
(SAP-38 D)**

FIG. ADVANCED CUSTOMIZED ELECTRO-HYDRAULIC TRAINER (SAP-38 D)

- The **Advanced customized Electro-Hydraulic Trainer (SAP – 38D)** is capable of being used to demonstrate the design, construction and application of electro-hydraulic components and circuits.
- The components are capable of being mounted on an appropriate profile plate with grooves for secure and flexible positioning so that the components can be clamped firmly, quickly and safely through quick fix adaptors.
- Industrial components are used in the kit so that the students get hands on practical training in using industrial components.

OBJECTIVES-

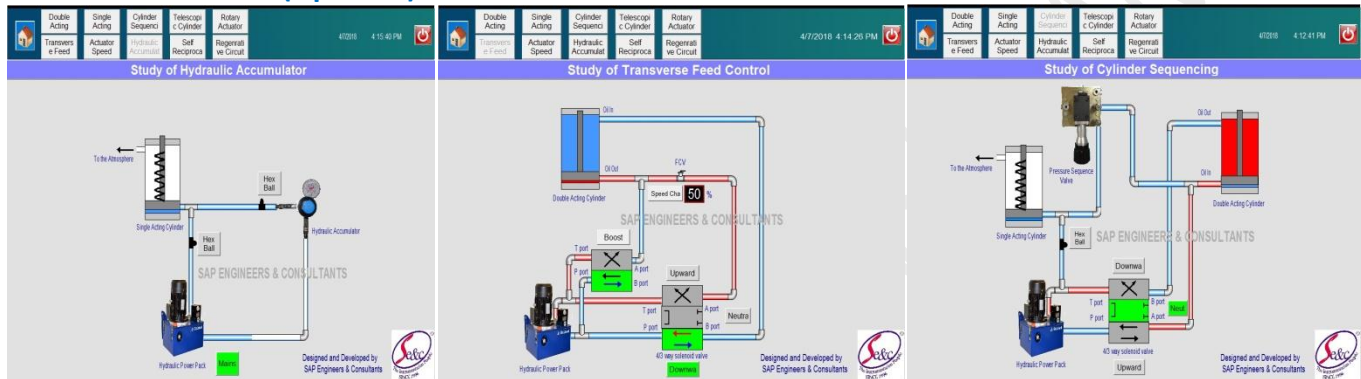
- ❖ Function & identification of Electro-Hydraulic components & their symbols.
- ❖ Direct and indirect manual controls, stroke dependant controls and pressure dependant controls with pressure sequence valves.
- ❖ Design & function of a electro-hydraulic System.
- ❖ Functional diagrams.
- ❖ Application and fault findings of Electro Hydraulic controls.
- ❖ To empower students to design their own circuits.
- ❖ The Trainer is Modular & Upgradable
- ❖ Operation & Instruction Manual provided for Operation ease.

Technical Specification:-

No.	Item Name	Technical Specifications
1	Profile Plates & Stand-	The anodized Aluminum profile plate is the basis for training. All components fit securely & safely onto the profile plate with safe fixing arrangement. Grid Dimensions- 50mm, Size: 1000X700mm
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 Nos., 4/3 way ¼" 24VDC & 4/2 way ¼" 24VDC.
5	Hand Lever operated Valves-	2 Nos., 4/3 way ¼" & 4/2 way ¼"
6	Proximity Sensors-	Supply 24 V DC, 4 nos. Type: Inductive 3 wire, Diameter: 18 mm, Sensing Distance: 5 mm.
7	Pressure Gauge	100 Kg/cm ² , Dial Size: 100 mm.
8	Pressure Sequence Valve:-	¼" (F), Square Body, 60kg/cm ²
9	Oil Hydraulic power pack-	MS Powder Coated Oil Tank, Capacity: 25/30 Liters. With Oil Level Indicator, Breather, Filter, Suction & Drain Port Gear Pump: 3-5 LPM, 40-70 Bar, Breather, Oil filter & suction, Electric Motor- Single Phase, 230VAC / 3 Phase 415 V AC, ½ HP/ 1 HP, DOL starter.
10	P & T Manifold Block	4 ways, 1/4" Connection
11	Flow control valve	1/4" (F), Square body, Unidirectional
12	Check valve/NRV	1/4", Non return Valve
13	Relay, Three fold-	1 No., the device has three relays with terminals and two buses for power supply. Contact set – Single change-over switches, Contact load – maximum 5 A
14	Signal Input, Electrical-	1 No., The device contains an illuminated push-button switch (control switch) & two illuminated push buttons (momentary contact switches) with terminals & two buses for power supply. Contact set- 2 makes, 2 breaks, Contact load- max 1A.
15	Indicator & Distributor Unit, Electrical-	1 No. : The device contains an acoustic indicator and four lamps with terminals and three buses for power supply. Through-contact socket pairs per lamp allow the element to also be used as a Distributor.
16	Power Supply Unit-	1 No., Input Voltage: 230 VAC ,(47 - 63 Hz.), Output Voltage: 24 V DC, short circuit proof, output current: Max. 4.5 A, Connection Cable – 3m
17	Set of molded Cables-	1.5 Meter (2 core) - 4 No. 1.5 Meter (3 core) - 4 No. 1.5 Meter (1 core): Red- 04 Nos., Black- 04 Nos. BS5 Patch cords: Red - 4 Nos., Black - 4 Nos.
18	PLC panel (Optional)-	Siemens LOGO / Allen Bradley Micro 810/ Equivalent.

