

**CLASSIFIED ADVERTISEMENTS**

*The rate for classified advertisements is 5s. a line (or space equivalent of a line), with an extra charge of 1s. for the use of a Box Number. Semi-displayed classified advertisements are 60s. per single-column inch.*

**ANALYTICAL ABSTRACTS**

The Editor wishes to purchase copies of the numbers for January, February, March & June, 1960. Copies should be sent to *Analytical Abstracts*, 14, Belgrave Square, London, S.W.1.

EDITORIAL ASSISTANT required for *Analytical Abstracts*. A degree in chemistry and some experience of chemical analysis is desirable. Five-day week. Hours 9.30 to 5. Apply in writing to the Editor, *Analytical Abstracts*, 14 Belgrave Square, London, S.W.1.

**GLASS APPARATUS:** specially difficult items in glass or silica—including grinding, graduating, silvering, high vacuum, electrode-sealing, etc. Very quick delivery. Oldershaw distillation included. Glass Developments Ltd., Sudbourne Road, S.W.2. Tel. BRI.4041.

**ANALYTICAL SERVICES****MANAGER**

Manager for Analytical Services Department required, to be responsible for analytical laboratories throughout the British Oxygen Group. Main fields of analyses are gases, metals and heavy chemicals. An appreciation of modern methods of analysis and ability to organise essential.

**Age between 35 and 45 and starting salary in the range £2,500—£3,250.**

**Apply Manager, Scientific Centre,  
THE BRITISH  
OXYGEN COMPANY LIMITED  
Deer Park Road, London, S.W.19.**

**ANALYTICAL  
CHEMIST**

A good honours degree chemist is required for the analytical section at the recently extended Central Research Laboratories of the Ever Ready Co. (GB) Ltd. The Chemist will be engaged on non-routine work on a range of materials used in the manufacture of dry batteries.

If you have several years qualified experience and are familiar with modern instrumentation techniques, including micro-analysis, we shall be pleased to hear from you. An attractive salary will be offered.

Location: Harringay, N.4. Non-contributory pension scheme.

Applications, in confidence, to the Group Personnel Manager, The Ever Ready Co. (GB) Ltd., Hercules Place, Holloway, N.7.

**RESEARCH FELLOWSHIPS**

in

**GOVERNMENT SCIENTIFIC ESTABLISHMENTS**

Tenable for three years

Value £1325—£1640 p.a. (Senior) and £910—£1220 p.a. (Junior). A very wide range of topics in PHYSICS, MATHEMATICS, CHEMISTRY, ENGINEERING, BIOLOGY and other fields. Qualifications: normally first or second class honours degree; evidence of high standard of ability in research; and at least 2 years' post-graduate research experience (3 years for Senior Fellowships). Those completing these periods of experience in 1961 may apply. F.S.S.U. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form, quoting **S/5244/61**.

**BIRMINGHAM TAME AND REA DISTRICT  
DRAINAGE BOARD****CHIEF ASSISTANT CHEMIST**

APPLICATIONS ARE INVITED for the post of Chief Assistant Chemist which will become vacant in January, 1962, at a salary in Grade C (£1560 × £70 (3) × £55 × £1825 per annum) of the Joint Negotiating Committee for Chief Officers, Deputies and other Senior Officers. This appointment is on the staff of the Engineer to the Board, Rookery Park, Erdington, Birmingham.

Applicants should preferably be between 30 and 45 years of age, Corporate Members of the Royal Institute of Chemistry and/or hold an Honours Degree in Chemistry. Candidates should have good experience in—either analytical, physical, industrial chemistry, chemical engineering applied to biochemistry, or in biochemical processes—and should be able to lead laboratory staff engaged in analytical and research work concerned with sewage and trade waste purification. Experience in sewage purification will be advantageous but not essential. Publication of the results of research work will be encouraged.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, to the passing of a medical examination, and to three months' notice on either side.

