WHAT'S NEW

This listing is intended only as a service to the reader by calling his attention to items of possible interest. No endorsement should be inferred. Item numbers correspond to numbers on the READER SERVICE CARD.

31. A new radioistope **glovebox** made of corrosion-resistant, chemically inert fiberglass, has been developed by LABCONCO, Kansas City, Mo. The nonporous, porcelain-like surface and the gently coved one-piece interior of the fiberglass glovebox eliminate the collection of contamination or residue. Equipped with an interchange box featuring a unique inner door that unclamps easily and moves upward out of the way, the glovebox is also equipped with a variable speed blower, two filters, and a manometer. The unique air flow pattern, with 27 inlet holes across the lower back and 60 outlet holes across the top front, gives complete air changes inside the box with virtually no turbulence. The filters remove 99.97% of all particles 0.3 μ or larger.

32. A newly designed, high-temperature **research furnace** has been announced by Lindberg Hevi-Duty, Division of Sola Basic Industries, Watertown, Wis. The furnace system has been engineered to meet critical research and pilot-plant demands in high-temperature metallurgy, ceramics, chemical processing, electronics, and aerospace. Temperature profiles of $\pm 1/2°$ C over 22 in. in a range from 800 to 1300° C are guaranteed within the 36-in. furnace chamber along with excellent process repeatability. The furnace features a completely solid-state control device incorporating automatic reset on all three zones of the furnace. This control has a four-figure master digital controller on the center zone with micrometer-dial end-zone controls, calibrated in increments of 1/10° C. There are no moving parts in the measuring or controlling functions. The furnace has double-shell construction and includes both fan and water cooling. Shell temperature is maintained at a maximum of 30° C above ambient.

33. A new bi-metallic metal-to-metal **ring seal** has been developed and patented by Del Manufacturing Company, Los Angeles, Cal., for efficient, low-cost sealing of liquids and gases. The new ring seal is efficient and economical for cryogenic, vacuum, and high pressure/temperature applications. Soft, ductile copper cladding of the 300 Series stainless-steel inner O-ring assures a thick, permanent soft jacket for sealing purposes. A unique sealing tread is achieved by extruding the cladding into a "high stress" area which is the first point to make contact with the flanges when they are closed. The oval shape of the new DEL 'O' Val Ring Seal is important because it provides high initial unit loading, a self-pressurization feature, and desirable geometry for maximum springback. These seals are available in all standard fractional diameters ranging from 1 to 10 in., and will function properly in flanges prepared for all-metallic O-rings.

34. A beta and alpha **counter** of revolutionary simplicity and ruggedness has been announced by Pilot Chemicals, Inc., Watertown, Mass. Utilizing thin plastic phosphors to reduce background to very low values, the new device has eliminated intricate anticoincidence circuits, shielding, and the need for gas counting. Solid-state circuits and proven components are said to ensure reliable maintenance-free operation anywhere. The low-activity counter was especially engineered for use in remote spots, rural areas, and field stations for long periods without maintenance.

35. A newly designed, versatile **pH-to-current converter** has been introduced by The Foxboro Company, Foxboro, Mass. This all-solid-state converter can be field or surface mounted. Its high impedance makes it compatible with virtually all industrial pH electrodes. The instrument accepts the dc millivolt electrode signal and converts it into a proportional 10 to 50 mA output current compatible with electronic receivers and controllers. Spans of 2 pH minimum and 14 pH maximum may be placed within the converter's range limits of -2 to 16 pH units. This adjustment may be made at the front of the instrument with a screw driver. The instrument is available as a blind transmitter or as a meter calibrated in pH units. It is designed for either manual or automatic temperature compensation—a conversion that may be accomplished in the field by positioning of a switch. Accuracy is $\pm 0.25\%$ of span. Repeatability and sensitivity are 0.1 and 0.01% of span, respectively. A test jack is provided on the front of the converter for accurate monitoring of the instrument's output signal during calibration.

36. The Hamner Electronics Company, Princeton, N.J., has announced a new **single-channel pulse-height analyzer** which, in addition to the standard E and E discriminators, incorporates an internal E/2 discriminator that splits the window into an upper and lower half. Once the window is set to straddle a spectral peak, any difference in the number of counts coming into the upper and lower half of the window causes a signal to be sent to the high voltage supply, which changes the voltage applied to the detector and thereby compensates for the change in the gain. The range of gain changes that may be compensated for by the unit has been limited to that represented by 50 V of high voltage or an amplifier drift of a factor 1.5 to obtain an overall gain stability of 0.1%. A null meter is provided to simplify "tuning into" the spectral peak and to indicate the magnitude and direction of any correction.

37. A new **vacuum gauge** from Amlab, Inc., Rahway, N.J., utilizes matched thermistors to measure vacuum in the range 2500 to 1 μ with accuracy to 1% of full-scale deflection. A built-in jack for recording the 1000-mV signal is provided. The gauge is said to eliminate errors found in Pirani gauges: It does not oxidize, corrode, or change in calibration; it is not affected by rapid changes from vacuum to ambient or vice-versa; and the probe is virtually unbreakable. The meter and all components are mounted on the back of the removable front panel for easy installation.

