

CHAPTER 2

WATER QUALITY ANALYSIS: PHYSICAL PARAMETER

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WATER QUALITY ANALYSIS FOR PHYSICAL PARAMETERS

Water quality monitoring is a fundamental tool in environmental management as it provides evidence to support decision-making on health and environmental issues. Water quality refers to the physical, chemical, and biological characteristics of the water. Water quality information will help in the assessment of the current condition and patterns over time and space to understand and manage factors that influence water quality.

In this chapter, the physical parameters included in water quality monitoring will be discussed. A physical parameter is one of the essential criteria for water quality analysis. There are 21 physical parameters for water quality monitoring [1]. But this chapter will selectively only discuss seven parameters for water quality sampling: pH, temperature, turbidity, total dissolved solids, total suspended solids, conductivity, and salinity. Most of the physical parameters for water quality are analysed in situ using portable instruments or by collecting samples for laboratory analysis.

MULTI PROBE SYSTEM

Multi Probe System is a system that provides the user's flexibility and cost-effectiveness for multiple measurements by using only one probe. One of the common multi-probe systems is the YSI 556 Multi Probe System. The YSI 556 Multi Probe System is capable of measuring five physical parameters, which are pH, temperature, conductivity, salinity, and total dissolved solids, and its features are shown in Figures 2.1 and 2.2.

This instrument is capable of giving real-time data by dipping the probe directly into the water. Below are the steps on how to run the real-time data of the instrument [1]:

- 1) Press the **ON/ OFF** key or select **RUN** from the main menu to display the **RUN** screen.
- 2) Make sure the probe sensor guard is installed.
- 3) Place the probe module in the sample. Be sure to completely immerse all the sensors.
- 4) Watch the readings on the display until they are stable. All parameters may be enabled at the same time.

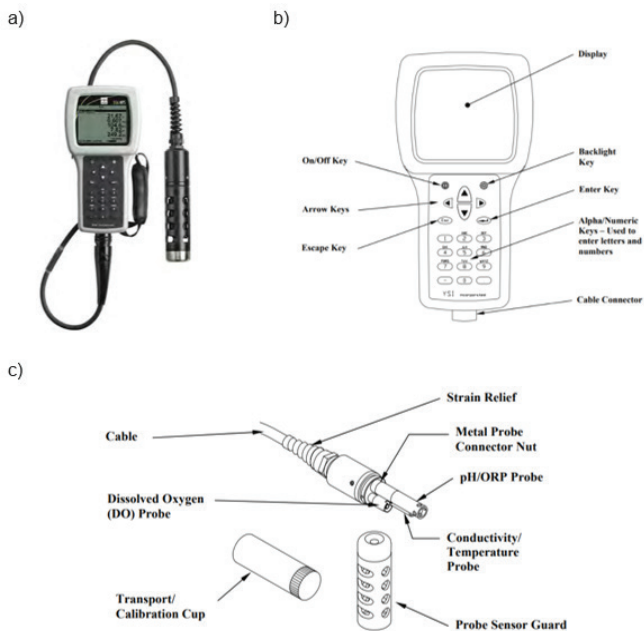


Figure 2.1: a) YSI 556 Multi Probe, b) features of 556 YSI Multiprobe System and c) features for 556 YSI Multiprobe [1]