Applications, stating date of birth, marital state, qualifications, full particulars of present appointment, previous appointments, experience and the names and addresses of three referees, must reach the undersigned not later than first post on Monday, 21st August, 1961.

ARTHUR J. WRIGHT,

*Clerk to the Board.*

Clerk's Office,  
Lombard House,  
Great Charles Street,  
Birmingham, 3.

**DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH: TEXTILE TECHNOLOGIST.** Pensionable post, graded Principal Scientific Officer, at Tropical Products Institute, London, W.C.1, for man or woman to supervise group concerned with research into, and laboratory examination of, various aspects of animal and vegetable fibres, pulp, paper and board-making materials, hides, skins, etc., of tropical origin. Qualifications: normally 1st or 2nd class Honours degree in textile technology, chemistry, or physics, or Associateship or Fellowship of Textile Institute (or equivalent). Candidates without the prescribed qualifications may be considered if they have achieved high professional attainment. Considerable practical experience in the science or technology of one or more of the above commodities, and ability to supervise scientific and technical staff, essential. Interim salary scale (inner London) £1,781—£2,483. Starting salary may be above minimum. Promotion prospects. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form, quoting **S/5333/61**. Closing date August 15th, 1961.

**EAST MALLING RESEARCH STATION. CHEMIST** required in Plant Protective Chemistry Section to assist in studies of pesticides in fruit culture; degree in chemistry or equivalent qualification, experience in pesticide analysis an asset. Salary in Assistant Experimental Officer or Experimental Officer grade, according to experience, qualifications and age. Particulars and application form from the Secretary, East Malling Research Station, Maidstone, Kent, to whom they should be returned by July 24th.

**THE IMPERIAL TOBACCO COMPANY** have a vacancy in their Research Department in Bristol for an **ANALYTICAL CHEMIST** with experience of Public Analyst work or similar background. A.R.I.C. or equivalent. The work involves a wide variety of problems requiring modern scientific techniques. Candidates, preferably not over 30, should apply to: The Staff Secretary, The Imperial Tobacco Company, Bristol, 3.

**LABORATORY ASSISTANTS**, preferably with G.C.E. 'O' level in Chemistry, Physics and Maths. required for new analytical laboratory in E.C.I. Write, stating age and details of qualifications and experience to Box No. 4037, The Analyst, 47 Gresham Street, London, E.C.2.

## BINDING

Have your back numbers  
of The Analyst bound in  
the standard binding case  
Send the parts together  
with a remittance for 14/6

to:

**W. HEFFER & SONS LTD.**  
**Hills Road Cambridge**

## COUNTY LABORATORIES LIMITED

Manufacturers of Brylcreem, Silvikrin, Macleans Toothpaste and many other well-known toiletry preparations require for their Product Research Laboratories

## RESEARCH ANALYST

B.Sc., B.Pharm., or A.R.I.C., for non-routine work on toiletries and cosmetic products.

Excellent conditions in new laboratory. Profit Participation and non-contributory Pension Schemes in operation.

Apply to Personnel Manager, County Laboratories Limited, Beecham House West, Great West Road, Brentford, Middlesex.

# HEINZ<sup>57</sup>

## GRADUATE ANALYST

An interesting appointment is open to a young man currently qualifying for B.Sc. Special Honours Chemistry.

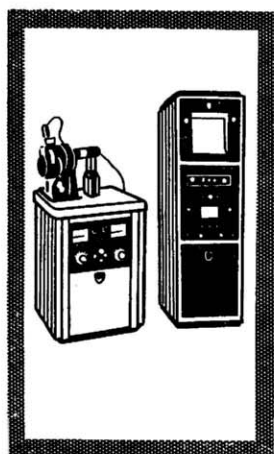
It calls for the continuing development of analytical methods applied to food products and raw materials and would appeal particularly to a graduate who has special interest in modern instrumental methods of analysis and physico-chemical techniques in general.

