



## Introduction

Building a mini-industry plant with a full control capability, to show students and new employees how the plants work and how to connect instruments. As well as showing them how to program the controller to achieve specified setpoints.

## Specifications and Constraints

### Target Specifications:

- The tanks have a volume of 30,000 cubic cm.
- The flow rate to the tanks is 7.6 liters per minute.
- The mixing process takes approximately 1.19 minutes.
- It takes 10 minutes to heat the water in the tanks to a temperature of 40 degrees Celsius.

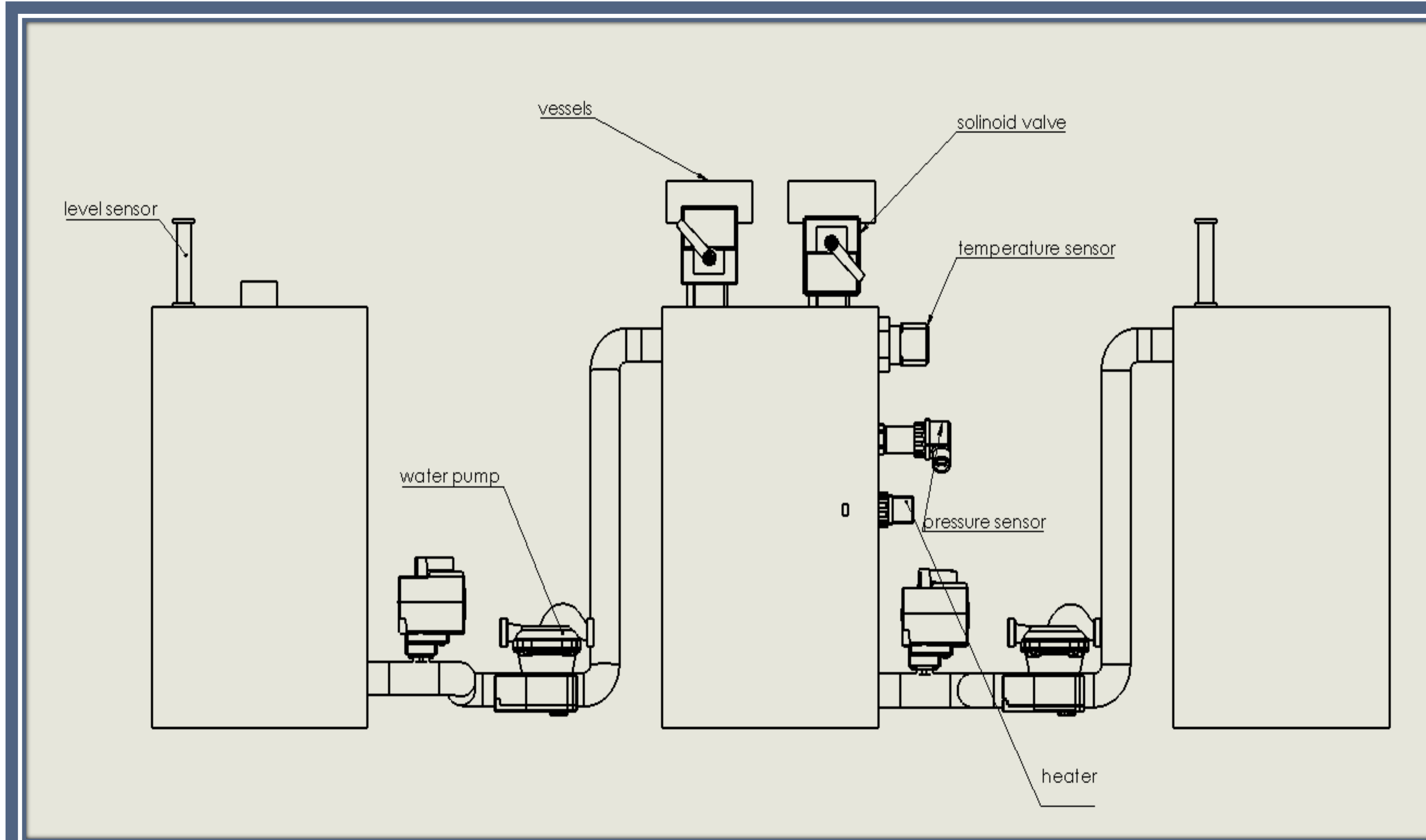
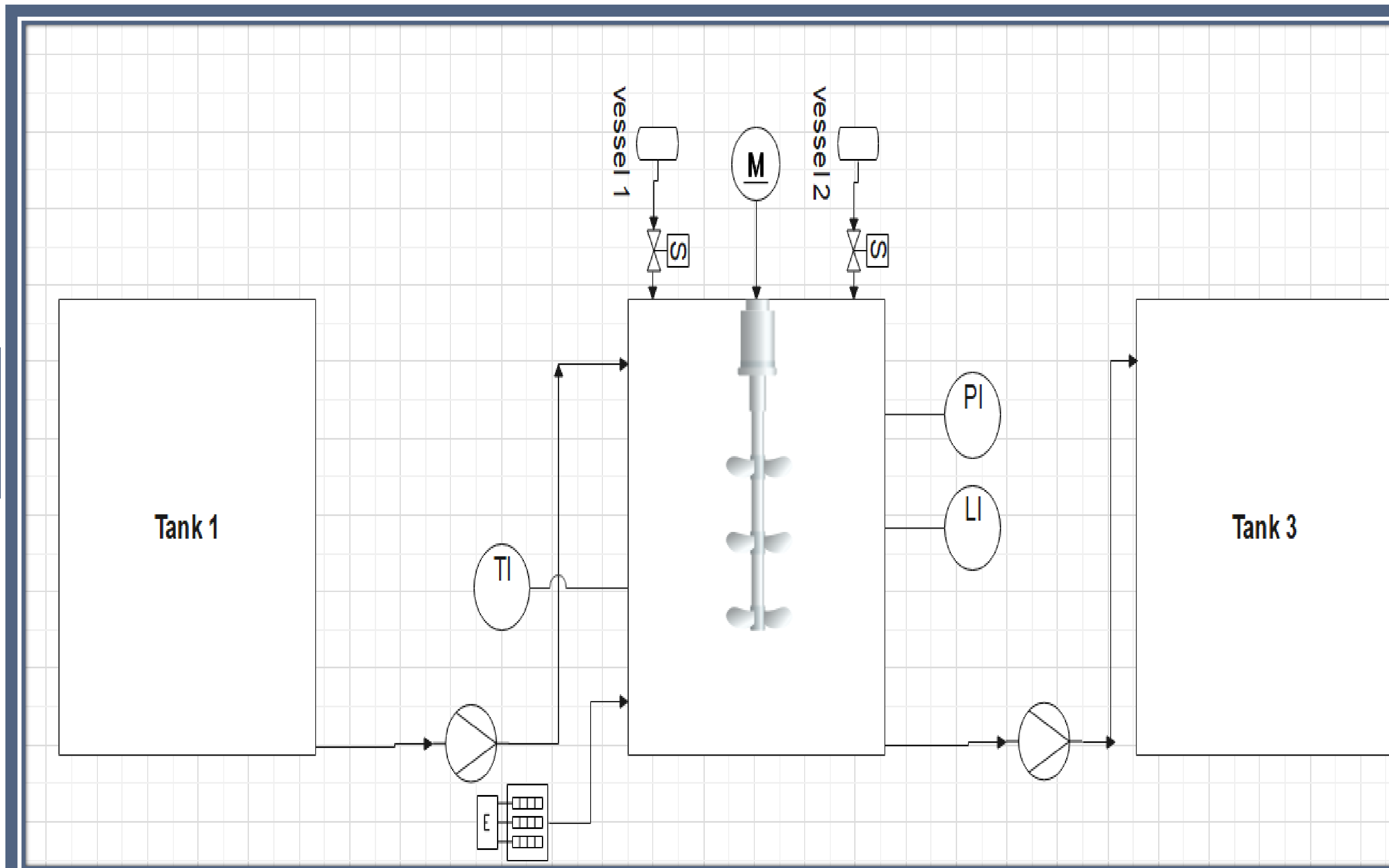
### Constraints:

- The plant size is limited by the size of the doors on campus.
- The plant does not use any chemical substances in the interest of safety.
- The plant only carries out a partial process.

