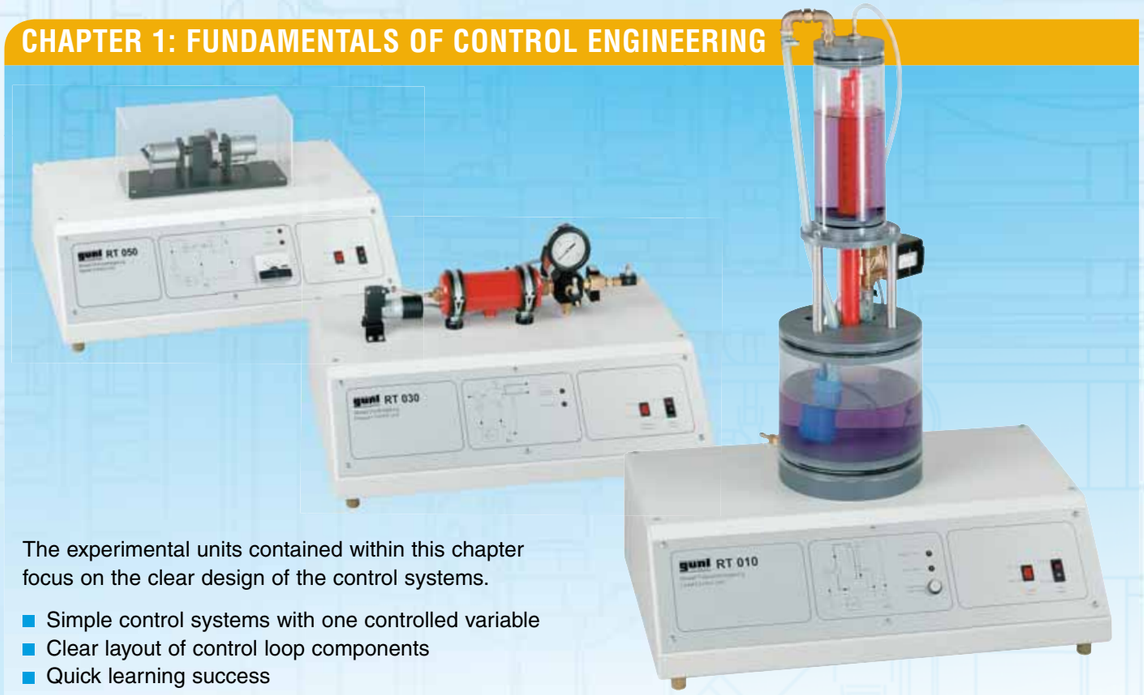
THE GUNT LEARNING CONCEPTS IN PROCESS CONTROL ENGINEERING

CHAPTER 1: FUNDAMENTALS OF CONTROL ENGINEERING



The experimental units contained within this chapter focus on the clear design of the control systems.

- Simple control systems with one controlled variable
- Clear layout of control loop components
- Quick learning success

CHAPTER 2: COMPONENTS AND CALIBRATION

The units dealt within this chapter focus on the individual components of control loops. The transmission behaviour of each component can be investigated in isolation. This quickly identifies the suitability of components for particular applications.

- Separate investigation of individual control loop components
- Familiarisation with standard pneumatic and electrical signals
- Calibration of control loop components

CHAPTER 3: SIMPLE PROCESS ENGINEERING CONTROL SYSTEMS

Much emphasis was placed in the use of industrial components in the development of these control systems, so as to enhance the practical relevance. As in chapter 1, clarity is ensured through the use of simple control systems. The components can be visually identified easily and assigned to their respective functions.

- Response of simple, real-world control systems
- Operation and parameterisation of industrial controllers
- Interconnection of controllers with bus systems

CHAPTER 4: COMPLEX PROCESS ENGINEERING CONTROL SYSTEMS

The practical relevance of the process under control was the principle consideration in the development of these units. These are typical process engineering applications. In practical industrial processes, more than just one variable is usually controlled. Often multiple controlled variables influence each other. This chapter deals with such application-oriented tasks.

- Typical applications in process engineering
- Processes involving multiple controlled variables
- Using a PLC