Graduates—B.Sc. or A.R.I.C.—with industrial experience are also invited to apply but candidates preferably should be under 27 years of age.

Conditions of employment attached to this appointment are excellent and the commencing salary will be in line with the successful applicant's qualifications.

Please apply with a brief summary of personal history to: -

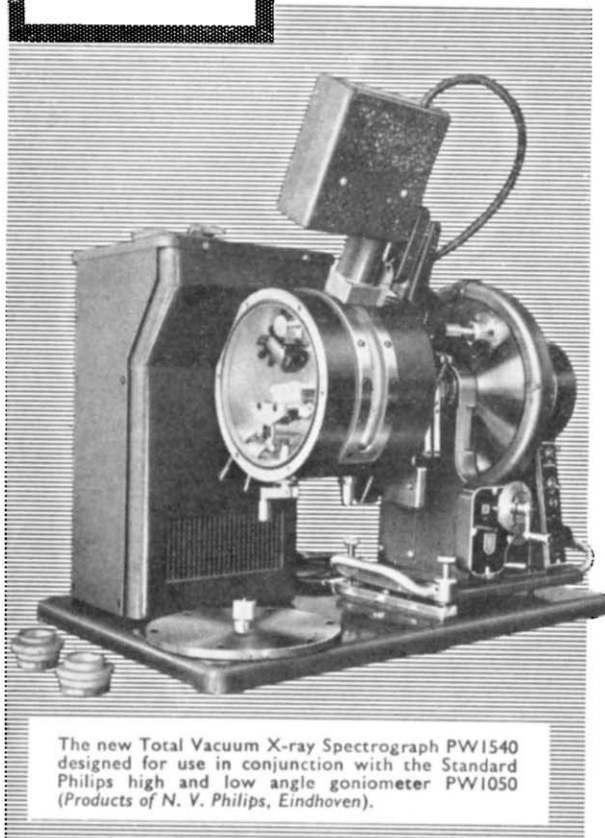
The Personnel Officer,  
H. J. HEINZ COMPANY LIMITED,  
Waxlow Road,  
Harlesden,  
London, N.W.10.



# Quality Control

through X-ray spectrography

## NOW— DOWN TO MAGNESIUM!



PHILIPS new Total Vacuum Spectrographic Attachment PW1540 makes an outstanding scientific advance available to industry. The advantages of X-ray spectrography (non-destructive, rapid, qualitative and quantitative analysis) are now extended to all elements from uranium *down to* **MAGNESIUM**.

### Special features of Philips PW1540 Total Vacuum Spectrographic Attachment:—

1. Total Vacuum allowing detectability down to magnesium.
2. Built-in flow proportional detector.
3. Crystal changing without breaking vacuum.
4. Energy-sensitive probes for pulse-height discrimination.

**This application service for industry has helped many . . . it may help you too**

Your most obstinate problem of quality control may possibly be solved by the unique properties of X-ray spectrography. Arrangements have been made between Research & Control Instruments Limited and N. V. Philips, Eindhoven, whereby the experience and facilities of the world-famous Philips X-ray analysis laboratories can be placed at your service. The problem will be studied by specialists and their conclusions can be discussed in your own works. This service is entirely free.

SOLE DISTRIBUTORS IN U.K.

Write for detailed specification to:—

# RESEARCH & CONTROL INSTRUMENTS LTD

Instrument House · 207 King's Cross Road · London · W.C.1

Telephone: TERminus 2877

(RCL0410)

Reprint of  
**T H E A N A L Y S T**

**VOLUME I (1876) to VOLUME X (1885)**

Bound in cloth

Each Volume **£6 6s.** net

The early volumes of this indispensable journal, out of print soon after publication and lacking from many library sets, have now been made available again in response to repeated requests. We hope to reprint all unavailable volumes, if the demand proves adequate.

