

*Electron* S.R.L.

Design  
Production &  
Trading of  
Educational  
Equipment

## B39 – HYDRAULICS TRAINERS



## B3900-03 – HYDRAULICS POWER PACK

The Hydraulic Power Pack provides the required oil and electrical powers to operate the oil dynamics Trainers and is itself a subject of training on hydrostatic energy production.

It features a light structure and compact design where all functional components are easily visible and accessible.

The hydraulic section is composed of the following main functional units:

- Steel tank and accessories on wheels for ease of displacement
- 2.2 kW three phase electric motor
- Variable delivery vane pump
- Pressure relief valve
- Intake filter
- Return filter
- Oil level gauge
- Filling port with air filter
- Pressure gauge
- Gear pump

The power pack also includes an electric control and distribution panel with the following functions:

- Transformer and fused power distribution exits to the trainers by means of connectors
- Motor controls and protection
- Digital ammeter on motor input

Note: The hydraulic oil is supplied on request



## B3900-03/02 – HYDRAULICS POWER PACK

Similar to B3900-03 but including 2 gear pumps

## B3901 – BASIC HYDRAULICS

The Basic Hydraulic Trainer has been designed to study and experiment oleodynamic power and control circuits. It is composed of a work bench and panel on which a number of training modules are installed to be powered and conveniently exposed for training and experimenting.

The training modules are supplied with normalized, easily replaceable, industrial type components and a manual guiding to the development of theoretical and practical lectures.

The work bench is mounted on a frame provided with wheels (two of them can be blocked), a work table and the trainers panel that has on its back a number of quick connectors for activating the trainers. Two drawers are provided under the table. The work bench is also supplied with the following accessories:

- 3 multiple connectors
- 4 tubes, 2m, with female quick connectors
- 4 tubes, 1.5m with female quick connectors
- 4 tubes, 1m with female quick connectors

Following are the available trainer modules and their study objectives:

**Code 01 - Hydraulic Tester**  
Power characteristics of hydraulic systems

**Code 02 - Relief Valves**  
Regulation systems, level and pressure controls, energy saving

**Code 03 - Hydrostatic transmission**  
Open loop hydrostatic transmission, constant speed adjustment and load control

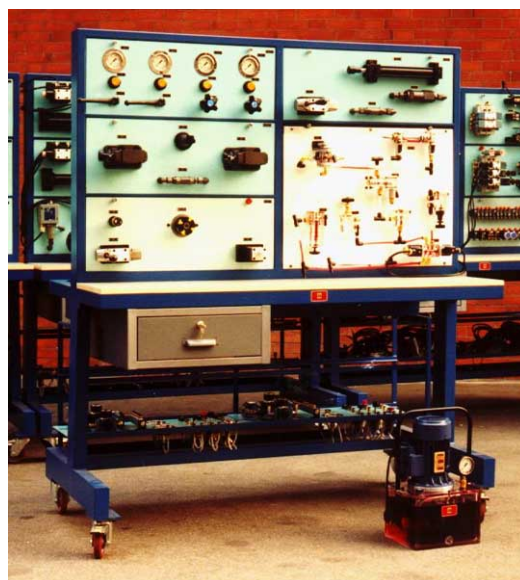
**Code 04 - Linear Actuators**  
Actuators command techniques, positive and negative load control

**Code 05 - Pressure Control**  
Pressure regulation valves, linear and rotational actuators sequences

### ADDITIONAL MODULES:

**Code 06 - Sequential Commands**  
Techniques of circuits with sequence valves

**Code 07 - Electric Control**  
Connection techniques and electric interfaces



## B3902 – ELECTRO-HYDRAULICS

The trainer is designed to teach and experiment the techniques electrical controls in oleo-dynamic systems. It is composed of a work bench and panel on which a number of training modules are installed to be powered and conveniently exposed for training and experimenting.

The training modules are supplied with normalized, easily replaceable, industrial type components and a manual guiding to the development of theoretical and practical lectures.

The work bench is mounted on a frame provided with wheels (two of them can be blocked), a work table and the trainers panel that has on its back a number of quick connectors for activating the trainers. Two drawers are provided under the table. The work bench is also supplied with the following accessories:

- 3 multiple connectors
- 4 tubes, 2m, with female quick connectors
- 4 tubes, 1.5m with female quick connectors
- 4 tubes, 1m with female quick connectors

Following are the available trainer modules and their study objectives:

**Code 01** - Simulation of linear loads  
Hydraulic circuits sizing with positive/negative, traction/compression loads

**Code 02** - Electrical control techniques  
Connections and electric interfaces

**Code 03** - Electro-valves controls  
Circuit techniques and electro-valves controlled actuators

**Code 04** - Energy storing and temper. control  
Hydrostatic energy saving and storing; oil conditioning

ADDITIONAL MODULES:

**Code 05** - Loaded rotating actuator  
Operation and behavior under load

**Code 06** - Dynamometric set  
Hydrostatic transmission, Variable load and torque simulation

**Code 07** - Dynamometric set  
Hydrostatic transmission, torque and RPM measurement

**Code 08** - Electric Controls  
Programmable sequencer, programming and cycle development



## B3903 – PROPORTIONAL ELECTRO-HYDRAULICS

Expansion of B3902, with the following panels:

**Code 03/01** - Control of direction and linear position.  
Construction, control and proportional regulation of direction and position of the linear actuators

**Code 03/02** - Pressure control  
Study of transducers and pressure regulators to build up circuits in open/closed loop.

**Code 03/05** – Rack of control and display  
Study of INPUT/OUTPUT management and visualization.