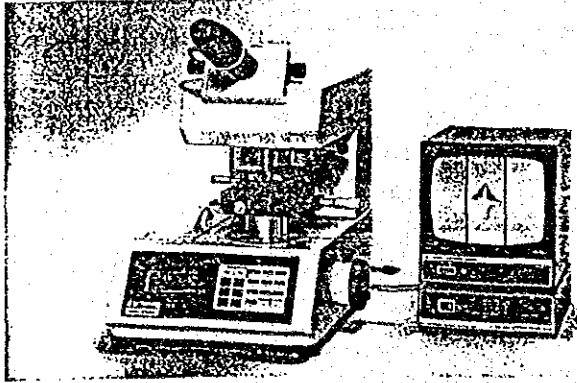


オプション アクセサリー

●テレビ測長システム(テレビカメラつき)

部品番号 344-81198

テレビに映ったくぼみを見ながら、くぼみの対角線長さを読取ることができ、目が疲れません(9インチモノクロCRTつき)。

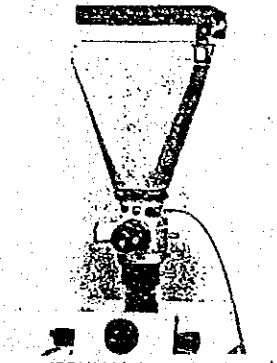


テレビ測長システム(テレビカメラつき)

●写真撮影装置(ポラロイドカメラ)

部品番号 344-80802-01

測定されたくぼみ、およびくぼみ周辺の試料の状況を記録するので、ただちに他のデータと比較検討するのに便利です。
(®ポラロイドは米国ポラロイド社の商標です)

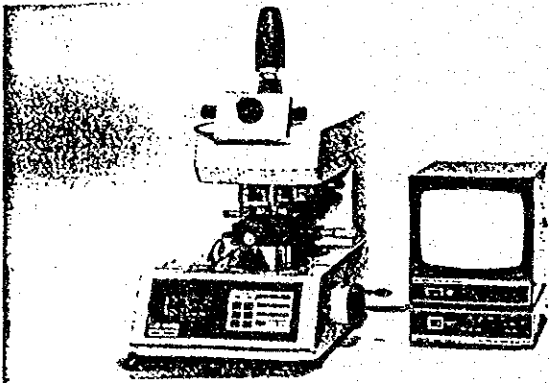


写真撮影装置(ポラロイドカメラ)

●テレビモニタ(テレビカメラつき)

部品番号 344-80804-01

くぼみを拡大してテレビに映します(50倍対物レンズ使用の場合、約1000倍の拡大率)(9インチモノクロCRTつき)。



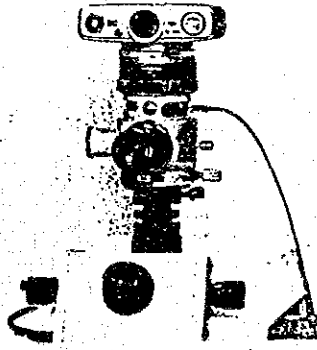
テレビモニタ(テレビカメラつき)

●写真撮影装置(35mmカメラ)

部品番号 344-80801-01

測定されたくぼみ、およびくぼみ周辺の試料の状況を記録観察するために使用します。

データの写し込みができますので、試料名や試験条件も記録できます。



写真撮影装置(35mmカメラ)

76
10000

CATALOGUE NON AVAILABLE

44
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SHIMADZU

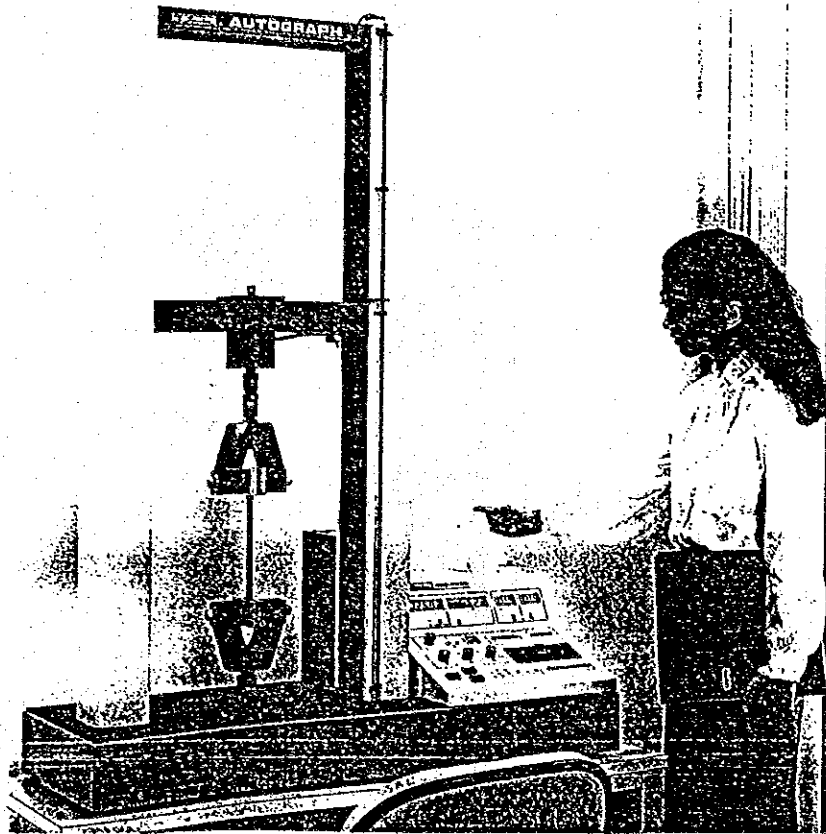
13

UNIVERSITY
OF TOKYO
LIBRARY

島津材料試験機

オートグラフ AGS シリーズ

操作性にすぐれた卓上形



- 機種
- AGS-A形
- AGS-B形

- 計測制御からデータ処理まですべてマイクロコンピュータによりコントロールします。
- 小形・高性能で、新素材や電子部品など広い範囲に応用できます。

- 容量
- 1000kgf形
- 500kgf形
- 100kgf形
- 50kgf形
- 5kgf形

オートグラフAGS-500A形

オートグラフ応用試験装置

オートグラフAGS-A形専用

- 試験条件印字・目付け印字
- データ処理結果印字
- シングル：4項目
- サイクル：6項目
- L/Eプリント機能

オートグラフAGS-B形専用

- シーテック機能とデータ処理機能を兼ね備えたデータ処理装置で、試験条件・データ処理条件・荷重-変位曲線および試験結果をすべて1枚の記録紙に印字します。

オートグラフAGS-B形専用

- 正確な荷重-変位曲線のログ記録が可能です。
- 記録計形式として、XTY-P形と変位計番号が入力できるXTY-P形が準備されています。
- XTY-P形：形名AR-5422
- XTY-P形：形名AR-6422

オートグラフAGS-B形専用

- パソコン・プロセッサのデータメモリ、グラフ表示などが可能です。

Handwritten signature or mark.