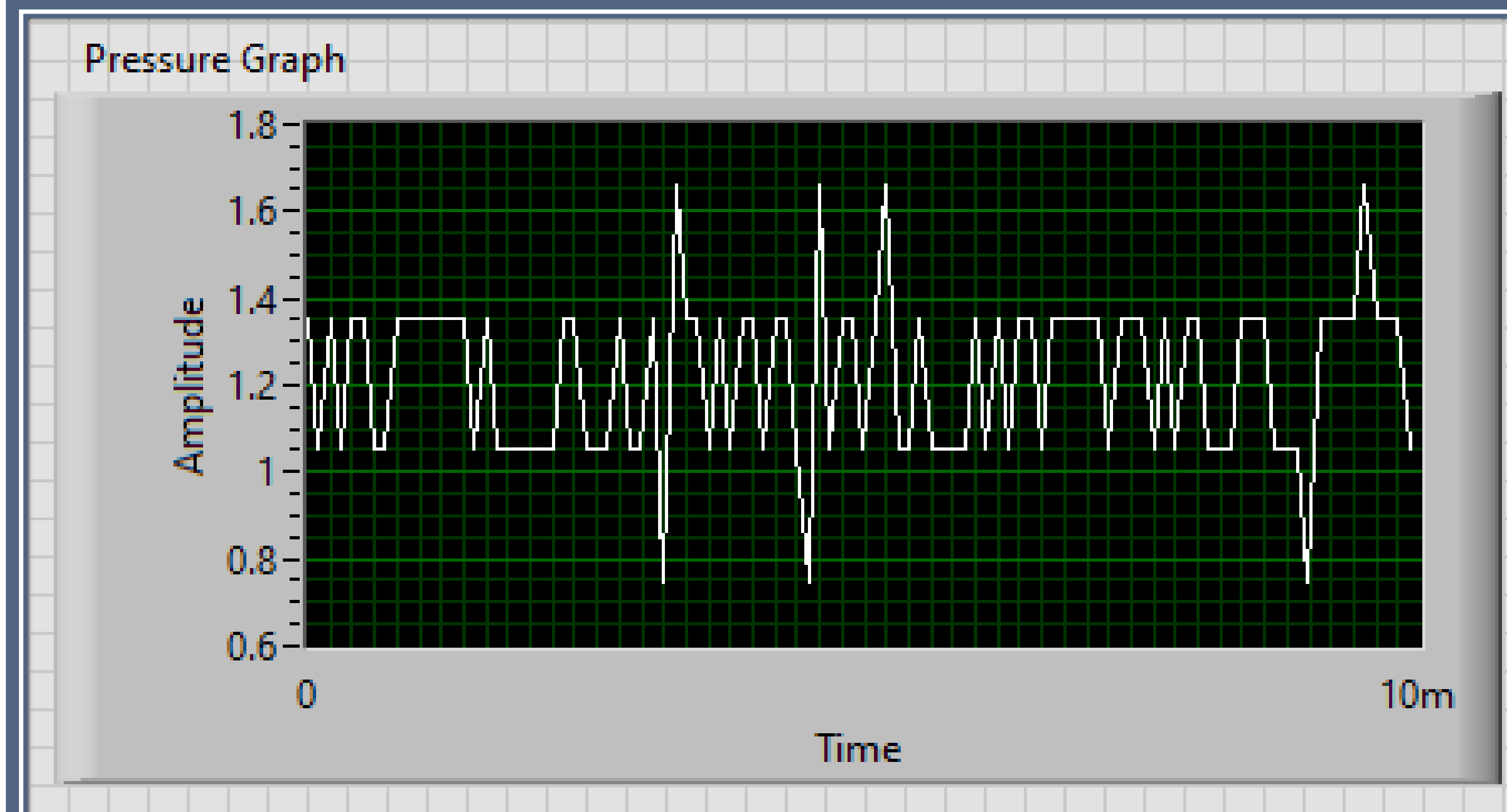
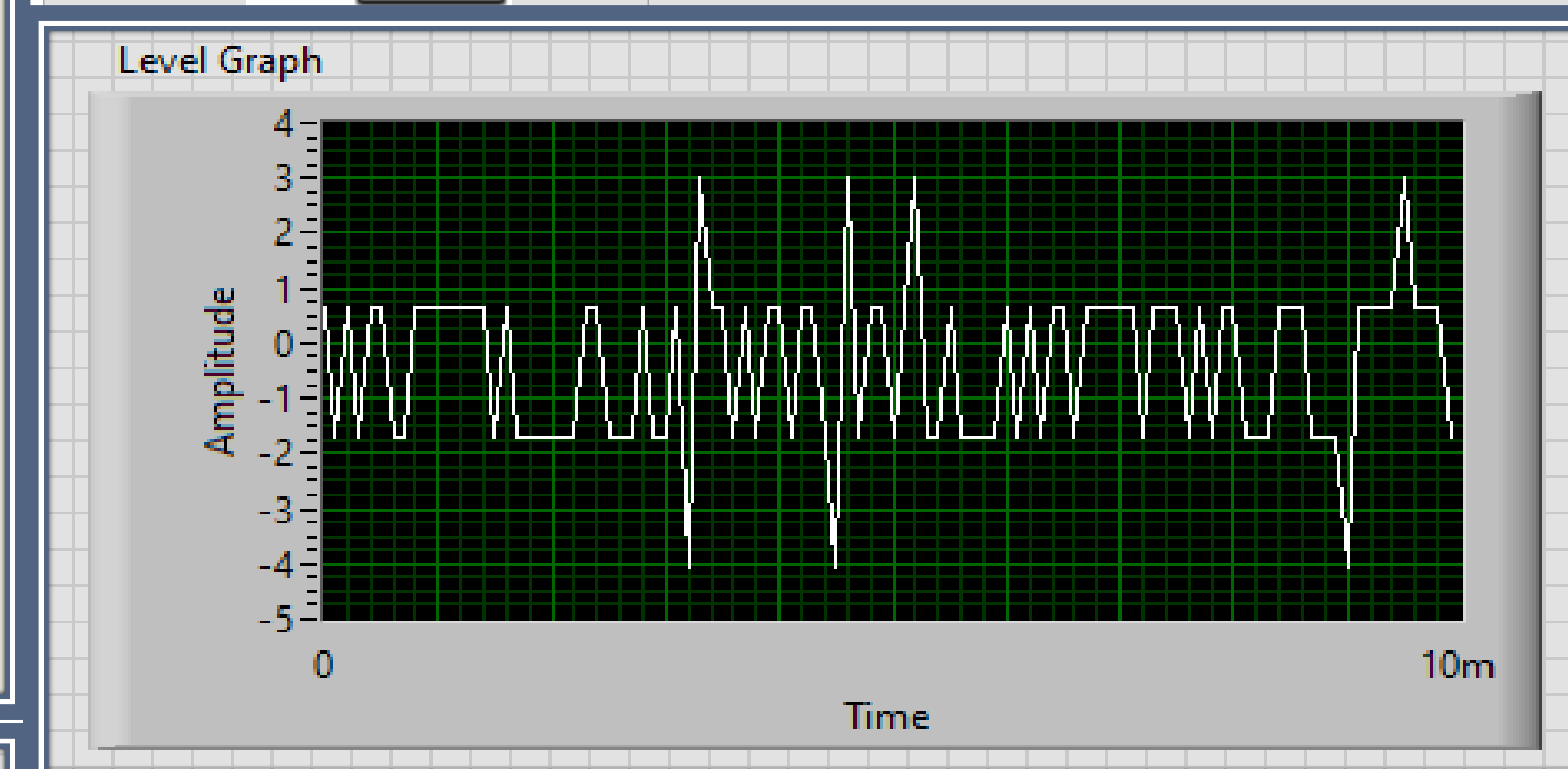
## Manual book



## Process Design & Analysis



	Temperature sensor
	Pressure sensor
	Level sensor
	Solenoid valve
	DC motor
	Electric heater



## Conclusions

This kit is an educational tool for industrial plant students and new employees. It provides a comprehensive understanding of industrial plant operation, including connections, process control, and visualization. The P&ID feature helps reduce errors and improve efficiency in plant design. Overall, the kit is a significant contribution to industrial plant education.