		DI/DO: 8DI/4DO
19	Hydraulic Motor (Optional)-	3 LPM, Flange mounting type.
20	Hydraulic Accumulator (Optional)	Capacity : 0.075 Liters, mWP bar: 250 bar Weight: 0.62 Kg, Connection: ½” BSP
21	Meter-in Circuit & Meter Out Circuit	
22	Bleed-off Circuit	
23	Hydraulic Telescopic Cylinder (Optional)	
24	Limited Rotary Actuator (Optional)	
25	Pulley Arrangement to carry load applied to the actuator, i.e., Double Acting Cylinder (Optional)	
26	Hydraulic Simulation Software (Optional)	

Simulation Software (Optional):



Range of experiments:

- ❖ Study of Pressure Relief valve (Pressure Control)
- ❖ Study of Direction control Valve
- ❖ Study of fundamental principles of Hydraulics & its applications.
- ❖ Study of Flow control valve - Meter-in circuit, Meter-out circuit and Bleed-off circuit.
- ❖ Study of Transverse & Feed Circuit
- ❖ Study of different hydraulic valves.
- ❖ Study of Cylinder control.
- ❖ Study of power pack control characteristics.
- ❖ Study of sequencing of two cylinders using Pressure sequence valve.
- ❖ Study of operation electro-hydraulic control.
- ❖ Study of sequencing operation of two cylinders using electro-hydraulic components.
- ❖ Study of operation Regenerative circuit.
- ❖ Study of operation Hydraulic Motor (Optional).
- ❖ Study of operation Hydraulic Accumulator (Optional).
- ❖ Study of operation of Telescopic Cylinder (Optional).
- ❖ Study of operation of Limited Rotary Actuator (Optional).
- ❖ Study of operation of Simulation software (SCADA) (Optional).

Features: -

- ❖ Compact Ergonomic Design.
- ❖ ISO Symbol for each mounted components
- ❖ User Friendly, Self Explanatory Systems.
- ❖ Leak proof Safety Measures, sturdy piping & Robust Construction.
- ❖ System Frame with Caster Wheel Arrangement for ease in movement.

SAP E & C ADVANCED CUSTOMIZED ELECTRO-HYDRAULIC TRAINER
(PRODUCT CODE: SAP - 38D)



- ❖ Inbuilt Safety Measures to avoid improper usage.
- ❖ Wall mounting assemblies of hydraulic actuator & self-reciprocating cylinder.
- ❖ Hydraulic motor (optional), Solenoid Valves (electro-hydraulic), Limit Switches.
- ❖ Proximity type sensors (electro-hydraulic),
- ❖ QRC Couplings provided Tubing /hose pipes for circulation of pressure.
- ❖ Manifold for distribution.
- ❖ Oil Hydraulic power pack for power supply.
- ❖ Optional components are available to allow fault operation and diagnosis training.
- ❖ Training literature – Instruction & operation manual, troubleshooting & maintenance tips will be provided in soft copy as well as hard copy format

System Dimension: 4 Ft. (L) X 2.5 Ft. ((W) X 6.5 Ft (H)

Services Required: Electric supply 1 ϕ 230 V AC, 50Hz 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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