



## HYDRAULIC BENCH WITH TRANSPARENT COMPONENTS DL 8110ES

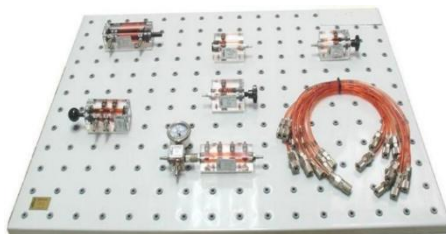
THIS TRAINER IS COMPOSED AS FOLLOWS:  
WORK BENCH



HYDRAULIC POWER UNIT



TRANSPARENT COMPONENTS



### Work bench complete with:

- Metal working panel fully plastic coated;
- panel dimensions: 950 x 1050 mm. With  $\varnothing 5$  mm holes every 50mm (horizontally and vertically) for quick clamping of hydraulic components without using additional tools;
- 4 wheels (the 2 front wheels are lockable);
- 3 drawers with locking systems with key for storing components;
- 1 clipboard located on the side of the work bench.

### Movable hydraulic power unit.

This electrically powered hydraulic unit consists of:

- 6 litres transparent tank;
  - 0.12Kw single-phase motor;
  - extra-silent gear pump,  $Q= 0.5$  l/min;
  - pressure relief valve, P max: 10 bar;
  - pressure gauge: 0-16 bar Stop-Start switch;
  - quick fit couplings (1P – 2T);
  - 3m power cable with plug;
  - tap for inserting bubbles into circulating oil circuit;
  - oil can (5 litres) with special red colouring.
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- **Double effect cylinder:** d/e cylinder  $\varnothing 20$  x  $\varnothing 10$  x 58mm.
  - **Manually actuated 4/2 distributor:**
    - manually actuated,
    - spring return.
  - **Pressure relief valve:**
    - ball valve.
    - Direct control.
  - **3 connection divider with pressure gauge:**
    - 0-10 bar pressure gauge.
    - One female + two male's quick fit connectors.
  - **Check valve:**
    - seat check valve.
  - **Flow restrictor:**
    - needle flow restrictor, manual regulation.



- **6 connection divider:**
  - 6 male quick-fit self-sealing connectors, size NW4
- **Set of hoses:**
  - 6 NW3 x 520 mm length,
  - 4 NW3 x 350 mm length. With quick-fit self-sealing female connectors.
- **Workbook with theory and practices.**

## TRANSPARENT COMPONENTS ADVANCED LEVEL DL 8110ES-EH



- **Pressure relief valve with damping:**
  - spool valve with damping 3 way valve. Manual regulation.
- **Single effect cylinder:**
  - $\varnothing 20 \times \varnothing 10 \times 40$  mm. Spring return.
- **Pressure reducing valve:**
  - 3 way pressure reducing valve. Direct control. Manual regulation.
- **One way flow restrictor:**
  - needle valve with by-pass check valve
- **Shut off valve:**
  - 2/2 valve. Manually actuated.
- **Piloted one way restrictor:**
  - hydraulically actuated check valve
- **Flow control valve with pressure compensation:**
  - hydrostatic valve incorporated. Manual regulation.
- **4 connection divider:**
  - 3 male + 1 female quick-fit self-sealing connectors.
- **Set of hoses:**
  - 5 x 520 mm length. With quick-fit self-sealing female connectors.
- **Workbook with theory and practices.**



## TRANSPARENT COMPONENTS ELECTRO-HYDRAULICS DL 8110ES-EH



- **Electrical power supply unit:**
  - 220 VAC/24 VDC, I=5 A.
  - Over load and short circuit protection.
  - On/Off switch,
  - On/Off indication lamp, Electronically stabilized,  $\varnothing=4$  mm quick connectors,
  - Plastic box with printed transparent cover.
- **Control unit:**
  - 4 push buttons, 2 green, 1 red, 1 yellow, with 1 normally open + 1 normally closed contacts each.
  - 1 switch with 1 normally open + 1 normally closed contacts.
  - 1 connection / disconnection electronic timer, 0 to 6 seconds regulation.
  - 4 spark suppressing diodes
  - 4 indicator lights, 2 green, 1 red and 1 yellow
  - $\varnothing=4$  mm quick connectors.
  - Plastic box with printed transparent cover.
- **Relay unit:**
  - 3 relay unit with 4 exchanged (switched) contacts each.
  - On/Off light indicator on every relay solenoid.
  - Spark surprising diode on every solenoid.
  - 6 connection divider for positive voltage.
  - 6 connection divider for negative voltage.
  - $\varnothing=4$  mm quick connectors. Plastic box with printed transparent cover.
- **Set of connection cables:**
  - 14 blue cables, 500 mm length with  $\varnothing4$  mm male connectors
  - 14 red cables, 500 mm length with  $\varnothing4$  mm male connectors
  - 8 blue cables, 1500 mm length with  $\varnothing4$  mm male connectors
  - 8 red cables, 1500 mm length with  $\varnothing4$  mm male connectors
- **Set of 3 connectors for solenoids:**
  - 2 grey + 1 black.
  - Including solenoid 2P+G connector,
  - on/off indicator lamp,
  - cable and male.
  - $\varnothing=4$  mm quick connectors.
  - 4/2 solenoid valve: Spring return, 24VDC.
  - 4/3 solenoid valve: 4/3 valve, spring centered. A, B, P y T closed in central position. 24 VDC solenoids.



# AUTOMATION AND CONTROL



- **Set of two roller limit switches:**
  - 1 normally closed + 1 normally opened contacts.
  - Transparent body.
  - $\varnothing=4$  mm female connectors.
  - Workbook with theory and practices.