

### PHYSICOCHEMICAL LABORATORY EQUIPMENT AND USES

S/N	PC LABORATORY EQUIPMENT	USES
1.	Water Distiller	It is used to purify water used for laboratory analysis by removing more than 99.9% of contaminants, including chemicals, heavy metals, microorganism and sediment.
2.	Muffle furnance	It is used for ashing. During ashing, a sample is heated to leave only noncombustible ash. It gives an idea of the minerals like calcium.
3.	Fume Hood	It is a ventilation unit that helps to prevent the release of hazardous substances or toxic fumes, vapors into the laboratory during pre ashing, heating of samples and preparation of reagents.
4	Hot plate	It is used in the physicochemical laboratory as a heat source that can uniformly heat solutions and materials.
5	Centrifuge	It is used to separate various components of a solution. It is particularly used for milk analysis; determination of solubility index for milk and coffee sediments.
6.	Water activity meter.	This instrument is used to measure the unbound water vapor pressures in samples to determine microbial spoilage, chemical and physical stability.
7.	Moisture analyzer.	It is used to determine the moisture content in various types of samples including solids and liquids.
8.	Weighing scale	It is used to accurately measure the mass of a sample during laboratory analysis.
9.	Jolting meter	It is used to determine the tapped density of diverse amounts of a given sample. Particularly for solid samples.
10.	pH meter	It an electrical device used to measure hydrogen-ion activity (acidity or alkalinity) in sample solutions.
11.	Sieve shaker	It is used in the determination of particle Size distribution of given sample. i.e separation and size determination of particles.

12.	Solubility index mixer	It is a precision stirrer used primarily in determining the solubility of dry milk powder and sweet whey powder.
13.	Refractometer (brix / Nacl)	It is used to determine the concentration of salt / sugar content in a given solution.
14.	Density Meter	It is used in measuring the density of liquid samples. e.g Palm Olein (vegetable oil)
15.	Chromameter / spectrophotometer	It is used to measure the colour of samples. Solid / liquid. It determines the concentrations of primary colours within a sample to create an exact colour signature.
16.	Dessicator	This is an airtight container used for storage of moisture sensitive samples, standards and for applications requiring weighing to constant weight. This helps to prevents samples/ glasswares from absorbing moisture from the environment.
17.	NIR Proximate	Used in proximate analysis of milk to determine fat, moisture, protein, ash, lactose, sucrose and total carbohydrate content.
18.	Neogen Raptor	It is used to quantitatively determine the levels of aflatoxin content in ppb of a test sample and provides unparalleled accuracy in only 6 minutes.
19.	Sinkability clamp	It is a customized device used to measure the sinkability/wettability of milk powder.