

# New toploading balance is fast, accurate...yet **RUGGED!**

New Torbal ET-1 toploader (160g capacity, 1 mg accuracy) makes accurate weighing easier and more foolproof than ever before.

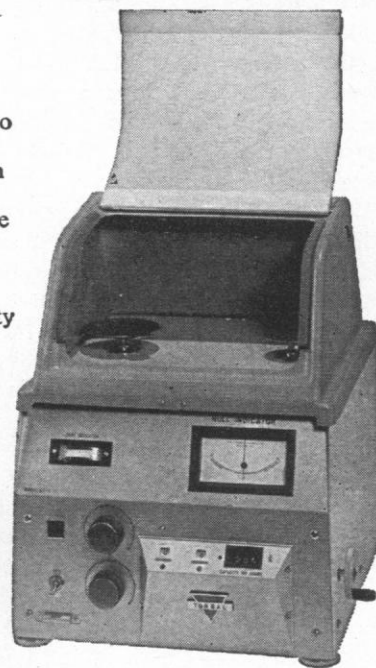
NEW EASE thanks to complete digital display without the use of optical projections or verniers to read, no estimating.

NEW EASE because the one piece construction of the exclusive Torsion weighing mechanism has no knife edges to chip, wear or collect dust—hence there's no loss in accuracy.

NEW EASE—thanks to the electronic null readout feature, the ET-1 is not affected by sensitivity changes—from temperature or humidity variations or effects of foreign matter or wear. As long as you can see the null needle move for a 1.0 mg weight change, then a difference of 1.0 mg in weight-reading means 1.0 mg—today, tomorrow, next month, next year.

NEW EASE because the ET-1's Torsion mechanism is far less affected by vibration than optical balances. You can use an ET-1 in conditions other balances can't take.

NEW EASE thanks to out-of-level accuracy. For minor changes in level of the ET-1, zero point does not change.



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**THE TORSION BALANCE COMPANY** Department S, Main Office and Factory: Clifton, N.J.; Sales Offices: Birmingham, Ala.; Chicago, Ill.; San Mateo, Cal.; Pittsburgh, Pa.; Plants and Offices in Montreal, Quebec, London, England and Waterford, Ireland

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## Courses

**Computer Control and Systems Engineering**, Cleveland, Ohio, 21 July–1 Aug. The course is directed to people in industry and assumes as prerequisites a B.S. degree in engineering or science and some background in dynamic systems analysis and feedback control theory. Enrollment is limited to 30. *Fee:* \$400. Lecture topics include programming languages for simulation and control, information processing and data reduction, numerical methods for optimization, mathematical programming algorithms, on-line computer control, hierarchical approach to control of complex systems. (Prof. I. Lefkowitz, Systems Research Center, Case Western Reserve University, Cleveland, Ohio 44106)

**Infrared and Raman Spectroscopy**, Cambridge, Mass., 3–14 August. This course is intended for chemists, biologists and medical research workers who wish intensive training in the methods of infrared spectroscopy and interpretation of infrared and Raman spectra. The course covers infrared and Raman instrumentation and techniques (1 week) and applications to problems of chemistry and biology (1 week). Tuition scholarships for academic personnel. (Dr. Richard C. Lord, Director Spectroscopy Laboratory, Massachusetts Institute of Technology, Cambridge 02139)

**Industrial Process Control**, Cleveland, Ohio, 7–18 July. The course is directed to engineers in industry who have limited formal background in dynamics analysis and control theory; it assumes a B.S. degree in engineering or science as a prerequisite. Enrollment is limited to 30. *Fee:* \$400. Lecture topics include: Dynamic modeling of physical systems, mathematical tools for transient and frequency response analysis, dynamic characteristics of feedback systems, design procedures for feedback control, advanced control concepts and multivariable systems, introduction to aspects of modern control theory applicable to industrial systems, and applications of theory to selected process systems. (Prof. I. Lefkowitz, Systems Research Center, Case Western Reserve University, Cleveland, Ohio 44106)

**Fundamentals and Applications of Optical Information Processing and Holography**, Boulder, Colo., 13–17 July. This course is intended for engineers, scientists and development specialists who must obtain a firm grasp of electro-optical science. The objective is to examine, discuss, and synthesize the concepts, techniques, and tools of optical information processing to their holographic applications and uses. Topics include the existence of spatial information on a wave, wavefront modulation, the analogy between spatial and temporal frequencies, optical Fourier transforms, spatial frequency filtering, recording spatial information on a wave. Holographic image formation data storage and display, holographic interferometry and non-destructive testing, analog optical computations, pattern recognition, image processing. *Fee:* \$275. (The Center for Management and Technical Programs, Business Bldg. 139, University of Colorado, Boulder)