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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Pneumatics Training System (Advanced Level) | MX-02A

Category: Mechatronics · **Order Code:** MX-02 · **Country of Origin:** India

Product Overview

The Pneumatics Training System (Advanced Level) MX-02A teaches pneumatic control, logic, and sequencing on a modular inclined profile plate. This pneumatics training system advanced level includes an FRL unit, single and double acting cylinders, a range of directional and logic valves, and an air compressor for hands-on circuit building.

View this product online: https://scienticoindia.com/product/pneumatics-training-system-advanced-level-mx-02a/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Pneumatics Training System (Advanced Level) MX-02A — Technical Specifications

Parameter	Value
Mounting Platform	Modular inclined profile plate
Air Preparation	FRL unit with pressure gauge
Cylinders	1 single acting, 1 double acting
Directional Valves	3/2-way NC push button (2), 5/2-way (5), 5/3-way (1)
Logic Valves	Shuttle (OR), dual pressure (AND), quick exhaust
Pressure Control	Pressure sequence valve, back pressure valve, pressure indicator
Sequencing	Time-delay valve, idle return valve, pneumatic counter
Position Sensing	Roller lever valves (forwarding and reversing), proximity switch
Compressor	Air compressor included
Tubing	PU tube 8 mm and 4 mm, blue

Technical Data

Air Preparation:

- FRL unit with pressure gauge
- Junction box with slide valve

Actuators:

- Single acting cylinder
- Double acting cylinder

Valves:

- 3/2-way NC push button valves (green and red)
- 5/2-way double external pilot operated valve
- 5/2-way external pilot operated valve with spring return
- 5/2-way hand lever valves (spring return and detent)
- 5/2-way lever head and mushroom head switch valves with detent
- 5/3-way double external pilot operated valve with spring centring, all ports blocked
- Flow control valve unit
- Quick exhaust valve

Logic and Sequencing:

- Shuttle valve (OR)
- Dual pressure valve (AND)
- Multi-distributor fittings for cascading
- Idle return valve assembly
- Time-delay valve
- Pneumatic counter

Sensing and Control:

- M5 roller lever valves (forwarding and reversing)
- Pneumatic proximity switch
- Pressure sequence valve
- Back pressure valve
- Pressure indicator

Key Features

Key Features

- Modular Platform: Inclined profile plate for component mounting
- Air Preparation: FRL unit with pressure gauge and junction box with slide valve
- Versatile Actuation: Push button, hand lever, pilot, spring return, and detent operation
- Pneumatic Logic: AND and OR valves with cascading arrangements
- Pressure Control: Pressure sequence and back pressure valves
- Sequential Control: Time-delay valve, idle return assembly, and pneumatic counter
- Position Sensing: Roller lever valves and proximity switch

Experiments

- Pneumatic control system principles
- Compressed air production and distribution
- Single acting and double acting cylinder operation
- Directional control valve function
- Manual control of cylinders
- Direct and indirect pneumatic control
- Pneumatic circuit design and connection
- Flow control and cylinder speed regulation
- Quick exhaust valve application
- Pneumatic AND and OR logic circuits
- Cascading and sequential control

- Pressure-dependent control using pressure sequence valves
- Position-dependent control using roller lever valves
- Time-dependent control using time-delay valves
- Spring-return and detent valve operation
- Pneumatic counter and proximity switch applications
- 5/3-way valve operation with all ports blocked
- Idle-return circuit operation
- Back pressure control and monitoring
- Pneumatic circuit testing and troubleshooting
- Pneumatic safety practices

Construction and Design

The MX-02A is built around a modular inclined profile plate that holds all pneumatic components. An FRL unit with pressure gauge conditions the supply air. Single acting and double acting cylinders provide actuation. Directional, flow, pressure, and logic valves connect through PU tubing and fittings. Tubing, connectors, and a tube cutter support circuit assembly.

Software

Optional Pneumatic Simulation Software, Model MX-02A. Supports pneumatic circuit creation, simulation, and troubleshooting, with a component library and configurable parameters. Compliant with ISO 1219 standards depending on software version and licence.

Scope of Delivery

- 1 Pneumatics training system (advanced level), Model MX-02A
- 1 Modular inclined profile plate with component mounting arrangement
- 1 FRL unit with pressure gauge
- 1 Junction box with slide valve
- 1 Single acting cylinder
- 1 Double acting cylinder
- Directional, flow, pressure, and logic valves as specified
- 1 Pneumatic counter and 1 proximity switch
- 1 Air compressor
- PU tubing, connectors, fittings, and 1 tube cutter
- 1 Set of textbooks and operating manuals

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: What does the Pneumatics Training System (Advanced Level) MX-02A teach?
A: It teaches pneumatic control, circuit design, logic control, sequencing, and troubleshooting.

Q: Which logic functions can be built on the MX-02A?
A: The system supports AND logic with dual pressure valves and OR logic with shuttle valves, plus cascading arrangements.

Q: Does the MX-02A include an air compressor?
A: Yes. An air compressor is included in the scope of supply.

Q: Is simulation software available for the MX-02A?
A: Yes. Pneumatic simulation software is available as an optional accessory.

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