AGS-A形シリーズ

データ処理機能とプリンタを標準装備

AGS-1000A形

AGS-500A形

AGS-100A形

AGS-50A形

AGS-5A形

AGS-B形シリーズ

アナログ記録計を標準装備

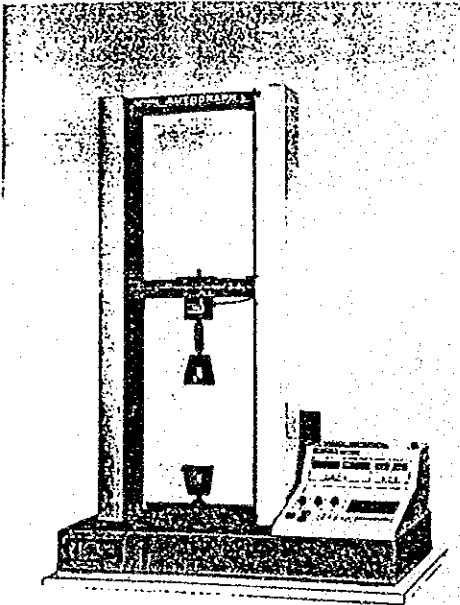
AGS-1000B形

AGS-500B形

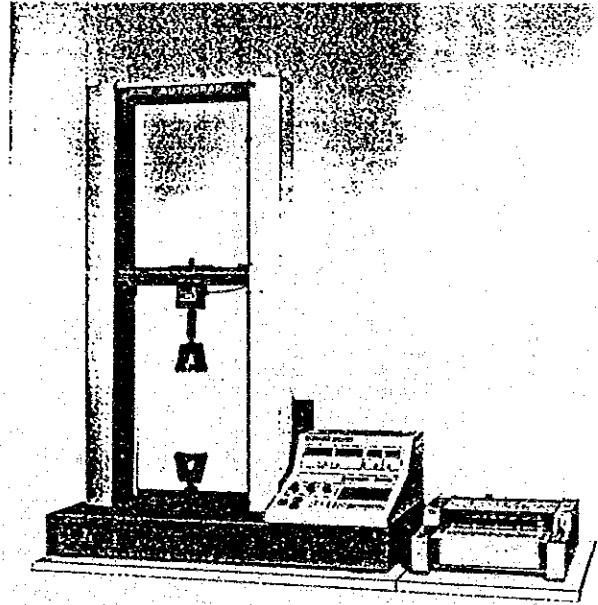
AGS-100B形

AGS-50B形

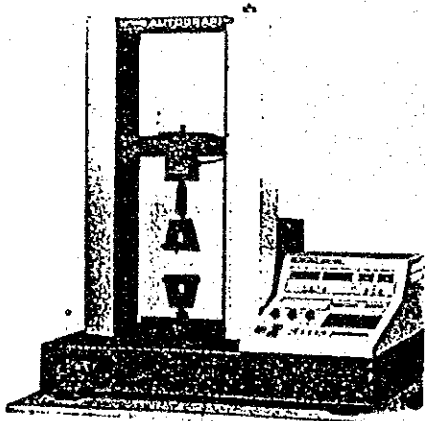
AGS-5B形



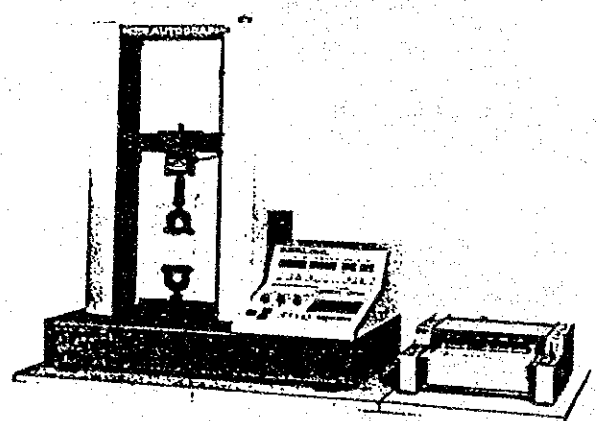
AGS-1000A形



AGS-1000B形



AGS-50A形



AGS-50B形

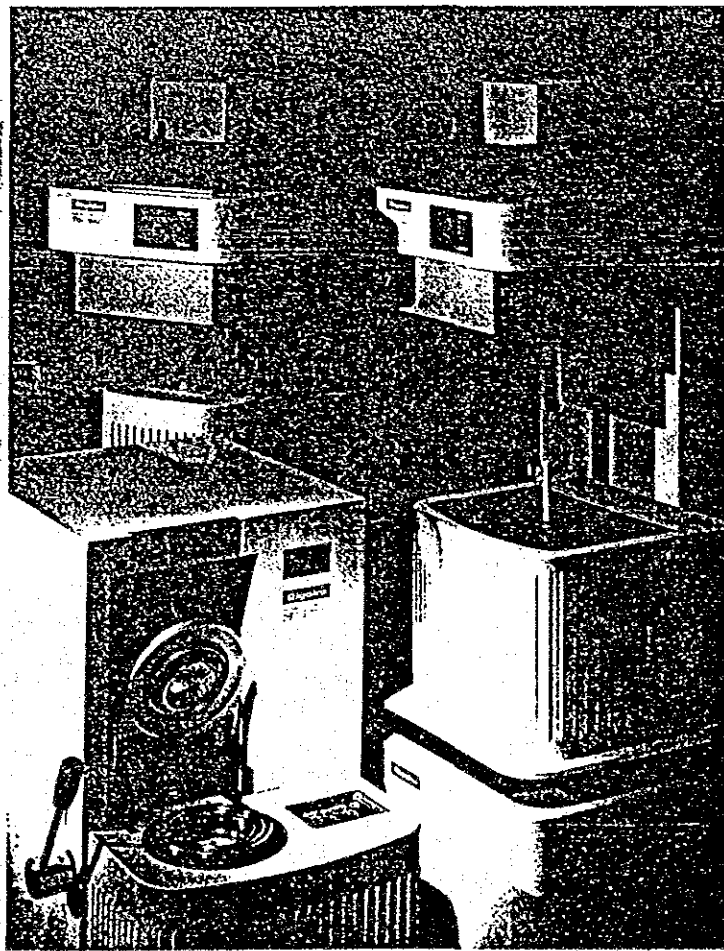
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TAS 200

