

new products

Electronic particle counter



Flexibility is the word to describe a metallurgical research tool that can also be used for such diverse functions as counting cancer cells, bacteria, mineral and powder grains, air pollutants, and determining the sizes and shapes of pigments and particles that make up plastic and paint.

Called the electronic particle counter, the device employs a 300-power microscope that can count thousands of particles at speeds previously unattainable. The counter can be used with or without the microscope, depending on the size of the particles.

The microscope gets a field of vision; then a closed circuit TV camera scans the surface under view. The camera looks at particles of varying shades of light and dark. The observer selects the particular particle—and its shade of gray—that he is interested in. The shades are transmitted as electronic impulses to a counter linked to a computer, which records the number of particles.

The counter can handle photographs and slides as well as three-dimensional objects.

Reynolds Metals Co.

Circle No. 118 on Reader Service Card

Marine thermometer system

Researchers in field studies of limnology and oceanography need to know the subsurface temperature of water as accurately as possible. A portable transistorized instrument that measures marine temperature to within 0.1 degree C. has been developed to provide laboratory quality performance in such field investigations. It includes a read-

out module and control panel in a steel carrying case, a temperature probe and cable. The temperature probe is a calibrated glass bead thermistor and the standard depth rating is 300 meters. This unit is a first of a series of interchangeable modular instruments designed for basic underwater measurements.

Martek Instruments, Inc.

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Frost-control biological freezer

A problem with upright freezers is that when opened heavier, cold air tends to spill out of them. As a result, warm, moist air enters, the motor works harder and excessive frosting often results.

When this frosting occurs in upright biological storage freezers, it can produce overfreezing, which can damage stored blood or other delicate biological specimens. To prevent this, a freezer has been invented that minimizes the temperature loss by its quick recovery to the preset temperature and by deposition of the frost on the walls and shelves instead of on the biological materials. This is accomplished by the use of individual freezing shelves and walls through whose hollow interiors the refrigerant runs.

As an added feature, heated rubber gaskets, or strips, run around the inside of the door. The heated gaskets prevent frost from building up there and ruining the airtight seal between door and freezing chamber. The freezer can get down to minus 40 degrees C. and minus 85 degrees C. in two stages by the use of two compression motors.

Harris Manufacturing Co.

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Infrared meter

Spectrophotometers are valuable instruments for determining the composition of substances. They work by impinging short wavelengths of radiant energy, such as infrared waves, on a compound and measuring the energy that comes back or passes through it. The shorter the wavelength, the more accurate the instrument will be since longer wavelengths are more likely to miss small details.

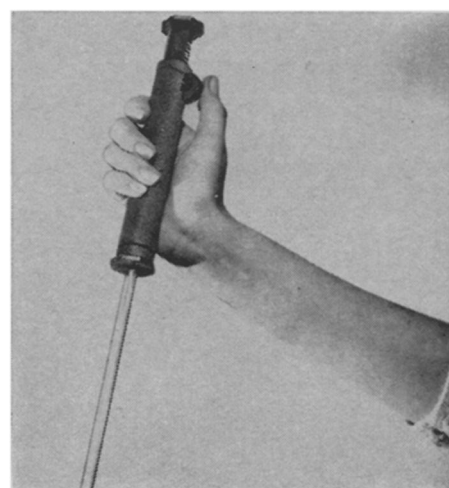
A grating spectrophotometer has been developed that gets up to 70 waves per centimeter in the infrared range. This enables the instrument to work in the very-far-infrared range, where

ordinary spectrophotometers perform less favorably. The grating acts in the same way a prism does: it breaks up light. The grating itself is composed of small ridges that produce the short wavelengths.

Beckman Instruments, Inc.

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Pipetting device



A micropump pipetting device made of polyethylene simplifies pipetting liquids, including corrosive and toxic materials, for the laboratory worker. Pipettes fit easily into the unit, which is equipped with an adjuster that allows the user to preset the stroke of the plunger and dispense precise doses.

Bel-Art Products

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Pocket coating gauge

A quick, easy way to measure the thickness of coatings on ferrous metal surfaces has been devised. Resembling the pencil-like gauge for measuring air pressure in tires, the instrument works on a pulling rather than pushing principle. A spring in the gauge is calibrated against the pull of a known magnetic force. Thus, how far it is stretched depends on the thickness of the coating between the instrument and the metal surface. A scale reflecting this relationship between magnetic pull and intervening distance is then easily set up.

Zormco Electronics Corp.

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