**W. HEFFER & SONS, LTD.**  
CAMBRIDGE — ENGLAND

**NEW  
BRITISH CHEMICAL STANDARDS  
AND  
SPECTROGRAPHIC STANDARDS**

A series of four low tungsten steels containing between 0.7% and 3.4% tungsten is now available in the form of turnings for chemical analysis and as rods for spectrographic analysis.

*Send for leaflet giving full particulars.*

**BUREAU OF ANALYSED SAMPLES, LTD.  
NEWHAM HALL, MIDDLESBROUGH**

**ANALOID REAGENTS  
FOR  
ORGANIC ANALYSIS**

Several new Analoid reagents are now available for the determination of NITROGEN and PHOSPHORUS in organic materials by the Oxygen Flask Combustion Method.

*Full details available on request.*

**RIDSDALE & CO. LTD.  
NEWHAM HALL, MIDDLESBROUGH**

**NOW  
STILL FURTHER  
IMPROVED**

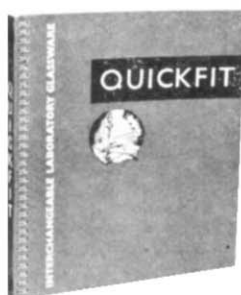
Johnson Universal Test papers, famous for their accurate measurement of pH values, have been still further improved. They now give the pH value of any solution to within 0.5 pH in the range of 1 to 11. They will be of even greater value to chemists, research workers, biologists, and other users. Prices are available on application.

Johnsons also manufacture Comparator Test papers which permit a still finer degree of accuracy, indicating values in steps of 0.3 pH. Additionally Johnsons supply LITMUS paper and many other indicator papers for science and industry.

**JOHNSON**  
INDICATOR PAPERS

*Please write for explanatory leaflet*

**JOHNSONS OF HENDON LTD., LONDON, N.W.4**



## Something new from "QUICKFIT"

*Write for  
your copy of  
this new "Quickfit"  
catalogue*

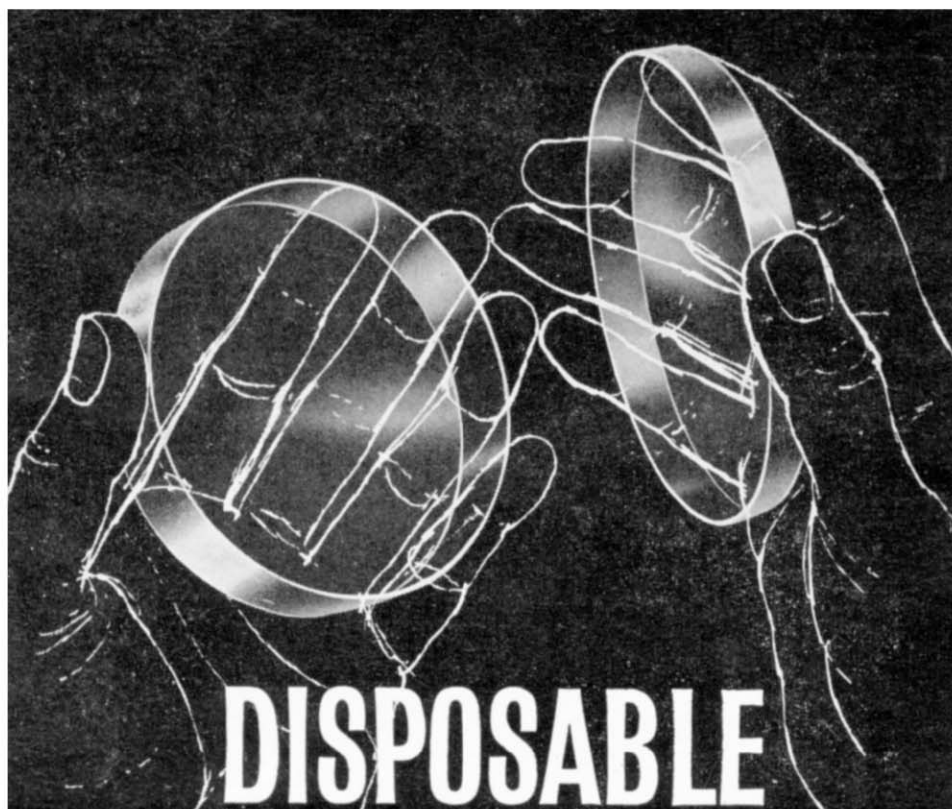
This fully illustrated  
new "Quickfit"  
catalogue describes the entire  
range of "Quickfit"