Thermal Analysis System

理学/熱分析装置

14



26
1987

5チャンネル同時制御が可能な、マルチ機能・熱分析装置 TAS 200

時代を支える研究者、技術者の方々が求める熱分析システムは——その方向のひとつがマルチ機能化した。

RIGAKUでは、みなさまとの連携の中で、どこよりも早くTAS 100で実現。

そして、いま、熱分析の可能性を大きくひろげるのがTAS 200です。

すぐれた機能性と操作性を誇るTAS 200は、誰にでも操作できる親切設計の導入をはじめ、

最大5チャンネルの同時制御が可能なマルチ機能の実

現、さらに新開発の測定部が一段と高精度な分析を可

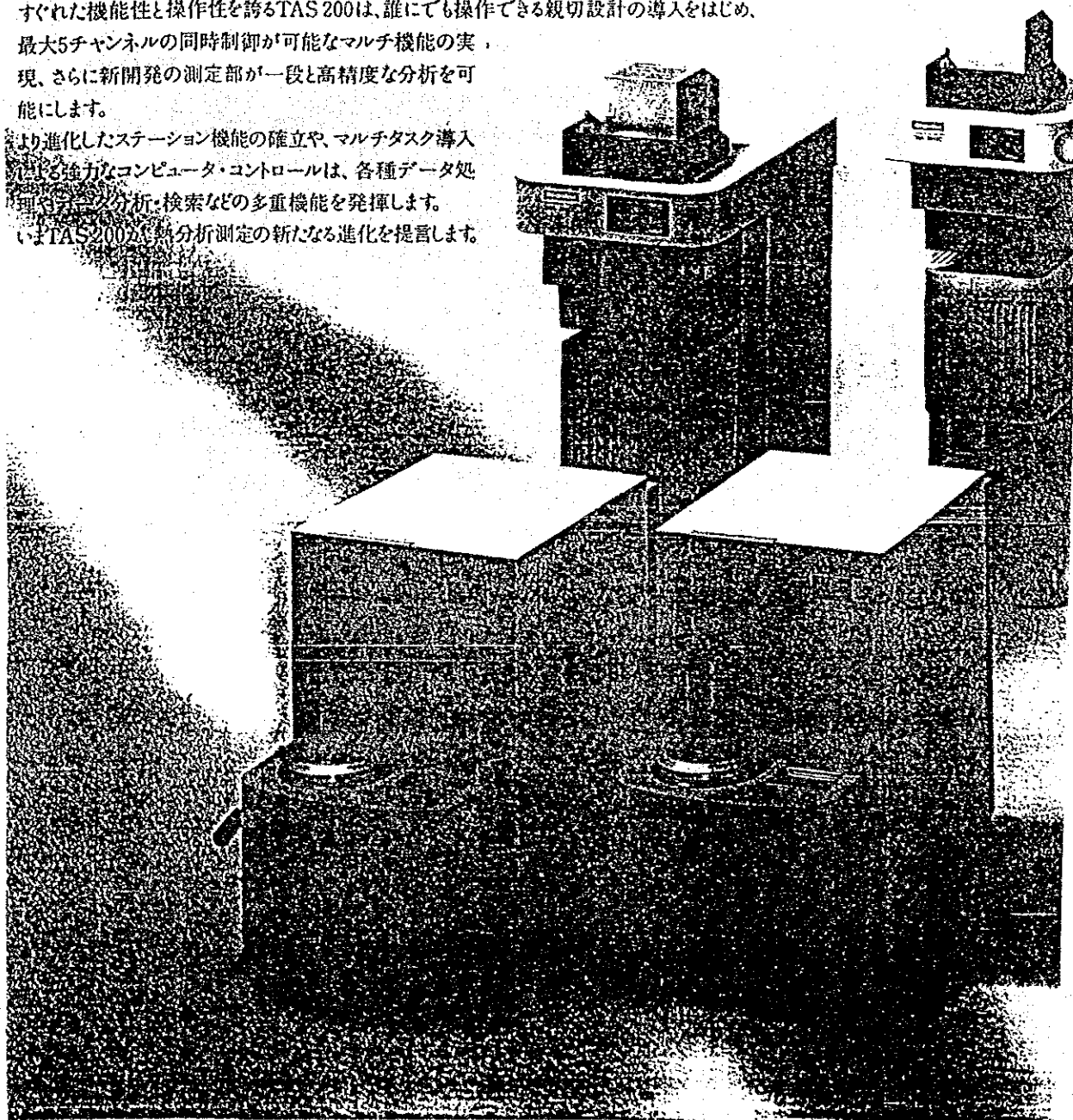
能にします。

より進化したステーション機能の確立や、マルチタスク導入

による強力なコンピュータ・コントロールは、各種データ処

理やデータ分析・検索などの多重機能を発揮します。

いまTAS 200が、熱分析測定の新たなる進化を提言します。



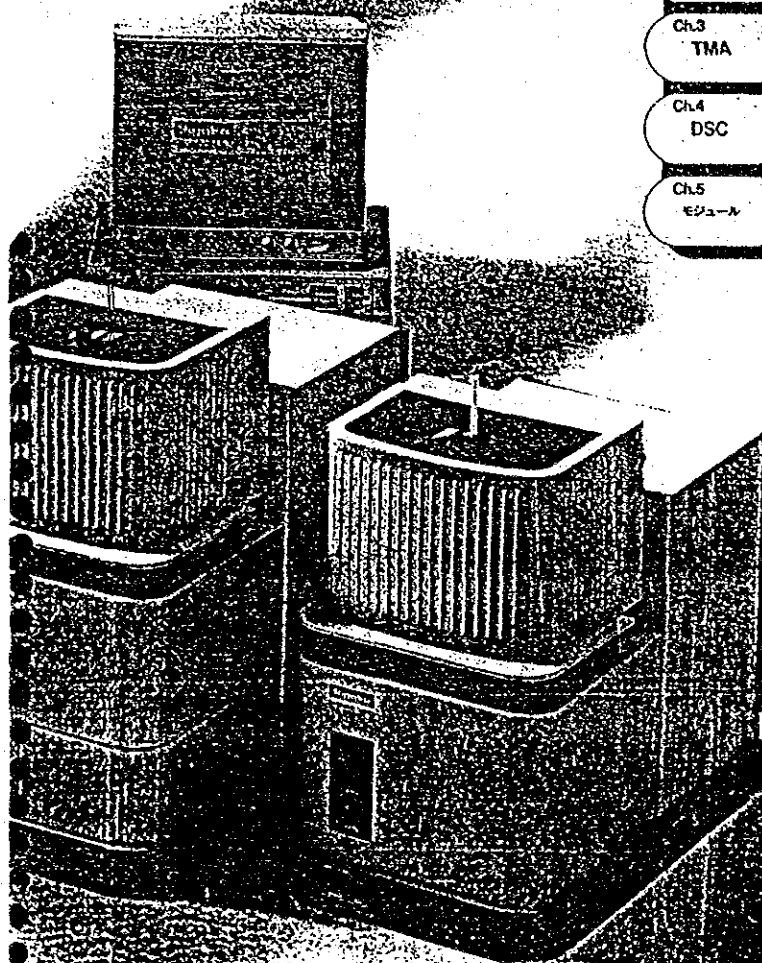
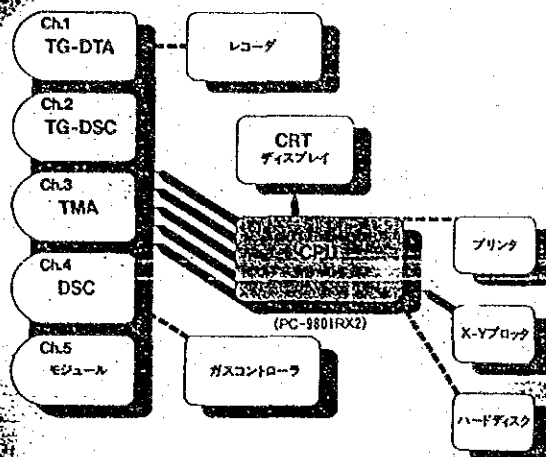
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特長

- 最大5チャンネルの同時制御が可能です。
- ワイドなダイナミックレンジにより、レンジ設定をすることなく、どの感度スケールでも常に高分解能で測定できます。
- 検索システムの採用により、試料測定中に他のデータや測定条件の呼び出しなど、各種モジュールの状況把握、データ管理が容易にできます。

● DSC、DTAのエネルギーの関数近似による校正、関数近似による温度校正、さらにTMAの標準試料による校正といった、各種モジュールの校正ソフトが豊富に用意されています。

DAS 200のマルチ・ラインアップ



26
5880

4 Completely Automated Data Acquisition

Simply set the analysis parameters, including sample name and size, and press the START button. File name is automatically selected, analysis begins, and data acquisition proceeds until the test is completed. Real-time data are displayed on the CRT throughout the analysis, and the X and Y axis are automatically scrolled to accommodate various evaluation times.

5 Graphic Data Search

While in the search mode, as you browse through the files, a graphic display of each thermal analysis appears in a window. This feature can greatly simplify finding a particular file, and add flexibility to many aspects of data manipulation.

6 User-Defined Data Storage Paths

Assign analysis results and set-up files for each of the 4 channels to a PATH which uses existing DOS directories and subdirectories. Saving data in a clearly named path -- eg. C:\TGA\JAN_18\SILICA*.*, simplifies data retrieval and report generation.

7 Data Loss Protection

The TA-50I controller serves as a buffer for data until it can be transferred to disk media for storage during idle CPU time. Therefore, if a power failure occurs, only a small portion of the data is lost.

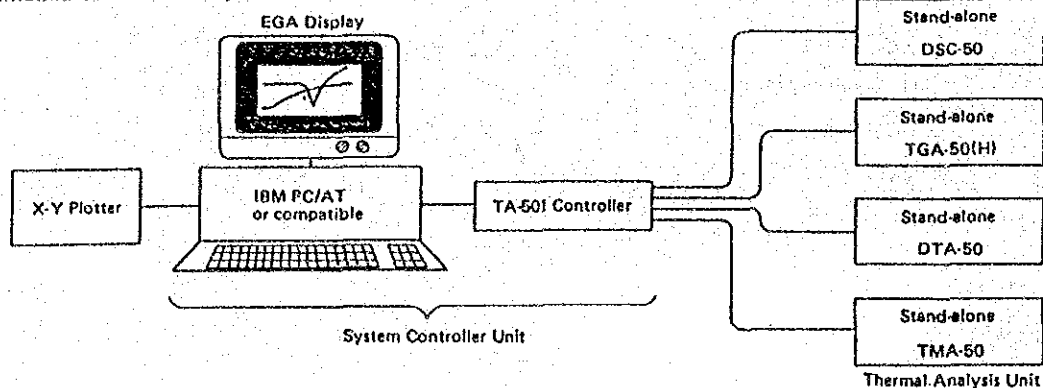
8 Get More Effective Use from Your PC

Use your 80286 based PC/AT or compatible for word processing or spread sheets while the TA-50I is in stand-by mode.

9 Program Atmosphere Control

Addition of the optional FC-40 gas flow controller permits ON/OFF control of up to 2 gases for each analyzer.

Shimadzu Thermal Analysis Network System



Data Processing with Personal Computer and TA-50I Controller

1 Remote Initialization of the TA-50I

The TA-50I is not only a multitasking system controller — it acts as a "Super Buffer", capable of storing up to 15,000 data points per channel. The 8 function key pad of any TA module initiates communications with the remotely located TA-50I, sets operational parameters and starts the analysis. The TA-50I automatically generates a file name containing the module name, time and date and then begins to save data. The TA-50I lets you use your PC for other tasks, such as word processing or even operating another instrument, while thermal analysis data are being saved.

