

HYDRAULIC TRAINER KIT WITH PLC INTERFACE

MODEL: HYD05



FEATURES

- Compact, comprehensive, sturdy design
- Smooth and silent operation
- Study of Hydraulic Circuits

DESCRIPTION

Electro-hydraulics is widely used in all industries for a variety of applications. The combination of electrical controls and hydraulics is very effective in automation.

This trainer demonstrates construction and working of basic as well as advanced hydraulic components and helps the students in the designing and building of basic and advanced electro-hydraulic circuits and its control. Students can make a hydraulic circuit, write Programmable Logic Controller (PLC) software (Ladder Diagram) and check its execution. Numerous circuits can be created since QRC and flexible hoses are provided. Optionally, the PLC can be programmed through PC. Optionally, sliding arrangement for in-use component mounting can be provided along with component storage facility.

INSTRUCTION MANUAL

Self-explanatory operating manuals are provided with each system. Detailed theory as well as practical exercises is also included in the manual.

LIST OF EXPERIMENT

Fundamental Principles Of Hydraulics	To study Ladder logic programming of PLC	Transmission and conditioning of oil	Study of force pressure area & volume relationship
Application Of Hydraulics	Study of meter-in and meter-out circuits	Study of advanced control circuits	Study of direction control valve
Study Of Symbols, Schematic Diagrams And Standards	Control of Double Acting Cylinder using PLC	Control of Solenoid operated valves using PLC	Building of simple hydraulic circuits
Study of sources of hydraulic power	Study of speed and feed circuits	Study of safety aspects in hydraulic circuits	Study of flow control
Study of pressure measurement & control	Study the Electro-hydraulic circuits using PLC programs		Study of hydraulic actuators

*List of experiment may vary depending on model selected. Some of the experiments are theoretical only

COMPONENTS

COMPONENTS	QTY	COMPONENTS	QTY
4/3 way Double Solenoid Operated Valve	1	4/2 Way Solenoid Operated Spring Return Valve	1
4/3 Hand-lever operated Valve, Centre P to T connection	1	4/2 Way Valve hand Lever Operated Spring Return	1
Non Return Valve	1	Oil Collection tray	1
Unidirectional Flow Control Valve	1	Bi-directional Flow Control Valve	1
Double Acting Cylinder	4	I/O Card	1
Relay Card	1	Proximity Switch, Electrical	2
Pressure Switch	1	Patch Chords	1 Set
Manifold Block	2	Pressure Gauge	1
Power Supply	1	Hydraulic hoses with quick release couplings	1 set
Hydraulic power pack	1	Frame Structure	1
Programmable Logic Controller (PLC)	1		

OPTIONAL ADDITIONAL

- Hydraulic Motor Bi-directional
- Interface card to interface physical components with the software.
- IBM Compatible PC
- PC operation of the trainer along with PLC operation
- Cut section components
- Transparent hydraulic components
- Simulation software Magnetic Symbols
- Pressure sensor transducer
- HMI

SERVICES REQUIRED

1. Electric supply

MODELS

Model No.	Dimension	Weight
HYD05-P : Component mounting fixed type. No storage facility	1000 (W) X 600 (B) X 1200 (H)	300 Kg
HYD05-Q: Sliding type component mounting. No storage facility. Table top model.	1000 (W) X 800 (B) X 900 (H)	300 Kg
HYD05-R: Sliding type component mounting. With storage facility & with table	1000 (W) X 800 (B) X 1700 (H)	300 Kg
HYD05-S: Flexible type component mounting. With storage facility and with table	1000 (W) X 800 (B) X 1700 (H)	300 Kg

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Since research and development is an on-going activity, the specifications mentioned herein are subject to change without notice

- (1) Photographs are indicative only.