

**Product Name :**  
PLC Based Hydraulic Trainer

**Product Code :**  
NEGEMG153



**Description :**

**PLC Based Hydraulic Trainer**

PLC Based Hydraulic Trainer is designed to demonstrate operation of various Hydraulic Circuits with help of PLC Controller. The trainer used different electrically operated hydraulic valves & electronic sensors to demonstrate real life applications of Hydraulic Power.

The trainer consists of a workstation panel for mounting of hydraulic components. The workstation is equipped with a power pack to supply oil under pressure to the components during operation.

The components supplied along with the trainer include Direction Control Valves (Solenoid Operated & Hand Lever Operated), Pressure Control Valves, Flow control valves, Check Valve, Linear Actuators, and Accumulators etc. Each hydraulic component like valve, cylinder etc is mounted on a mounting plate & has adaptors for making connections using hoses.

The input the PLC comes from proximity switches & the PLC operates the hydraulic valve in programmed sequence.

### **Experimental Capabilities:**

- To study Hydraulic Power pack & its components.
- To study operation of different Hydraulic Direction Control Valves.
- To study operation of Hydraulic Check Valve.
- To study operation of Flow Control Valve.
- To study operation of Pressure Relief Valve. To study operation of Linear Actuators.
- To test following Hydraulic circuits
  - Regenerative Circuit
  - Speed Control of Linear Actuators
  - Transverse & Feed Circuit
- To test following PLC based circuits
  - Operation of Solenoid operated direction control valves
  - Sequencing Circuit Clamping Circuit
  - Counter Circuit
  - Feed Back Control of Hydraulic Circuits
  - Operation of Electrical Limit Switch

### **Specifications:**

- Hydraulic Power Pack: Gear Pump Electric Motor 1hp, 230 V AC, Oil Sump Tank – 20 Litres Oil Filter, Oil Level Indicator
- Distribution Manifold - 4 Port Manifold, 2 Nos.
- Pressure Relief Valve

- Pressure Gauge
- Direction Control Valves
  - 4/2 Way Valve, Spring Return, Normally Closed
  - 4/3 Way Valve, Spring Return, Normally Open
  - 4/3 Way Valve, Manual Return, Normally Open
- Sequence Valve
- Pressure Sequence Valve
- Non Return Valve
- Flow Control Valve
- Hydraulic Cylinder - Double Acting Cylinder, 40 mm Bore x 100 mm Stroke, 2 Nos.
- Solenoid Operated DC Valves
  - 4/2 Single Solenoid Valve
  - 4/3 Double Solenoid Valve - 2 Nos.
- Proximity Switches
  - Optical Type, PNP, 24 V DC - 2 Nos.
  - Inductive Type, PNP, 24 V DC - 2 Nos.
- Electrical Limit Switch
- Power Supply: SMPS, 24 V DC, 5 A
- PLC Controller: 8 DI, 6 DO, 24 V DC, Make – Allen Bradley / Siemens or equivalent
- Hose Pipes: High Pressure Hoses with Quick Release Couplings – 8 Nos.
- Workstation: Made in M.S. Square Tubes & CR Sheets, Powder Coated

## Naugra Export

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