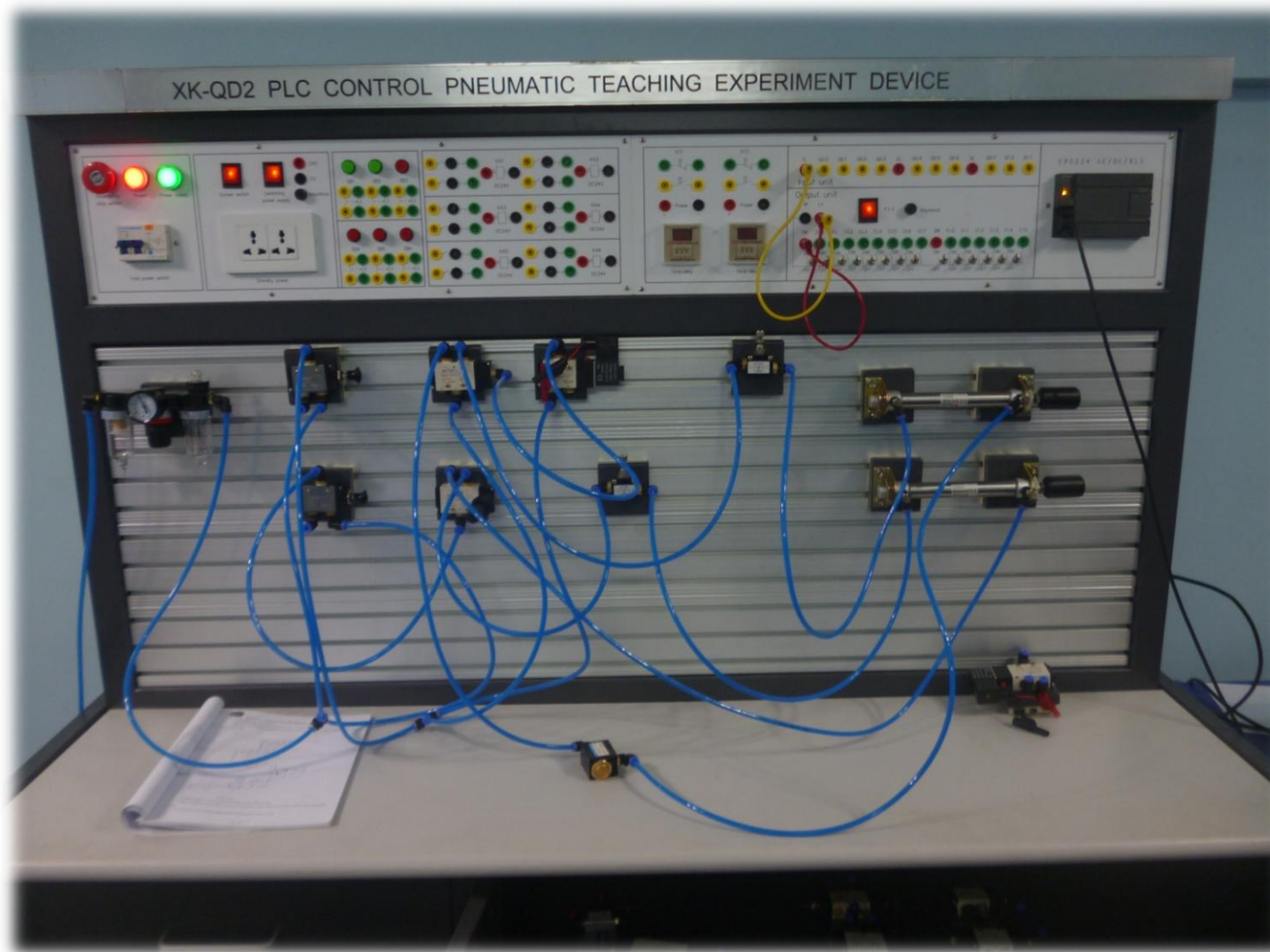


Maritime Training Institute -Karachi

PLC CONTROL PNEUMATIC TRAINING STATION



For Inquiry/information

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Trainer Description

1. Flexible and practical for trainees to learn PLC program and pneumatic operations
2. Pneumatic assembling & PLC wiring knowledge to do practical training operations of different industrial processes including Marine Industry.
3. Desktop structure, working mesa used the "T" type aluminum materials, provides great convenience for the installation and location of pneumatic components.

4. Main components:

Training platform	Pneumatic Component	
<ul style="list-style-type: none">• Aluminum working mesa,• The power module• PLC Module• Relay modules• Timer Relay modules	<ul style="list-style-type: none">• Air filtration (FRL)• Reduced pressure, oil mist is a joint• Pressure reducing valve• The manual directional control valves• Electromagnetic reversing valves	<ul style="list-style-type: none">• Air control directional valves• Travel valves• One-way valves throttle valve• Quick exhaust valve,• Single-acting cylinder• Double-acting cylinder)• 7 bar Gas source

PLC commonly used programming instructions learning and training, pneumatic basic loop training. Have a safety protection function.

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SNO.	TOPICS	COURSE CONTENT TYPE	REFERENCE	DURATION
1.	Introduction to PLC A. Basic PLC Operation B. Hard-Wired Control C. Advantages of PLCs D. Number Systems E. Siemens Modular PLCs	THEORY	PLC-1, LECTURE-1 (1.A+B+C) S7200 SIEMENS MANUAL (1.D+E)	3 – hours
2.	Introduction to Sensors (Inputs) A. Position Sensors B. Angular Velocity Sensors C. Proximity Sensors D. Loads Sensors E. Pressure Sensors F. Temperature Sensors G. Flow Sensors H. Liquid-Level Sensors I. Vision Sensors	THEORY & DEMO	MODERN CONTROL TECHNOLOGY -COMPONENTS & SYSTEMS (2ND ED [1].) BY (DELMAR)	3-hours
3.	Introduction to Actuators (Outputs) A. Solenoid B. Contactors C. Relays D. Motors	THEORY & DEMO	MODERN CONTROL TECHNOLOGY -COMPONENTS & SYSTEMS (2ND ED [1].) BY (DELMAR)	2-hours
4.	Programming of PLC A. PLC hardware knowledge B. Wiring training of PLC C. PLC internal resources D. The use of PLC programming software E. Download Upload and online monitoring of PLC Applications F. Types of Programming Languages G. Basic Logic Gates Operations H. Counters I. Timers	THEORY/PRACTICAL	PLC -1 LEC	12-hours

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5.	<p>Introduction to Pneumatics</p> <ul style="list-style-type: none"> A. Pneumatic basic loop training B. Single-acting cylinder reversing loop C. Double-acting cylinder reversing loop D. Single-acting cylinder speed control loop E. Double-acting cylinder on-way speed regulation loop F. Double-acting cylinder both way speed regulation loop G. Speed changing-over loop H. Buffering loop I. Twice pressure control loop J. Counting loop K. Delay loop L. Overload protection loop M. Interlocking loop N. Single cylinder single reciprocating control loop O. Single cylinder continuous reciprocating action loop P. Double-cylinder sequential action loop Q. Double-cylinder synchronization action loop R. Unloading loop S. Joint gate type shuttle valve application loop T. Rapid escape valve application loop U. High-and-low pressure exchanging loop V. Linear-motion cylinder and angle-motion sequential action loop W. Multiple cylinder sequential action loops 	THEORY/PRACTICAL		
		Performing practical exercises	XK-QD2 PENUMATIC TRAINING BENCH & EXERCISE BOOK	20 -hours
			TOTAL DURATION OF COURSE	40-HOURS

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