



# PLC Controlled Advanced Electro Hydraulic and Electro Pneumatic Trainer

## Equipment Overview

- The PLC controlled advanced electro hydraulic and pneumatic trainer is made up of experimental table, frame, industrial hydraulic components, electrical control modules, programmable logical controller module, sensors, etc. It integrates various control modes of hydraulic/pneumatic loop, such as PLC control, relay control and button control, making it ideal for the teaching and training of hydraulic/pneumatic drive and control technology.
- All hydraulic and pneumatic components are mounted with spring baseboard that can be inserted and taken out easily. The connection of hydraulic components adopts quick coupling without leakage, the pneumatic components are connected by high quality air hose with related adapters, which is convenient and efficient.
- The hydraulic power pack adopts integrated bearing connection method for motor and pump, the oil tank is fixed with the pump station, making the hydraulic power supply safe and steady. The pneumatic air source is supplied by oil free air compressor, with capacity up to 30L.
- Safety protections: grounded, lead protection, safety in accordance with related GB standards. Insulated safety sockets, sheathed cables and wires.



**Note :**  
Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!

## Training Content

### Hydraulic Part

- Simple/Multistage pressure regulating loop
- Pressure reducing loop
- Unloading loop of 3-position directional valve/pilot overflow valve
- Constant-pressure/Variable-pressure throttle speed regulating loop (throttle valve)
- Constant-pressure/Variable-pressure speed regulating loop (speed regulating valve)
- Speed regulating valve short connected speed changing-over loop
- Speed regulating valve series connected speed regulating loop
- Speed regulating valve parallel connected speed changing-over loop
- Differential motion control loop
- One-way/Two-way blocking loop of hydraulic controlled one-way valve
- Locking loop of 4/3way directional valve
- Sequential action loop of sequence valve/electrical travel switch/pressure relay
- Synchronizing loop of parallel connected speed regulating valve
- PLC controlled sequential action loop of pressure relay/electrical travel switch

### Pneumatic Part

- Single acting cylinder/Double acting cylinder reversing loop
- Single acting cylinder speed control loop
- Double acting cylinder one-way speed regulation loop
- Double acting cylinder both-way speed regulation loop
- Speed changing-over loop
- Buffering loop
- Twice pressure control loop
- High/Low pressure converting loop
- Counting/Delay/Overload protection/Interlocking loop
- Single cylinder single reciprocating control loop
- Single cylinder continuous reciprocating control loop
- Straight line cylinder, double acting cylinder sequential action loop
- Multi-cylinder sequential action loop
- Two-cylinder synchronous action loop
- Four-cylinder linked action loop
- Unloading loop
- OR gate type shuttle valve application loop
- Dual pressure/Quick exhaust valve application loop



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| PneumaticComponents                              | Qty |
|--------------------------------------------------|-----|
| Mainfold block(8outputs)                         | 1   |
| Double acting cylinder                           | 4   |
| Single acting cylinder                           | 1   |
| (5/3)way solenoid directional valve              | 1   |
| (5/3)way solenoid directional valve(Y)           | 1   |
| (5/3)way solenoid directional valve(P)           | 1   |
| (5/2)way single solenoid directional valve       | 2   |
| (5/2)way double solenoid directional valve       | 2   |
| (3/2)way single solenoid directional valve (N/C) | 1   |
| (3/2)way single solenoid directional valve (N/O) | 1   |
| Mushroom head push button valve                  | 1   |
| (5/2)way hand directional valve                  | 1   |
| (5/3)way hand directional valve                  | 1   |
| (3/2)way single pneumatic controlled valve       | 1   |
| (3/2)way double pneumatic controlled valve       | 1   |
| (5/2)way single pneumatic controlled valve       | 1   |
| (5/2)way double pneumatic controlled valve       | 2   |
| Air service unit                                 | 1   |
| Pressure regulating valve                        | 2   |
| One way valve                                    | 2   |
| (3/2)way rotary button valve                     | 1   |
| One-way throttle valve                           | 2   |
| Pressure gage                                    | 2   |
| (2/2)way roller lever valve                      | 2   |
| (3/2)way roller lever valve                      | 2   |
| (3/2)way button valve                            | 1   |
| Time delay valve                                 | 1   |
| Sequence valve                                   | 1   |
| Quick exhaust valve                              | 1   |
| AND gate dual-pressure valve                     | 2   |
| OR gate shuttle valve                            | 2   |
| Micro switch (Left trigger)                      | 2   |
| Micro switch (Right trigger)                     | 2   |
| Photoelectric sensor                             | 1   |
| Capacitive sensor                                | 1   |
| Inductive sensor                                 | 1   |

| Hydraulic Components                               | Qty |
|----------------------------------------------------|-----|
| Hydro-cylinder                                     | 2   |
| Throttle valve                                     | 2   |
| One-way throttle valve                             | 2   |
| One way valve                                      | 2   |
| Hydraulic controlled one-way valve                 | 2   |
| Direct-acting overflow valve                       | 2   |
| Pilot overflow valve                               | 1   |
| One-way sequence valve                             | 2   |
| Reducing valve                                     | 1   |
| Speed regulating valve                             | 2   |
| One-way speed regulating valve                     | 2   |
| 4/2way single electronic controlled solenoid valve | 2   |
| 3/2way solenoid directional valve                  | 1   |
| 4/3way solenoid directional valve(O)               | 1   |
| 4/3way solenoid directional valve(M)               | 1   |
| 4/3way solenoid directional valve(H)               | 1   |
| 4/3way solenoid directional valve(P)               | 1   |
| 4/3way hand directional valve(O)                   | 1   |
| Pressure relay                                     | 1   |
| Glycerin type pressure gage(0~10MPa)               | 3   |
| Travel switch                                      | 2   |
| Photoelectric sensor                               | 1   |
| Capacitive sensor                                  | 1   |
| Inductive sensor                                   | 1   |

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## Technical Parameters

1. AC power supply: Three phase AC 380V, 50Hz
2. Temperature: -5~40°C, Below RH 90%
3. Overall power consumption: ≤1.5 kVA
4. Dimension: 1380mm×900mm×1730mm (approx.)