Pneumatics Simulation Software (LVSIM®-PNEU)
6485-00
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General Description

The Pneumatics Simulation Software (LVSIM®-PNEU) from LabVolt was replaced by FluidSIM, the world's leading circuit diagram design and simulation program for pneumatics, hydraulics, and electrical engineering.

- FluidSIM

Click on the link for more information about FluidSIM (topic coverage, license options, etc.) and download a demo version.

Please note that the license option listed below are shown for information purposes only:

Features

LVSIM®-PNEU enables students to perform the following tasks using a computer:

- Install, move, and remove pneumatic components and electrical control devices.
- Modify or remove connections at any time.
- Zoom in or out to adjust the view.
- Perform flow, pressure, force, velocity and rotation speed measurements.
- Observe motor rotation as well as the extension and retraction of cylinder rods.
- Observe fluid flow inside pneumatic components.
- Save and restore equipment setups (including the virtual classroom laboratory environment).
Equipment Box Items

- The following components from the actual Pneumatics Training System are simulated in LVSIM®-PNEU:
  - Work Surface
  - Air Compressor
  - Conditioning Unit
  - Accumulator
  - Vacuum Generator
  - Directional Valve, Push-Button Operated
  - Flow Control Valve
  - Directional Valve, Double-Air-Pilot Operated
  - Directional Valve, Double-Solenoid Operated
  - Directional Valve, Single-Solenoid Operated
  - AND Function Valve
  - Shuttle Valve
  - Quick Exhaust Valve
  - Pressure Regulator
  - Single-Acting Cylinder
  - Double-Acting Cylinder
  - Bidirectional Motor
  - Air Bearing
  - Pressure Gauge
  - Flowmeter
  - DC Power Supply
  - Push-Button Station
  - Limit-Switch Assembly
  - Relay
  - Time Delay Relay / Counter
  - Pilot-Lamp Station
  - Pressure Switch
  - Magnetic Proximity Switch
  - Diffuse Reflective Photoelectric Switch
  - Loading Device
  - Tee

Computer Requirements

A currently available personal computer running under one of the following operating systems: Windows® XP, Windows® Vista, Windows® 7, and Windows® 8.

List of Available Training Systems

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<th>Model number</th>
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List of Manuals

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<td>Pneumatics (Instructor Guide)</td>
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<td>Virtual Laboratory and Equipment (User Guide)</td>
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Table of Contents of the Manual(s)

Pneumatics Fundamentals (Student Manual) (584196 (31290-00))

- 1-1 Familiarization with the Lab-Volt Pneumatics Trainer
- 1-2 Introduction to Pneumatics
- 1-3 Air Conditioning and Distributing Equipment
- 2-1 Pressure vs Force Relationship
- 2-2 Pressure vs Volume Relationship
- 2-3 Pressure Drop vs Flow Relationship
- 2-4 Vacuum Generation
- 3-1 Directional Control Valves
- 3-2 Directional and Speed Control of Cylinders
- 3-3 Cylinders in Series
- 3-4 Cylinders in Parallel
• 4-1 Indirect Control Using Pilot-Operated Valves
• 4-2 Pneumatic Motor Circuits
• 4-3 Pneumatic Motor Performance

Electrical Control of Pneumatic Systems (Student Manual) (584208 (31300-00))
• 1-1 Familiarization with the Equipment
• 2-1 Basic Electricity
• 2-2 Ladder Diagrams
• 2-3 Basic Electrically Controlled Pneumatic Circuits
• 2-4 Basic AND and OR Logic Function Circuits
• 3-1 Basic Memory and Priority Electropneumatic Circuits
• 3-2 Multi-Pressure Systems
• 3-3 Sequencing Pneumatic Circuits
• 3-4 Time-Delay Electropneumatic Applications
• 4-1 Pneumatic Actuator Deceleration Circuits
• 4-2 Counting of Actuator Cycles
• 4-3 Industrial Drilling System and Safety Circuits
• 4-4 Garbage Compactor Simulation Circuit
• 5-1 Troubleshooting Electrical Control Circuits
• 5-2 Troubleshooting Electrically Controlled Pneumatic Systems
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