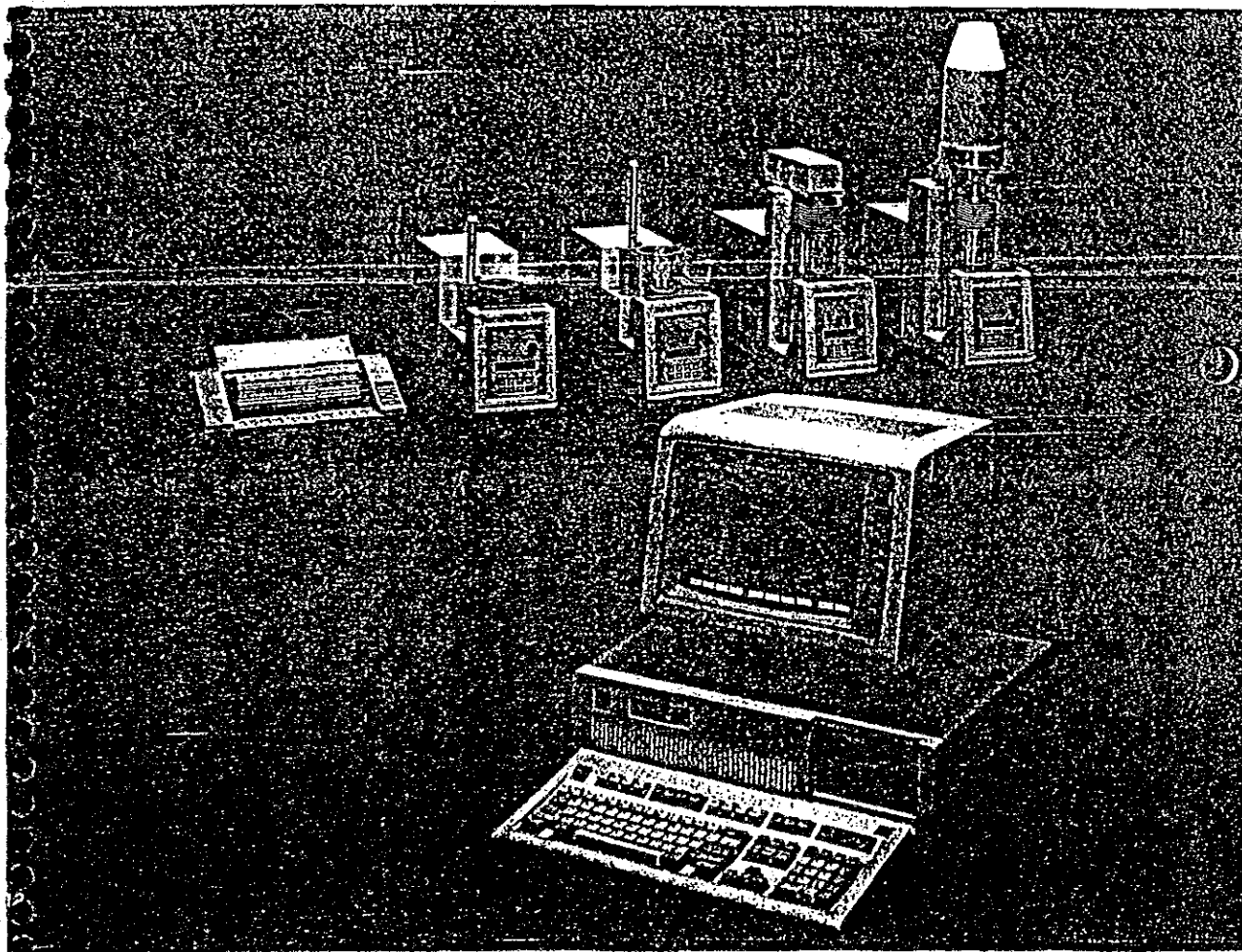
2 Multitasking and Interrupt-driven

The TA-50I system controller is the core of the Shimadzu Thermal Analysis Network System. This versatile system permits complete multitasking capabilities for up to four thermal analyzers including DSC, TGA, DTA and TMA.

The TA-50I is also interrupt driven. Data may be acquired from up to four channels in the background while data analysis is being carried out in the foreground.

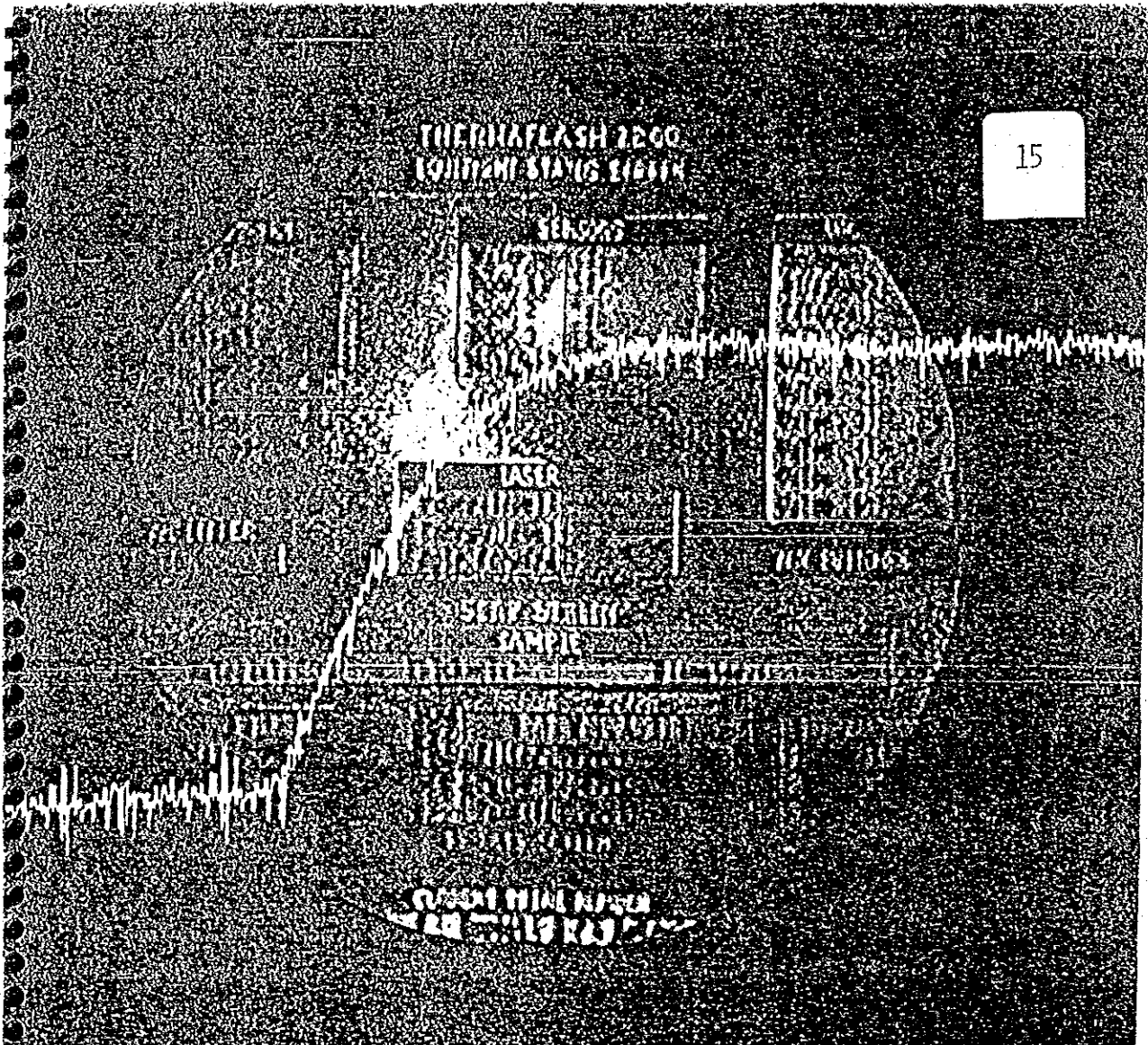
3 Space Saving Design

Each stand alone thermal module is only 17cm wide, and the TA-50I system control unit is placed between the CRT and the main body of the personal computer.



AS.
Shimadzu

15



THERMAFLASH 2200

SETTING THE STANDARD FOR THE 21ST CENTURY



HOLOMETRIX

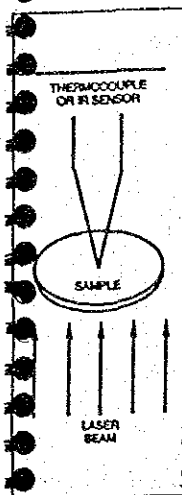
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THERMAFLASH 2200: THE AUTOMATED HIGH-SPEED THERMAL PROPERTIES MEASUREMENT SYSTEM FOR THE 21ST CENTURY

Typical Test Materials:

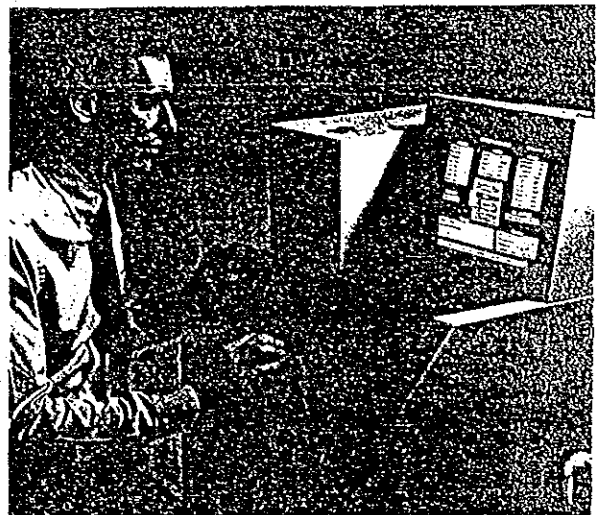
Heat-resistant metals and alloys • Graphites • Engineered ceramics • Engineered plastics • Composites • High-temperature coatings

