

Food Industry

Koehler Instrument Company's line of analyzers for the food and beverage industry can be used to test the quality, integrity, flavors, and appearance of liquid, semi-solid and solid food samples. Please inquire with your Koehler Sales Representative to learn more about our food analyzers and how they can provide a solution for your specific application. Or visit our website at www.koehlerinstrument.com to find detailed specifications on each of the products you see listed here.

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Colorimeter

Color and appearance are the most critical components of a consumer's first impression to a food. It is no surprise colorimetry is a crucial test in the food industry used for color measurement, color matching, and color formulation. Colorimetry is used mainly for quality control and describes a variety of factors in a product including taste, nutrition, ripeness, spoilage and shelf life. The Koehler K13560 makes testing easy with a 7 inch high resolution touch screen, automatic zero calibration programming and automatic cuvette recognition. The unit comes standard with a modern user interface in 16 different languages and has two USB ports; one for PC connection and a second for either printer, keyboard or memory stick connection. The Koehler Automatic Colorimeter can measure the following scales used in the food industry: CIE Lab, Hunter-Lab Color Scale, APHA Color Scale, Edible Oil Color Scale, Hazen Color Scale, and Fat Color Scale.

Potentiometric Titrator

The Food and Beverage Industry commonly utilizes titration techniques for regulatory requirements and quality control. Some of the regulatory requirements on the food industry include the Nutrition Labeling Education Act and the Enrichment Flour Law. The Food and Beverage Industry utilizes titration to help regulate taste, nutrition, texture, appearance and stability of the food. Acidity in foods is a major contributor to how bitter a food or beverage will taste. By performing an acid-base titration, food and beverage manufacturers are able to measure the amount of acid in their product and in turn be able to regulate the flavor of the product. Koehler's Automatic Potentiometric Titrator is able to perform a wide range of titrations including acid-base or aqueous titrations, redox titrations, complexometric titrations or EDTA titrations, Blank Titrations, Silver Assay Titrations, Non-aqueous titrations, Argentometric or Precipitation titrations, and Back Titrations.



Refractometer

Refractometers measure the refraction of a beam of light in a fluid to determine the concentration of a substance dissolved in it. It is a useful property for concentration measurements, purity determinations and chemical identification. The Koehler Refractometer has been used to test some of the following products: Seed oils • Juices • Teas • Soy bean oils • Juice concentrates • Sodas • Candy • Fruit products • Sauces • Syrups • Confections • Soups • Dairy products • Starch • Jams • Edible oils • Milk • Jellies • Coffee extracts • Hydrolysis products • Soft drinks • HFCS • Vegetable products

Centrifuge

The Koehler Centrifuges are built to last with a strong construction and a sleek modern design that will fit into any modern laboratory. We offer a wide selection of rotor and size options to fully customize the centrifuge to your laboratory needs. Designed with Analytical Laboratories in mind, and specifically for use in Food Testing and Laboratory Analysis, our 1L to 4L centrifuges offer flexible and efficient sample processing with the ability to spin more samples in a single run while maximizing critical lab space. These Centrifuges are ideal for Nutritional Analysis, Food testing Analysis, Microbiology Analysis, Chemical Testing Analysis, plus many more applications.



Extraction Equipment

Extraction processes are used to separate soluble components from a solid sample. In the food industry, extraction methods are mostly used to determine the fat content in foods. Both Raw Fat Determination and Total Fat Determination can be performed with the wide selection of extraction units that Koehler has to offer. The Koehler extraction line consists of Soxhlet Extraction, Randall Hot Extraction, and Twisselmann Gentle Hot Extraction systems. All three types of extraction apparatus come in a wide variety of options to create a solution that is ideal for your laboratory testing needs.

Kjeldahl Determination

Kjeldahl analysis is the worldwide method used for determining total nitrogen and crude protein calculation in many different applications including the food and beverage industry. Kjeldahl Analysis is a three step process with the main steps being Digestion, Distillation, and Titration. Koehler offers products for all 3 steps with different levels of automation, sample capacity, and sample volume depending on your budget and testing needs.







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Penetrometer

Consistency or hardness is one of the most important properties of any semi solid material. A semi-solid material's consistency is the degree of resistance to movement by an applied force. Penetration is the measure of consistency in tenths of millimeters. This concept is now used effectively for quality control of semi-solid substances in the food industry. The Digital Penetrometer is a useful tool for maximizing the performance of semi-solid products. The wide range of accessories, such as needles, cones, and plunger assemblies enable you to develop your own test methods for your special products. Below is a list of some applications and the different accessories that can be used.



Material	Test Methods	Description of Penetrator	Shape
<ul style="list-style-type: none"> * Chocolate * Confectioneries * Yeast 	ASTM D5 DIN 52010 IP 49	Standard Needle (2.5 g) * Stainless Steel * S. S. w/. Brass ferrule * S. S. w/. S.S. ferrule	
<ul style="list-style-type: none"> * Fats (small quantity) 	ASTM D1403 IP 310 DIN 51804 Part 2	Quarter-Scale Cone * Aluminum (2.48 g)	
<ul style="list-style-type: none"> * Jam * Marmalade * Ketchup * Mustard * Fruit Penetration 	ASTM D217 IP 167 ISO 2137	Solid Cone * Magnesium (102.5 g) * Brass (102.5 g)	
<ul style="list-style-type: none"> * Edible Fats * Butter * Margarine * Confectioneries * Candy 	AOCS Method (Cc 16-60) AACC 58-14	Aluminum Cone (45 g)	

Glassware

Koehler also provides calibrated thermometers, hydrometers, and a wide array of glassware specifically suited for a food testing laboratory.