Interchangeable Laboratory Glassware  
and includes  
many new items.

## QUICKFIT & QUARTZ Ltd.

Dept. O.AQ, "Quickfit" Works,  
Heart of STONE, Staffordshire.  
Telephone: STONE 481.





# DISPOSABLE PETRI DISHES

**eliminate time-wasting washing, sterilizing**

The Oxoid Disposable Petri Dish is ready for instant use and can afterwards be discarded. Made of clear, moulded polystyrene, it is sterile and biologically inert as well as light in weight and virtually unbreakable.

Because of its low cost and the elimination of washing and sterilizing, Oxoid Disposable Petri Dishes offer considerable economy in use. The dishes are

supplied in cartons of 200 or 500. Full details, prices and quantity rates will gladly be sent on application.

.....  
*NEW Oxoid Disposable Plastic Precipitin  
 Tubes are now available—made from  
 crystal-clear polystyrene, they are chemi-  
 cally clean and ready for immediate use.  
 Further details supplied on request*  
 .....

**FOR PROGRESSIVE LABORATORIES**

**OXOID**

**BACTERIOLOGICAL SERVICES**

Made for the Oxoid Division of Oxo Ltd.

Thames House, Queen Street Place, London E.C.4. Telephone: CENTRAL 9781

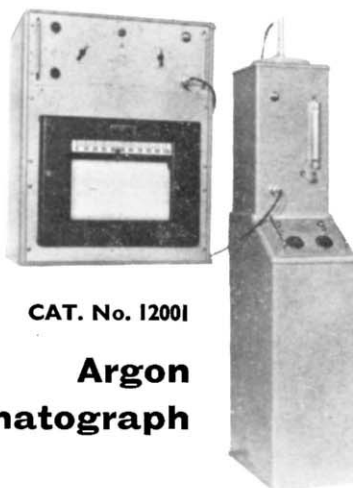
July, 1961]

THE ANALYST

xix



## for Chromatography



CAT. No. 12001

### Argon Chromatograph

Still the acknowledged leader in its field, the Pye Argon Chromatograph has achieved an excellent reputation in a very wide range of applications from routine analysis to fundamental research. An ever-increasing number of papers is appearing in important international journals describing work carried out by eminent workers who use this instrument as their basic research tool.

12001

## NEW FEATURES

- ★ Highly accurate continuously variable temperature control.
- ★ High stability electronic circuitry.
- ★ Redesigned case and fittings for greater flexibility.

These features, together with the excellent record of reliability, ease of operation and high performance make it even more necessary to specify the Pye Argon Chromatograph.

#### INTEGRATING AMPLIFIER



Designed specifically for the Pye Argon Chromatograph, but also suitable for other systems, this highly accurate integrator measures peak areas automatically. It has no moving parts and its output feeds direct into a standard recorder.

#### LIQUID INJECTION SYSTEMS



#### COLUMN ADAPTERS 20 ft., 50 ft.



#### GAS SAMPLING VALVES



These illustrations can only serve to indicate the very comprehensive range of accessories now available for workers with more specialised applications. Each of these has been carefully designed so that it will fit quickly and simply to any one of the hundreds of Pye Argon Chromatographs now in use throughout the world.