LASER FLASH PRINCIPLE OF OPERATION

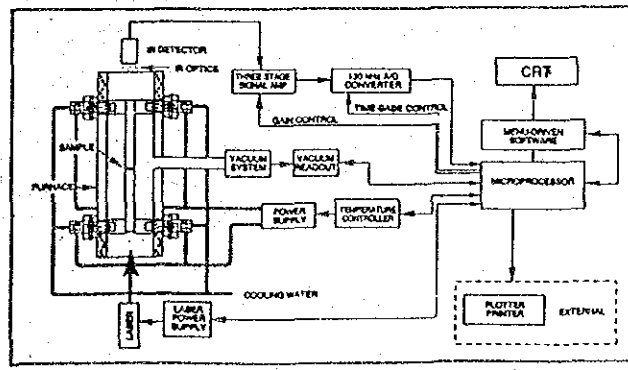


The laser flash technique is a method of pulse-heating materials to obtain thermal properties data. Sample preparation is uncomplicated; little or no instrumentation is required. Repeat tests for better statistical sampling can be *cycled at a rate of one per minute.*

To obtain thermal diffusivity, a test sample is irradiated uniformly on one side using single laser beam pulses. The temperature rise of the opposite side is measured as a function of time using either an infrared detector or a thermocouple. For specific heat measurements, the instrument must first be calibrated using materials of known specific heat to determine the energy absorbed by the sample. A separate test on the material to be characterized determines its maximum temperature rise, and the data from the two tests are combined to compute specific heat. For many materials, thermal conductivity can then be derived using operator-entered density values.



THERMAFLASH 2200 STANDARD PERFORMANCE SPECIFICATIONS	
Specimen size (solids):	Standard measurement method: 10 mm diameter x 1-3 mm thick disk solid specimen (or plastic film less than 1 mm thick)
Temperature Range:	Room temperature to 2000°C (Optional furnace system for low temperature range)
Accuracy and (Reproducibility):	Thermal diffusivity within ± 5% (± 3%); specific heat within ± 7% (± 6%); thermal conductivity within ± 10%
Laser Type:	Nd:Glass (1060nm wavelength); max pulse output: 10 J/pulse
Utilities Required:	115/220 V, 60/50 Hz, single phase, 30 amp; cooling water: 3 liters/min., unchilled; LH ₂ : 1 liter/3 hours
Space Requirements and Weight:	Size: 68 cm x 74 cm x 122 cm (23" w x 29" d x 48" h). Approximate weight: 205 kg (450 lbs)



Information contained herein is deemed to be reliable, conservative, and accurate. Holometrix, Inc. reserves the right to change the design, specifications, or any other features at any time and without notice.

HOLOMETRIX, INC.

THERMAFLASH measurement systems are developed and manufactured by Holometrix, Inc. (formerly Dynatech Scientific), an international leader in the field of thermal properties measurement. As the latest addition to the Thermatest family of instruments, THERMAFLASH 2200 is backed by a 25-year tradition of performance, reliability and service excellence, demonstrated on hundreds of installed systems.



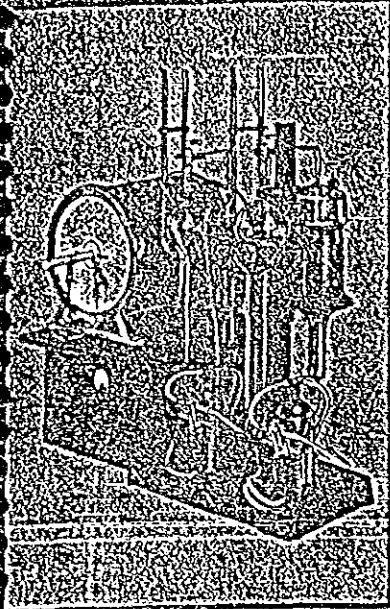
INTERNATIONAL SALES NETWORK



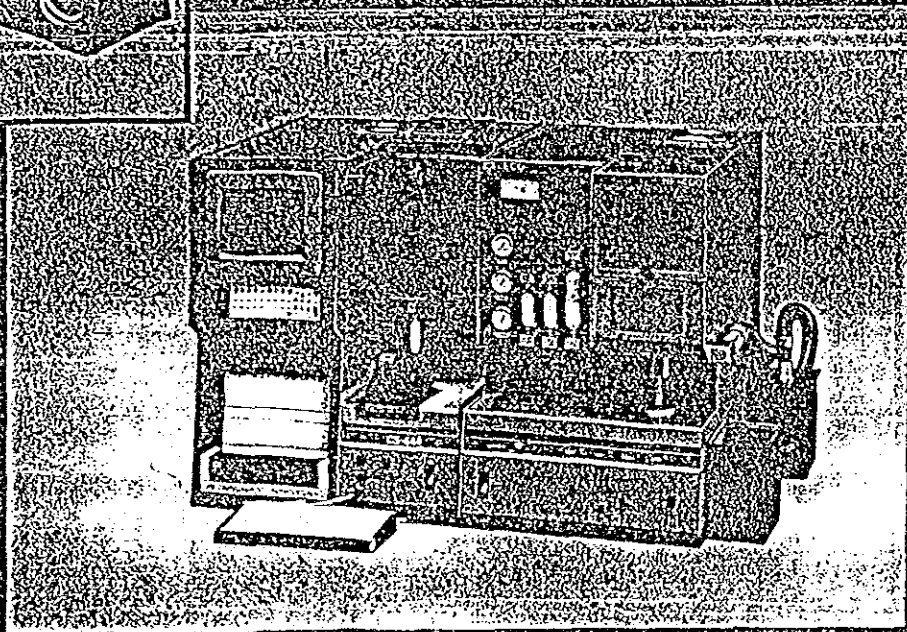
HOLOMETRIX, INC.

Call or write Holometrix Thermatest Division Marketing Department to find out how THERMAFLASH 2200 can meet your measurement needs
99 Erie Street • Cambridge, MA 02139 • USA • (617) 868-8050 • FAX: (617) 354-3902 • TELEX: 92-1483

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Analytical
Instrumentation
for the Analysis of
Metals and Inorganic
Materials



LECO®

43-29

Nitrogen and Oxygen

TC-436 Nitrogen/Oxygen Determinator

The LECO® TC-436 simultaneously determines total nitrogen and oxygen in both metal and inorganic materials by the inert gas fusion technique. The superior performance of the TC-436 (sensitivity to 0.1 ppm and accuracy of ± 0.5 ppm for both nitrogen and oxygen) is attributed to an improved electronic detection unit and a powerful 6.5 kilowatt electrode furnace. Detection of nitrogen is by thermal conductivity and oxygen by infrared absorption. Temperatures up to 3000°C decompose even refractory oxides and nitrides. In addition, the TC-436 provides extensive data management, statistics and report generation capabilities through easy-to-use database software. Separation and determination of the various nitrides and oxides constituents or the totals is also available from the TC-436. An individual nitrogen determinator (TN-414) and an individual oxygen determinator (RO-416) are also available with the same features as the TC-436. Other features include:

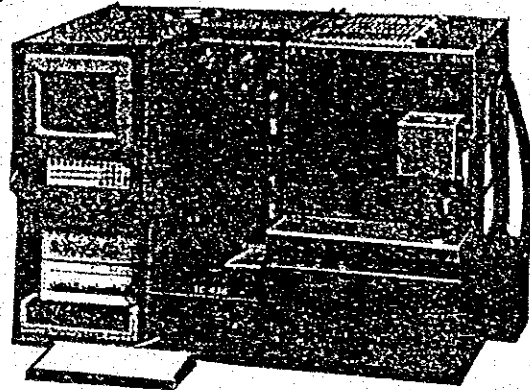
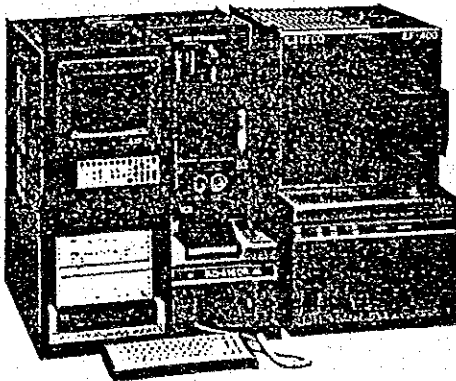
- gas dose or standard calibration
- helium carrier gas purification system
- optical sensor for temperature measurement
- profiling of nitrides and oxides with derivative and temperature plots

Specifications:

Accuracy: Oxygen ± 0.0001 or 1% of O₂ present
Nitrogen (low) ± 0.0001 or 1% of N₂ present
Nitrogen (high) ± 0.0005 or 1% of N₂ present
Range (1 gram sample)*: Oxygen 0.1 ppm - 0.1%
Nitrogen (low) 0.1 ppm - 0.05%
Nitrogen (high) 0.001% - 0.5%

Sensitivity: 0.1 ppm

Analysis Time: Total Nitrogen/Total Oxygen, 40 seconds nominal
Nitride/Oxide, 150 seconds nominal



Part Number:

782-400-300 TC-436 Nitrogen/Oxygen Determinator

* Range can be extended by reducing sample size.

