

Hydraulics & Pneumatics

Electro Hydraulics: Lab 2

by

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Laboratory Description

- By the end of lesson, students should be able:
 - To study the double acting cylinder circuit and application
 - To familiarize with the electro-hydraulic circuit and components
 - To compare the hydraulic and electro-hydraulic system

Valve Manifold Drilling

A drilling process to drill a valve manifold. In this process, the vertical drilling is first conducted. Since the drilling axes are to intersect, the first operation need to be fully completed before the horizontal drilling started.

Instruction

1. Draw the hydraulic circuit diagram to represent the problem in Automation Studio.
2. Simulate the circuit to ensure the circuit is working .
3. Assemble the circuit at hydraulic workbench and run the experiment.

Discussion

1. How the simulation software helps you in design and assembles the hydraulics system?
2. Explain how the cylinder extend and retract, when the start button is pressed.
3. What are the safety precautions before starting this experiment?
4. List down and describe the other applications that used this system.

Discussion

- Describe how the electro-hydraulic circuit is working, when the start button is pressed.
- What are the differences between hydraulic and electro-hydraulic circuit?
- List down the advantages and disadvantages of electro-hydraulic system compare to hydraulic system.
- In your opinion, which system is more practical to be used in industries that run 24 hours per day? Give your justifications.

Conclusion

- Conclude what you have learn in this laboratory