

HYDRAULIC TRAINER *(Family of Training systems)*

(Model : TMS- Hydraulics)



Double sided Hydraulic & Electrohydraulic Trainer [optional]

Power Pack



side view



SALIENT FEATURES

- Choice of 2 table top models Hydraulic/Electro Hydraulic trainer (optionally PLC may be supplied.)
- Use of aluminium profile grooved plate (CD= 25MM) experiment board. Optionally table with drawers (3 Nos.) to store components when not in use & 4 Nos. of caster wheels.
- Zero leakage flat quick release socket plug arrangement provided for building circuits, Lighter hydraulic components are mounted using lever operated moulded adapters for quick release & placement.
- List of components may be modified as per your requirement.
- Top electrical panel row exists in electro hydraulics / Pneumatic only

Technical Specification

Item	Hydraulic Trainer	Qty	
Oil Distribution and manual controls,	Sub plate (1 station manifold) with 4 ports & 2 gauge ports, each equipped with QRC release.	2	
	Quick Release Male Adaptors		
	Modular Pressure relief valve (sub plate mounted) with 70 bar		
	Glycerine filled pressure gauges	2	
Direction Control Element	Throttle cum check valve sub plate mounted	1	
	4/2 way DC valve lever operated spring return.	1	
	4/2 way DC valve, AC 230Vac solenoid operated spring return	1	
	4/3 way DC valve, lever operated spring return.	1	
Actuating devices (Output)	4/3 way DC valve lever operated detented.	1	
	Single acting cylinder 40mm x 100mm stroke with QR adaptor	1	
	Double acting cylinder with in line flow control valve 40mm x 100 mm stroke & QR sockets.	1	
Connections	A) Flexible hoses, R1 type 1/4" ID with flat type quick release sockets (one end 90° & other straight) Length 2000mm	2	
	Length 1500mm	2	
	B) Flat type quick release plugs(M)	32	
	C) Flat type quick release sockets(F)	10	
Electrical Connection	T Nut with star knob	32	
	Mains cord for 230 Vac solenoid with stakable connector	1	
Power Generation	Power pack (50 bar) consist of : a) Tank 25Ltr. b) Gear Pump 3LPM with ball valve for flow measurement in Beacker (optional), c) Electric motor 0.5 HP 1440 RPM 230VAC, d) Oil Breather Oil level indicator, suction filter / Strainer, Return line filter, 70 Bar Gage, e) Relief valve.		
Mechanical Dimension	Anodised sturdy Aluminum profile rack (table top) with groove experiment board (Optionally double sided) . Total dimension : 1165 mm (L) x 300 mm (W) x 800/990 mm (H), Aluminum Grooved T bolt Board : L = 1070mm, W = 70 mm, Height - 700mm, Groove pitch = 25mm, Reclining at 0°, 20°, 30°. Oil Tray (1070mm x 300 mm x 20 mm) Powder coated MS' Net Weight : 70/75 kg. Gross Weight : 85/90kg.		
Optional Experiments only for Electro-hydraulic Trainer	1) Servo position control (Close loop) consisting of CIP panel with servo control using relay control circuit, EMT8 power supply for stroke length display, linear motion (100 mm, stroke) potentiometer (5KΩ) as a position sensor coupled to D.A. cylinder. 2) Proportional flow and direction control valve with built in amplifier with +5V I/P voltage to control flow and direction 5KΩ servo pot to sense position coupled to D.A. cylinder, open loop position control, EMT8 panel to display stroke length. 3) Proportional flow and direction control valve with amplifier card & LVDT feedback close loop control.		

A] List of Experiments

- Study of Hydraulic Power Pack
- Study of Pressure Relief valve
- Study of Directional control valve
- Study of D.A. Cylinder
- Study of S.A. cylinder
- Study of Meter in/out flow control
- Study of Regenerative circuit
- Study of Bleed of Circuit
- Study of direct operated pressure relief valve

Optional:

B] List of Experiments:

- Study of indirect / Pilot operated pressure relief valve (optional)
- Study of hydraulic motor (optional)
- Characteristics of hydraulic pump (optional)
- Study of pilot operated check valve (optional)
- Study of pressure reducing valve (optional)
- Working with diaphragm type accumulator (optional)

Optional:

C] Control element & actuating device :

- Sequence Valve 1 No.
- Pressure Reducing valve 1 No.
- Hydraulic motor 1 No.
- Counter balance valve 1 No.
- Diaphragm type accumulator 1 No.
- Pilot operated check valve 1 No.
- Pilot operated pressure relief valve 1 No.

Transparent elements :

- 4/3 way DC hand lever Valve 1 No.
- Double acting cylinder 1 No.

Cut section element :

- 4/3 way DC hand lever Valve 1 No.
- Double acting cylinder 1 No.
- Single acting cylinder 1 No.