RO-416DR Oxygen Determinator

Specifications:

Accuracy: (low) 0.00004 or 1% of O₂ present
(high) 0.00004 or 1% of O₂ present
Range (1 gram sample)*: (low) 0.0 - 0.10%
(high) 0.0 - 4.5%

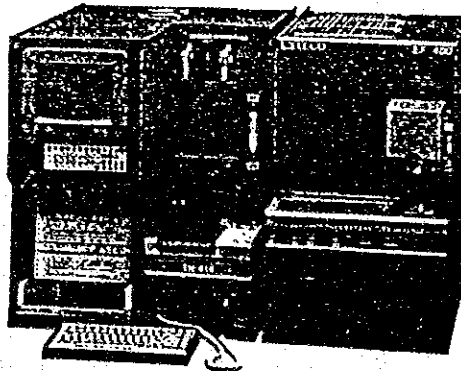
Sensitivity: 0.1 ppm

Analysis Time: Total Oxygen, 40 seconds nominal
Oxide, 150 seconds nominal

Part Number:

782-600-300 RO-416DR Oxygen Determinator

* Range can be extended by reducing sample size.



TN-414 Nitrogen Determinator

Specifications:

Accuracy: Nitrogen (low) ± 0.0001 or 1% of N₂ present
Nitrogen (high) ± 0.0005 or 1% of N₂ present
Range (1 gram sample)*: Nitrogen (low) 0.1 ppm - 0.05%
Nitrogen (high) 0.001% - 0.5%

Sensitivity: 0.1 ppm

Analysis Time: Total Nitrogen, 40 seconds nominal
Nitride, 150 seconds nominal

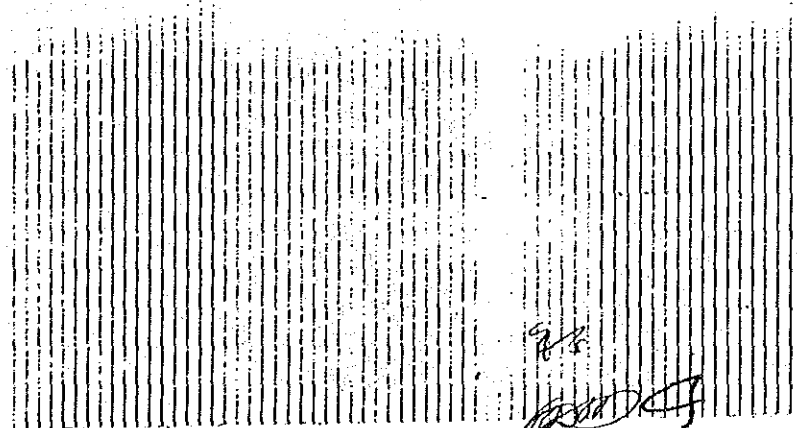
Part Number:

782-700-100 TN-414 Nitrogen Determinator

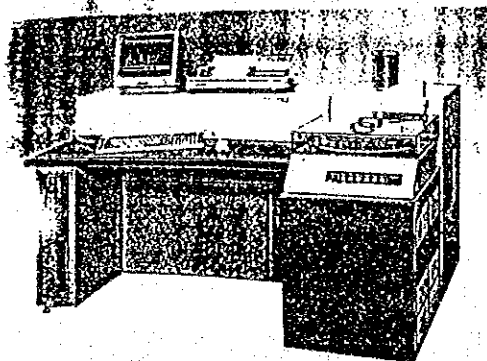
* Range can be extended by reducing sample size.



SHIMADZU SCIENTIFIC INSTRUMENTS AND EQUIPMENT



EMISSION SPECTROSCOPIC APPARATUS

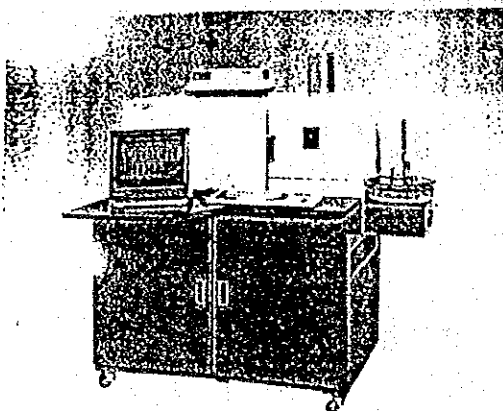


ICPS-1000 III

ICPS-1000 III Sequential Plasma Spectrometer

ICPS-1000 III is a sequential plasma spectrometer which can provide high resolution and high-speed analysis. Moreover, it can analyze various kinds of elements from P and S having spectral lines in the vacuum ultraviolet region to Li and K having spectral lines in the proximity infrared region.

- Diffraction grating and wavelength range : 3600 lines/mm 160~458nm
1800 lines/mm 458~850nm
- Optical system : 1m Czerny-Turner mounting
- CPU : 32 bit microprocessor
- High frequency light source : Transistor type to be maintained freely

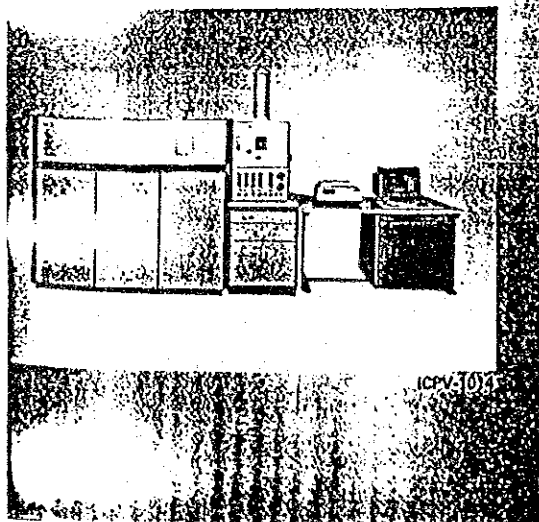


ICPS-5000

ICPS-5000 Sequential Plasma Spectrometer

ICPS-5000 is a low-cost, compact and powerful sequential plasma spectrometer which can be run with low cost. Moreover, the optimum analysis can be performed with simple key operations. And all of the operations from analysis to data processing and turning off the plasma can be performed automatically since an automatic sampler is provided as standard.

- Wavelength range : 190~785nm
- Optical system : 50cm Czerny-Turner mounting
- CPU : 16 bit microprocessor
- High frequency light source : Transistor type to be maintained freely



ICPV-1014

ICPQ(V)-1014 Inductively Coupled Plasma Emission Spectrometer

ICPQ(V)-1014 is an inductively coupled plasma spectrometer which provides high sensitivity and high stability over the wide dynamic range (5~6 digits) with minimum matrix effect. It is the most suitable instrument for liquid analysis in various fields.

- Wavelength range : 165~415nm (ICPV-1014)
185~400nm (ICPO-1014)
- Light source : High frequency of 27.120 MHz, output power 0.8~1.6kW
- Readout console : Simultaneous integration of multiple elements

