

SAP E & C ADVANCED CUSTOMIZED HYDRAULIC TRAINER FOR ITI
[PRODUCT CODE: SAP-38D-I, SAP-38D-II (Economy Model)]



Advanced Customized Hydraulic Trainer (SAP-38D-I)



Economy Model of Hydraulic Trainer Kit for ITI (SAP-38D-II)
 (Same Technical Specifications but Table Top MS Powder Coated Model Instead Of Aluminium Profile)

- The **Advanced customized Hydraulic Trainer (SAP – 38D-I)** is capable of being used to demonstrate the design, construction and application of 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.
- This full-fledged simulator is used for imparting with a variety of 15 no's different circuits which covers the entire range of basic hydraulic system. The simulator and the accessories are suitable for working at 50 bar pressure each hydraulic components of the simulator can with stand 200 bar working pressure. This unique trolley mounted simulator will be of robust in construction and compact in design there would be adequate space for proper orientation of valves. All the valves will be of sub plate mounted with provision for fixing the hoses through quick release couplers facing the front of the simulator, valves along with sub-plate will be mounted on CR Sheet Plate with sliding and locking arrangement. A valve stand will be provided at the rare side of the simulator structure for keeping the valves & hoses.
- The power pack will be mounted on the bottom of simulator structure and the headers will be located at the front of simulator. The simulator will show the application of linear actuator, rotary actuator, pressure control circuits, speed control circuits, sequence control circuits, energy saving circuits, logic control circuits etc.

OBJECTIVES-

- ❖ Function & identification of Hydraulic components & their symbols.
- ❖ Direct and indirect manual controls, stroke dependant controls and pressure dependant controls with pressure sequence valves.
- ❖ Design & function of hydraulic System.
- ❖ Functional diagrams.
- ❖ Application and fault findings of 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	Hydraulic power pack	MS Powder Coated Oil Tank, Capacity: 25/30 Liters. With Oil Level Indicator, External Gear Pump: 2.5lpm (Approx)@1400rpm, Operating Pressure- 60Bar, Breather, Oil filter & suction, Electric Motor- Single Phase, 230VAC / 3 Phase 415 V AC, ½ HP/ 1 HP, 1500 RPM, ON-Off switch & Overload Protection Pressure relief valve- Adjustable from 0 -60bar Oil Reservoir -> 5 liters Capacity having sight glass, Drain Screw, Air Filter and P& T Ports.
2	Pressure relief valve	Qty: 1 No ¼", 60 Kg/cm ² Pilot Operated; Make: Polyhydron/ Equivalent
3	Drip Tray , Steel	Size – 1160mm x 760mm
4	Pressure Gauge	Qty: 1 No ; Glycerin damped , indication range-0-100 Kg/cm ² , Dial Size: 50/60 mm
5	Four way Distributor	Qty: 1 No ; With four port , equipped with a pressure gauge Make: Polyhydron/ Equivalent
6	Double Acting Cylinder-	Qty: 1 No., With control cam, Piston diameter - 16 mm, Piston rod diameter - 10 mm, Stroke: 200mm, Mounting: Foot. Make: Polyhydron/ Equivalent
7	Suitable weight	For vertical loading of hydraulic cylinder
8	Mounting kit for weight	For realizing pulling & Pushing Rod
9	3/2 way valve	Qty: 1 No ; Directional control valve , with hand lever actuation Make: Polyhydron/ Equivalent
10	4/2 way valve	Qty: 1 No ; Directional control valve , with hand lever actuation Make: Polyhydron/ Equivalent
11	4/3 way valve	Qty: 1 No ; Directional control valve , Closed centre position with hand lever actuation Make: Polyhydron/ Equivalent
12	Non return Valve	Qty: 1 No ; Connection -1/4" Make: Polyhydron/ Equivalent
13	Pilot operated check valve	Qty: 1 No ; Pilot to open Make: Polyhydron/ Equivalent
14	One way Flow control valve	Qty: 2 Nos ; With integrated check valve Make: Polyhydron/ Equivalent
15	T-Connector	Qty: 2Nos; With self-sealing coupling nipples - and quick coupling socket – 1nos
16	Profile Plate	Anodized aluminum 1100x700mm with carriers mounting frames and mounting accessories (to be fitted Hydraulic workstation)

17	Hydraulic workstation (For SAP-38D-I)	With 40mm ² aluminum/MS profiles legs , wooden work surface and one pedestal drawer unit having 5 drawers each with handles & individual locks , on metallic full panel drawer slide : 1. Work Table – Size Approx. L1200mmxW900mm with four castor wheels including two lockable wheels at front side, 2. Drawer – size Approx – L460mmxW495mmxH158mm each & overall Size of drawer unit (Approx.)- L470mmxW495mmxH825mm 3. Drawer Slide Height (Approx.)-85mm
18	Hose Pipe	Qty: 10Nos ,With Quick Release Coupling , Connection -1/4"
19	Single Acting Cylinder (Optional)-	Qty: 1 No; Bore: 40 mm × Stroke: 75mm/100mm, Mounting: Foot. Make: Polyhydron/ Equivalent
20	Pressure Sequence Valve (Optional)-	Qty: 1 No ; ¼" (F), Square Body, 60kg/cm ² Make: Polyhydron/ Equivalent

Note: We will also provide pressure header, return header, leakage header fitted with quick coupler and other necessary fitting and fitting with quick couplers which would be required to develop the different said hydraulic circuits.

Range of experiments:

- ❖ Study of pressure control
- ❖ Study of direction control.
- ❖ Study of fundamental principles of Hydraulics & its applications.
- ❖ Study of Meter-in circuit, Meter-out circuit and Bleed-off circuit.
- ❖ Study of flow control.
- ❖ Study of Non return Valve
- ❖ Study of Pilot operated check valve
- ❖ Study of Hydraulic Valves
- ❖ Study of cylinder control.
- ❖ Study of power pack control characteristics.

Features: -

- ❖ Compact Ergonomic Design.
- ❖ ISO Symbol for each mounted components
- ❖ 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.
- ❖ Inbuilt Safety Measures to avoid improper usage.
- ❖ Wall mounting assemblies of hydraulic actuator & self-reciprocating cylinder.
- ❖ 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

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

Weight of Machine: 180 Kg. Approx.

Services Required: Electric supply 1 ϕ 230 V AC, 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