Retaining the lead in ultra-sensitive gas chromatography, Pye has several important new projects under development. Already Pye Industrial Process Analysers, based on the Argon Chromatograph, are "on stream", serving Britain's chemical industry.

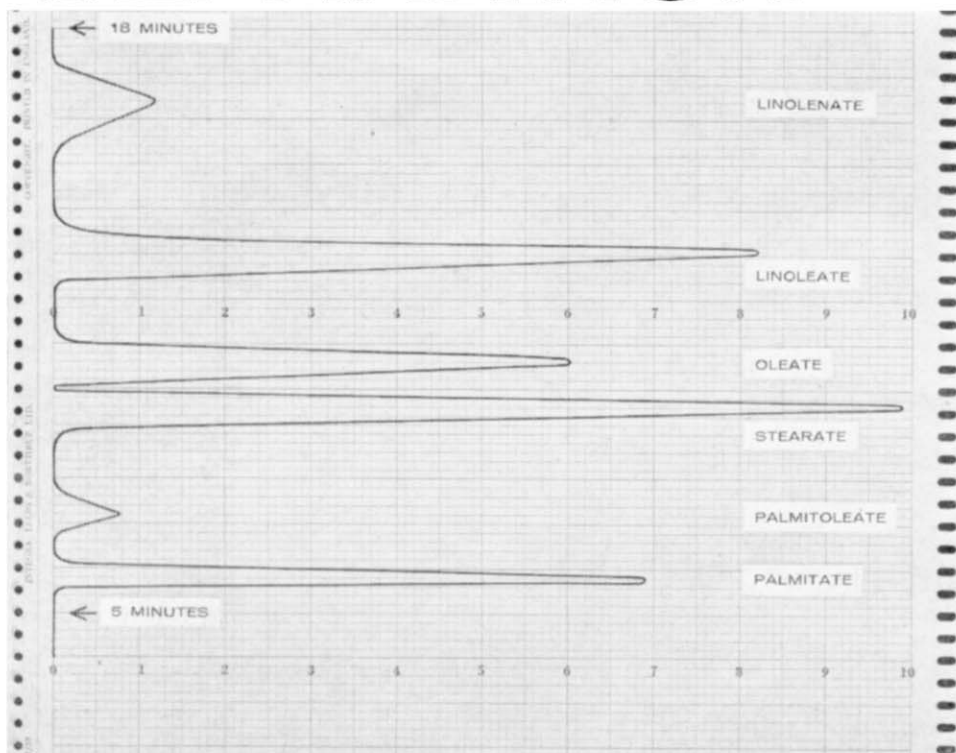
SCIENTIFIC  INSTRUMENTS

**W. G. PYE & CO. LTD**

Granta Works, P.O. Box 60, Cambridge, England

Telephone: Cambridge 58866 (5 lines) Grams: Pye Cambridge

# SEPARATION



Complete separation of methyl esters of C<sub>16</sub>-C<sub>18</sub> fatty acids in 17 minutes

## Vapour Fractometer

Four interchangeable detectors  
Column temperatures from  $-75^{\circ}\text{C}$  to  $+350^{\circ}\text{C}$   
Choice of 25 standard columns  
High efficiency Golay capillary columns  
Columns for preparative scale work  
Precision gas and liquid sampling systems  
Easy collection of sample components  
Automatic integration of peak areas with  
Perkin-Elmer model 194 Printing Integrator