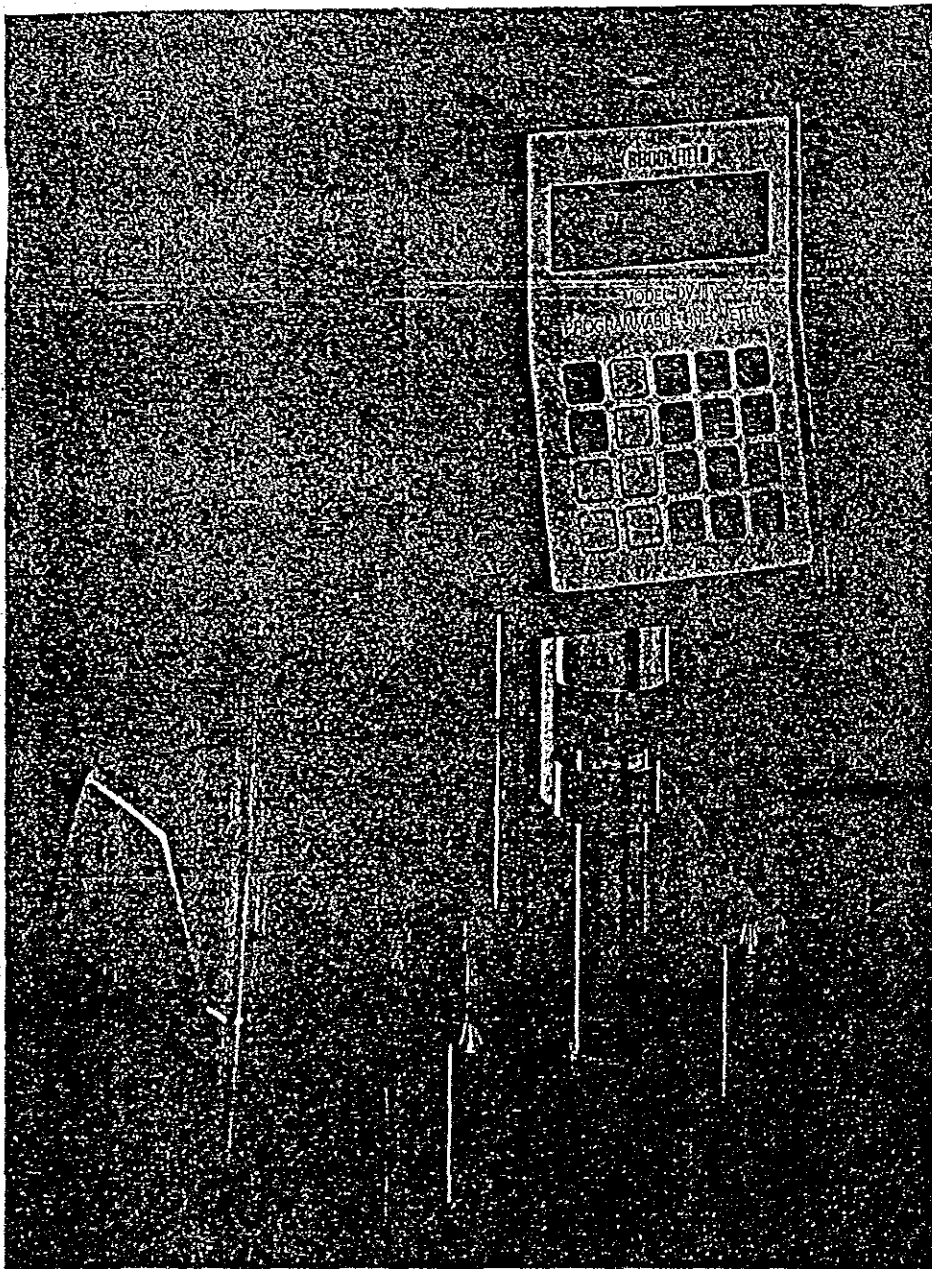
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[Signature]

PROGRAMMABLE RHEOMETER

19

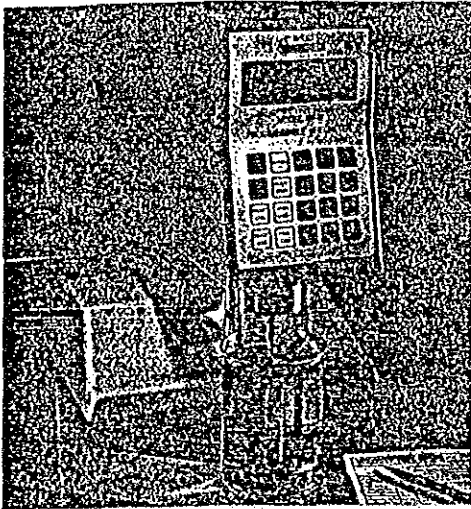
THE BROOKFIELD
PROGRAMMABLE RHEOMETER
MODEL DV-III... Ideal for
R & D and Quality Control
applications.

- Stand-alone capability
- Keypad programmable
- Budget-friendly price



76 7
0000 7

MODEL DVIII PROGRAMMABLE RHEOMETER



Bright, four-line by 20-character gas plasma display and sealed, tactile feedback keypad

User-friendly power and sophistication... Budget-friendly price

With the DV-III, you can perform a wide variety of viscosity tests that previously required the use of a computer. You can input, store and recall up to 10 multi-speed test programs. You can measure and display shear rates, shear stress values, CPS, and % scale (Brookfield). A user-friendly display leads you through programs and operations so that sophisticated tests can be performed with certainty and repeatability.

You'll also like the low cost. The DV-III price puts this sophisticated rheometer within reach of even modest budgets.

The DV-III Rheometer is designed for use with Brookfield spindles and coaxial cylinders (Brookfield or DIN 53019), or with cone-and-plate sensing systems. It is available in all standard Brookfield torque calibrations (LV through 5xHB), and is fully compatible with all Brookfield accessories.

Advanced features...advanced capabilities

Built-in microprocessor simplifies testing and data analysis. Complicated test procedures can be easily performed without the expense of a computer. Stored programs, up to 10 multi-speed tests, ensure repeatable results.

User-friendly programming with a few simple keystrokes. A bright gas plasma display guides technicians quickly and easily through test programs and operations. Multi-speed tests can be programmed and the data recorded and printed out with a few simple keystrokes. Little or no supervision needed.

Walk-away capability...runs on its own. Tests which require multiple points can be run, data taken, stored, displayed, or printed out- all with minimum operator involvement.

A real production-booster.

2500 speeds at a touch. Speed range from 0.1 rpm through 250 rpm in steps as small as 0.1 rpm.

Flow Curves. Gathered data allows accurate generation of flow curves.

Programming versatility. Up to 25 speeds for each of the 10 memory-resident speed sets. Repetitive multi-speed or variable time interval tests may be programmed.

Temperature measurement. Integral RTD probe allows sample temperature measurement simultaneously with viscosity measurement.

"Loss-proof" data storage. Battery back-up protects against loss of programs and data being held in memory for later reference or manipulation.

Lock-out feature protects against errors. Only the test programs

selected may be run. All other functions are locked out, reducing the chance of inadvertent deprogramming. **Printer compatible.** Optional serial printer provides hard copy.

Bright, four-line display. Four-line gas plasma display of all viscosity parameters: spindle number, rpm, temperature, viscosity, shear rate, shear stress, print and alarm status, and % scale (Brookfield).

Budget-friendly price. Brookfield's fifty-plus years of experience designing and manufacturing viscometers (experience which no other manufacturer can match) makes it possible to produce this powerful instrument at a price that puts sophisticated viscosity measurements within reach of the most budget-conscious laboratory.

DV-III Range Data * - Centipoise (mPa·s)

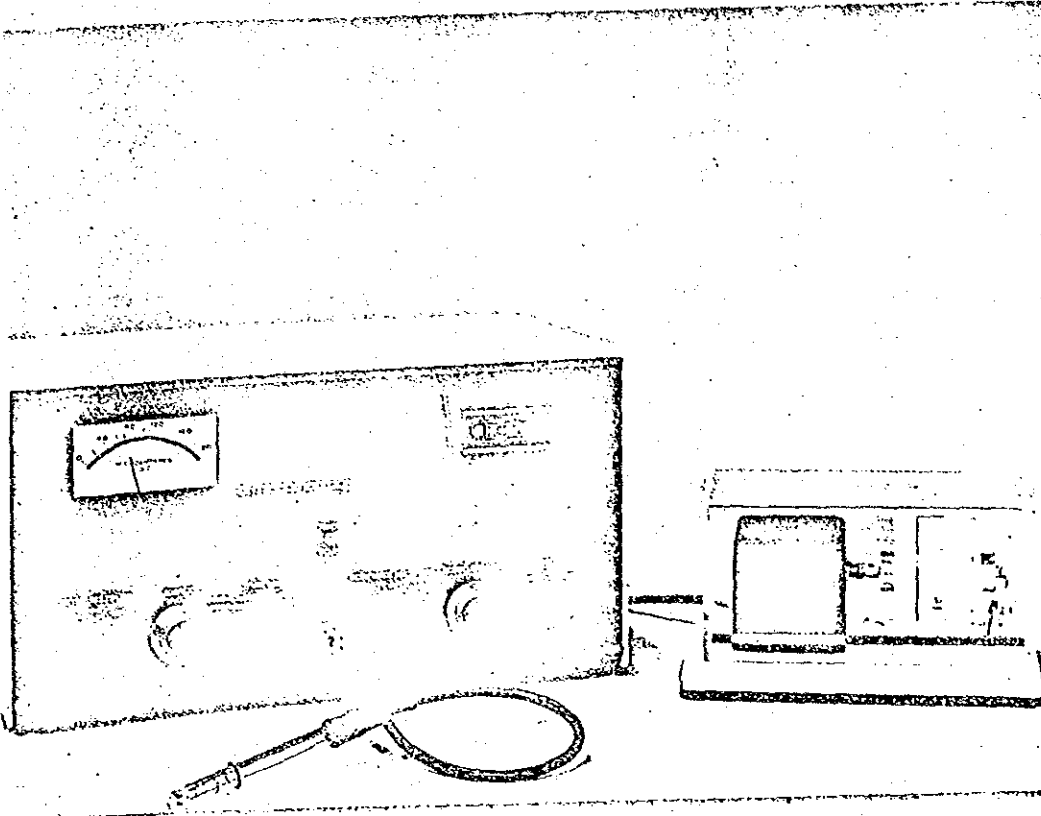
SPINDLE TYPE	LVDV-III	RVDV-III	HADV-III	HBDV-III
BROOKFIELD	15 - 6,000,000	100 - 40,000,000	200 - 80,000,000	800 - 320,000,000
COAXIAL CYLINDER	2 - 600,000	20 - 12,500,000	40 - 25,000,000	160 - 100,000,000
DIN 53019	1 - 5,000	5 - 5,000	10 - 5,000	40 - 5,000
UL ADAPTER	1 - 2,000	3 - 2,000	6 - 2,000	24 - 2,000
CONE & PLATE	0.5 - 92,000	1.5 - 900,000	3 - 1,800,000	12 - 7,200,000
T-BAR (HELIPATH STAND)	156 - 9,000,000	2,000 - 100,000,000	4,000 - 200,000,000	16,000 - 800,000,000

