

# EQUIPMENT

## Sanitary Pumps

The Tri Clover Machine Co. is offering a complete line of corrosion resistant sanitary and industrial pumps. According to the manufacturer, the pumps have fast, nonclogging, centrifugal action with special seals available for various requirements.

The Tri Clover pumps are designed to give efficient transmission with low maintenance cost. Features of the series include: screw-type impellers with sanitary impeller clips, inert carbon seals easily removable for cleaning, lightweight heads, and a casing construction which permits fast, easy pump assembly or disassembly. **E1**

## Transistor for Motor Applications

General Electric has recently designed a rectifying device based on the germanium transistor which will operate a d.c. motor directly from an a.c. power supply. The transistor rectifier is about a fourth the size and more efficient than other rectifiers with similar ratings, GE

claims. A unit for a 0.5 hp. motor is small enough for direct application on the d.c. motor and can be incorporated economically into industrial variable speed motor drives.

At present, the company plans to produce the germanium rectifiers on orders for specific applications. Eventual plans are for production of a line of units with standardized ratings. **E2**

## Electronic Mass Flow Meter

A gravimetric flow meter, designed originally for measuring flow of jet fuels, has possibilities for use in other industries as well, according to its developers, the Gavco Corp. subsidiary of General Aviation Corp.

A midsize electronic device, the Gavco gravimetric flow measuring system, measures the flow in gallons and then automatically compensates for the fluid density, producing a continuous pounds-per-hour dial reading. Density variations are measured within 1% and the volume sensing element measures rate to 0.5%.

Gavco engineers suggest that it could be used in filtration, extraction, and

other processes where critical ratios of solvents to product or other process proportions must be continuously and accurately controlled through a series of steps. It is also of possible use in product classification where density is a factor in quality grading and in bulk storage, loading, and interchange where daily changes in temperature affect fluid density. According to the company, the unit has potential use for the dairy industry, which could use it to measure butter fat by pounds instead of by volume.

Component parts of the unit weigh less than 8 lb., occupy about 0.2 cu. ft., and require about 3.5 in. of line space. **E4**

## Continuous Extraction of Organic Salts

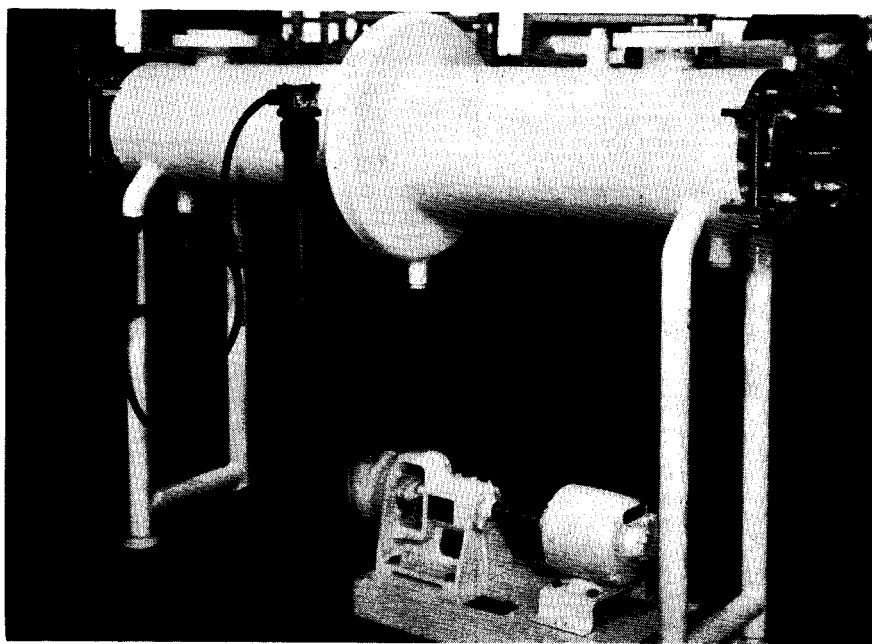
Scientific Glass Apparatus Co. is manufacturing a continuous extraction apparatus for the determination of salts of organic bases and acids. The device is known as the Schmall apparatus.

According to the manufacturer, the technique employed eliminates many hand operations. The new procedure not only facilitates sample preparation, but, in addition, extraction is automatic, washings are eliminated, and labor costs of analyses are reduced. When used in conjunction with titrations in non-aqueous media, transfers can be eliminated and sharper end points can be obtained, it is said.

Results obtained with the Schmall technique are said to show good agreement with the U. S. Pharmacopoeia. The method may be applied to bulk products and the apparatus can be used for direct saponification and extraction without transfer. **E5**

## Heat Exchanger for Dairy Products

A sanitary stainless steel shell and tube heat exchanger developed by the Pfaudler Co. for heating or cooling fluid dairy and beverage products. Any of the commonly used mediums for heating or cooling can be circulated within the outer jacket which is rated to withstand pressures of 75 lb./sq. in. The unit is manufactured in 12 different models with capacities from 1600 to 60,000 lb. per hr. A feature of the design, capacity of a given unit can be varied over a considerable range at low cost, by substitution of a different exchanger grid. Units are made up of 1-in. tubes and are completely open when the covers, at each end of the unit, are swung back, which makes for ease of cleaning **E3**



## Storage Tank for Milk

A rectangular, glass lined storage tank for milk has recently been developed by the Pfaudler Co. The manufacturers claim the principal advantage of the rectangular tanks is in space savings—up to 40% in floor space compared with the usual cylindrical tanks. In the same manner it is possible to increase capacity by 60% with a given amount of wall area.

The rectangular tanks are about a foot narrower and up to two feet narrower than cylindrical tanks of the same capacity. Other advantages claimed for the tanks are: easier cleaning, more efficient agitation, faster cooling and more convenience in placing of fittings. **E6**

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