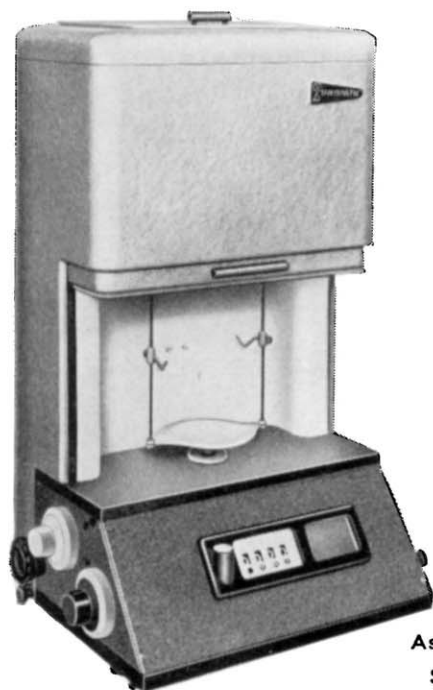


Separation is easily achieved with Perkin-Elmer's Vapour Fractometer—the most versatile and reliable instrument for gas chromatography. Four different detectors—thermistors, hot-wire,  $\beta$ -ionisation and flame ionisation types—and a multitude of columns including high efficiency Golay capillary columns are available to meet every need—from the separation of permanent gases to liquids boiling up to  $400^{\circ}\text{C}$ , from trace analysis to preparative scale work. We should be pleased to advise on any technique or application and to send you full details of this interesting instrument.

## Perkin-Elmer

ANALYTICAL INSTRUMENTS





# CONSTANT LOAD WEIGHING BY SUBSTITUTION



As an alternative to the applied-load system of weighing, Stanton now offers the Unimatic single-pan balances—constructed on the constant-load principle of weighing by substitution. The compact, sturdy aluminium case enclosing the instrument is finished in green and black hammertone. Width 13", depth 16", height 20½", weight 32 lb. With the introduction of the Unimatic series, the Stanton range of precision balances now provides an unrivalled choice to meet every requirement.

- |                          |   |
|--------------------------|---|
| <b>UNIMATIC Balances</b> | maintain their accuracy over the whole weighing range being designed on the now well known principle of weighing by substitution.   |
| <b>UNIMATIC Balances</b> | are simple to use—even an inexperienced operator can learn how in a few minutes.  |
| <b>UNIMATIC Balances</b> | are safe in use—their non-magnetic stainless steel weights are adjusted to within the new N.P.L. tolerances for analytical weights (errors less than 1 in 200,000). They are well protected within the balance case and their accuracy cannot vary.                             |
| <b>UNIMATIC Balances</b> | are fast—very fast in use. Their controls are conveniently positioned at bench level. Time and Motion study experts have approved this design which results in less fatigue and more weighings in less time—in fact less than 30 seconds for the weighing of an unknown object. |

## STANTON UNIMATIC BALANCES

Write for details to STANTON INSTRUMENTS LTD. 119 Oxford Street, London W.1

Telephone: Gerrard 7533 • Cables: Stanbal, London

# VITREOSIL

REGD. TRADE MARK

*... one of the older  
materials of the future!*

VITREOSIL, pure fused silica, Laboratory Ware is now standard equipment in modern routine and research laboratories, because of its extreme thermal shock resistance, absolute inertness to all acids, except hydrofluoric, and working temperatures up to 1050°C. Price Lists for Laboratory Ware, Tubing and Rod gladly sent on request.



## THE THERMAL SYNDICATE LTD.

P.O. Box No. 6 WALLSEND, NORTHUMBERLAND. Tel: Wallsend 62-3242/3  
LONDON, 9 BERKLEY STREET, W.1. Tel: Hyde Park 1711/2

# Extinction meter

**the new, cheap routine  
Spectrophotometer**

Very simple and quick operation  
Direct reading  
High accuracy  
Many complementary accessories to be supplied  
separately make this apparatus universal

DETAILED DESCRIPTION SENT ON REQUEST

Exporter **METRIMPEX**

Hungarian Trading Company for Instruments

Letters:

Budapest 62. POB 202. Hungary

Telegrams:

INSTRUMENT BUDAPEST

Representatives:



# METRIMPEX

**C. R. BRAYBROOKE & CO. LTD.** DASHWOOD HOUSE,  
69, OLD BROAD ST., LONDON, E.C.2