38. Nuclide Corporation, State College, Pa., has designed a **sample switching control** that claims to save isotope ratio measurers 50 to 70% of the time traditionally spent in manually switching between sample and standard. The new control unit, primarily designed for use in gas-phase isotope-ratio mass spectrometers, makes automatic simultaneous switching of gas sample and ion current ratio possible, permitting long periods of unattended ratio difference measurement by the mass spectrometer. Two timers are supplied, permitting one to record from 0 to 5 min of ratio trace for sample and ratio standard. After a predetermined ratio, the system automatically switches valves, releasing the other sample into the mass spectrometer. The timers are used in conjunction with two decade voltage dividers. Switches are provided for recorder input, for the decade voltage dividers, and for choosing between manual or automatic valve operation. The unit also has controls for equalizing sample pressures.

39. Amperex Electronic Corp., Hicksville, N.Y., offers a new member of a family of **small photomultipliers** utilizing a unique design specifically developed for small tubes. The new construction is essentially a geometry of hemispherical dynodes mounted between rugged ceramic bars and supported by rigid leads. The tube measures only 0.75 in. at its broadest diameter and only 4 in. in length, making it suitable for tight-fit applications such as medical probes, bore-hole logging, microscope-light-transmission measurement, narrow-light-beam investigations and high-density punched-tape or punched-card readout. The tube is also available in a rugged version for geophysical and missile applications.

40. A recent announcement by Thermal American Fused Quartz Co., Montville, N.J., describes a series of practical new pure fused quartz and pure fused **silica pipe joints.** According to the manufacturer, these conical (or Buttress) joints are ideal for joining quartz to quartz or quartz to borosilicate glass, metal, ceramics, plastics, etc. Conical joints of transparent pure fused quartz are manufactured in sizes to 2-in. i.d., and in opaque, pure fused silica in sizes 3- to 6-in. i.d. The clear fused quartz joints are equipped with gasket grooves, and opaque fused silica joints have precisely ground flat, butting surfaces without gasket grooves. Installation of either type is simple through use of available flanged-joint kits.

41. This **analog-to-digital converter,** available from Pastoriza Electronics, Inc., Newton Upper Falls, Mass., is a general-purpose high-speed con-

verter that operates at a rate of 1.5 μsec/bit and provides a ten-bit parallel binary output with 0.05% linearity. The basic chassis contains the converter, reference supply, power supply, neon indicators, front panel controls, and input/output connections on the rear. In addition to the basic components, the chassis contains ample extra space and power capability for additional logic and signal conditioning cards.

42. **Hastelloy pumps** have been added to the line of metallic chemical-process equipment produced by Union Carbide Corporation's Carbon Products Division, New York, N.Y. Available in Hastelloy alloys B and C, the 3600-rpm pump is of the vertical, line-mounted type. All wet-end parts of the single-stage centrifugal pump, including the solid shaft, are of Hastelloy. The motor can be detached and mechanical seals replaced without dismantling the pump. The pump has a nominal rating of 150 gal/min, 320-ft head, and is available with a 3-in. suction, 1.5-in. discharge, and with a closed impeller 6.5, 7.5, or 8.5 in. in diameter. Pumps and parts are available "off-the-shelf."

New catalogs or bulletins are available from the following manufacturers:

43. Allis-Chalmers, Milwaukee, Wis. —instrument and control switch catalog.

44. Ameray Corporation, Dover, N.J.—shielding materials catalog.

45. Atkins Technical, Inc., Gainesville, Fla.—four-page bulletin describing thermistor thermometers and temperature recorder drivers.

46. Beach-Russ Company, New York, N.Y.—vacuum gauge technical bulletin.

47. The Foxboro Company, Foxboro, Mass.—bulletin on the company's line of pneumatic and electronic analog-computing instruments.

48. William J. Hacker & Company, West Caldwell, N.J.—folder describing a cutoff machine for metallographic samples and a 12-page brochure giving specifications of a selection of 11 complete dilatometer installations.

49. Isotopes, Inc., Westwood, N.J.—three booklets: one on proportional counters; a second on solid-state detectors; the third on scintillation crystals.

50. Marman Division of Aeroquip Corporation, Los Angeles, Cal.—catalog describing self-restrained flexible joints.

51. Microscopy Laboratory of Applied Space Products, Inc., Palo Alto, Cal.—brochure describing details of electron-micrograph service.

52. Royson Engineering Company, Hatboro, Pa.—bulletin describing printing devices for automatic recording of time, date, and code information on strip charts.

53. United Kingdom Atomic Energy Authority, London, Eng.—catalog of radioactive products.

54. Carl Zeiss, Inc., New York, N.Y.—catalog on depth-measuring microscope.