

Hydraulics & Pneumatics

Basic Hydraulics: Lab 1

by

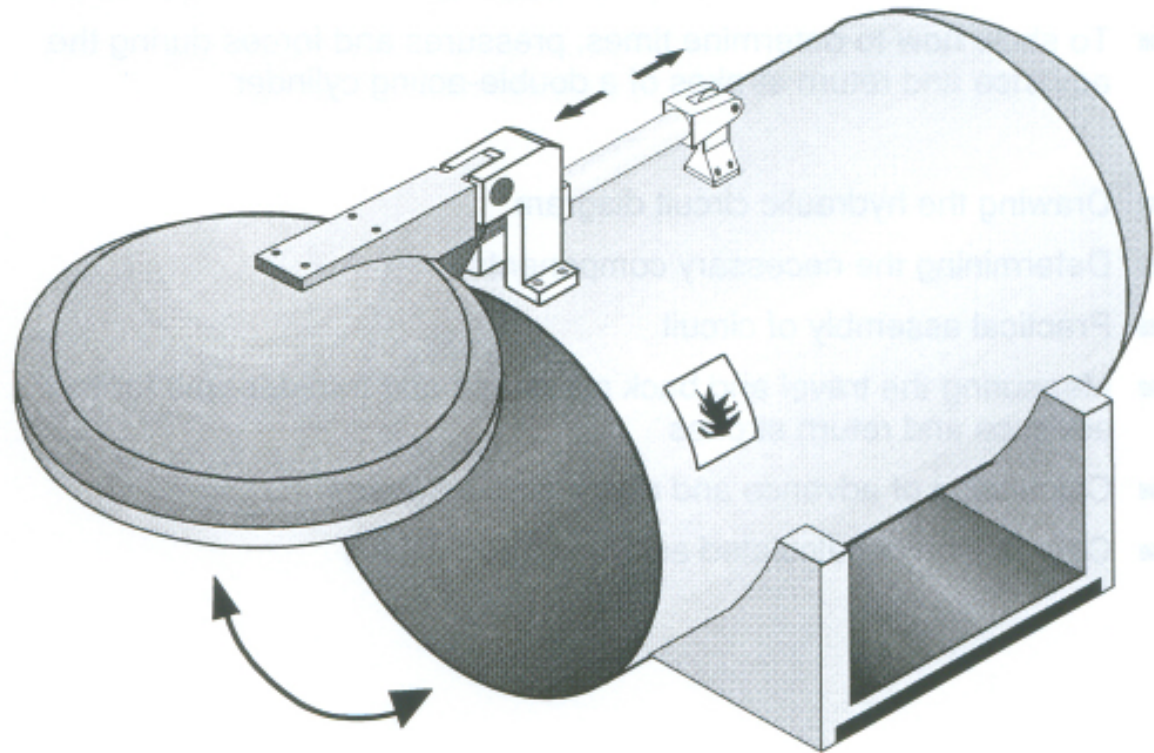
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Laboratory Description

- By the end of lab session, students should be able:
 - to study the double acting cylinder circuit and application
 - to familiarize with 4/2 or 4/3 way valve
 - to familiarize with assembly of hydraulic components

Furnace Door Control

- A furnace door is opened and closed by a double acting cylinder. The cylinder is activated by a 4/3-way valve.



Source: Aheimer and Ebel

Aheimer, R., Ebel, F. (2015), Hydraulics Basic Level Workbook, Festo Didactic GmbH & Co.

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.

Conclusion

- Conclude what you have learnt in this laboratory

Reference

- Aheimer, R., Ebel, F. (2015), Hydraulics, Basic Level Workbook, Festo Didactic GmbH & Co.