* For additional range data consult Brookfield or your local representative.

micromeritics

Zeta Potential Analyzer

20



For liquid-solid system control

- Allows Zeta Potential measurements to be made at specific areas along the surface by voltage
- Excellent reproducibility
- Easy to operate - less sample preparation
- Avoiding particle agglomeration, settling or coagulation, surface charge measurement, particle size effects
- Solid state circuitry assures efficient, accurate and reliable operation

45
EJ
1000

SPECIFICATIONS

Constant Current Power Supply:

Voltage range: 0 to 700 volts
Current range: 5 microamps to 20 milliamps
Load resistance: to 5 megohms
Power: 4 watts maximum

Current Regulation:

± 0.5% of the preset value from zero to maximum load.

Sample Conductivity Measurement:

Accomplished with a 1,000 Hz Wheatstone bridge and external, dip-type, platinum electrode conductivity cell.

Sample Resistance Range:

10 ohms to 10 megohms.

Sample Conductivity Range:

0.1 to 100,000 microhms.

Timer Specifications:

Range is 0.1 to 999 minutes with minimum setting of 0.1 minute. Repeatability (constant voltage & temperature) is ± 0.1% of setting or 25 ms, whichever is larger. Cycle ON annunciator with time progression annunciators indicating elapsed time percentages of 25%, 50%, 75% and 100% (cycle complete).

Rotation of Cell:

30 rpm (25 rpm for 50 Hz).

Reservoir Volume:

145 mL

Minimum Sample Volume:

110 mL of known concentration. Can contain up to 50% particle concentration.

Power Requirements:

115 V, 60 Hz, 100 VA (230 V, 50 Hz available).

Cabinet Size:

51 wide x 39.5 deep x 25.5 high (cm)
20 wide x 15.5 deep x 10 high (inches)

Weight:

32 Kg. (70 lbs.)

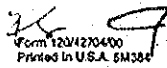
Mass-Transport Chamber:

Normally made of poly(methyl methacrylate). A crosslinked aliphatic polycarbonate (Homalite) is available for better solvent resistance.

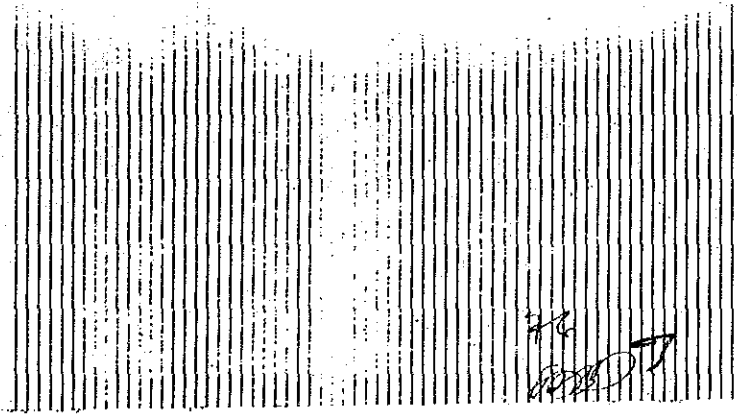
 micromeritics

The address of our nearest sales office or distributor can be obtained from:

Micromeritics Instrument Corporation
5680 Goshen Springs Road
Norcross, Georgia 30093, U.S.A.
Telephone: 404/448-8282 Telex: 70-7450


Form 120/1270450
Printed in U.S.A. 6M382

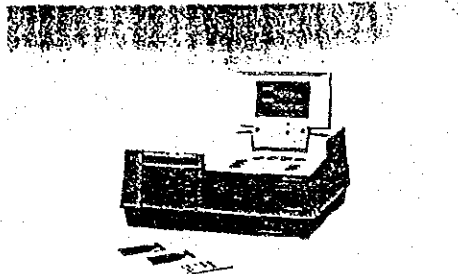
SHIMADZU SCIENTIFIC INSTRUMENTS AND EQUIPMENT



UV-VIS SPECTROPHOTOMETERS

UV-1201 Spectrophotometer

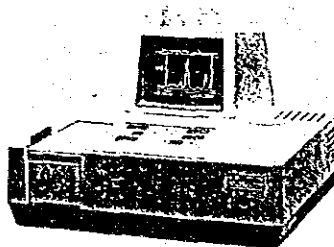
- UV-1201 is a very handy spectrophotometer which is provided with a large-sized graphic liquid crystal display to offer tables and spectrum.
- In addition to the very high-speed scanning function (6000nm/min), your personal experimental parameters can be stored in the IC card.
- Measuring wavelength range : 200~1100nm
- Band width : 5nm
- A large-sized graphic liquid crystal display
- Various kinds of IC card softwares are available.



UV-1201

UV-160A Visible Recording Spectrophotometer

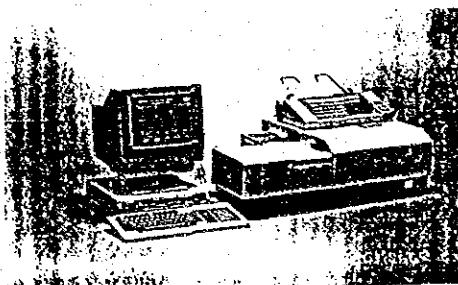
- UV-160A is a low-cost but multi-functional spectrophotometer which can form various kinds of quantitative calibrations (multi-factor calibration, differentiation, peak picking and so on). High-speed scanning to scan the entire spectral range of 200 to 1000nm in only 25 seconds are available.
- Measuring wavelength range : 200~1100nm
- Spectral band width : 2nm
- Backup functions : 20 sets of measuring conditions are available.
- Graphic display function on 9 inch CRT



UV-160A

UV-2100/2100S Visible Recording Spectrophotometer

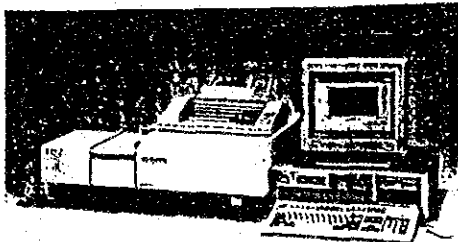
- 2100S is a top-performance UV-VIS recording spectrophotometer having high level data processing functions and top-level optics, and the UV-2100, an economy version of the UV-2100S having basic data processing functions. It has a variety of unique functions including color display to provide ease of operation and interpretation, reporting formats on a six color printer-plotter, monochromator of high performance with the highly reputed blazed holographic gratings, wide variety of software, high precision with wide dynamic range, high density data and parameter storage, auto start convenient for routine works and built-in computer interface (232C).



UV-2100S

UV-2101PC VIS Spectrophotometer

- UV-2101PC is a spectrophotometer designed and built for the future of research. It features unparalleled ease of use with Microsoft Windows, Shizuoka Personal Spectroscopy Software and interactive mouse control. Intuitive operation, HELP at every step color-cued graphics let an operator go through every experiment. The UV-2101PC includes a DOS-based IBM-compatible computer with generous memory, high operating speed and a big, built-in disk. Wavelength range 190~900nm.



UV-2101PC

bo

Handwritten signature or initials.

科学機器総覧

88

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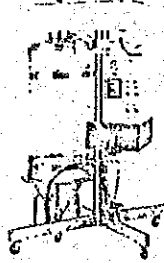
22

科学機器協会版

W/c
G.P.S.

噴霧乾燥装置 (スプレードライヤー) DL-41型

¥4,300,000

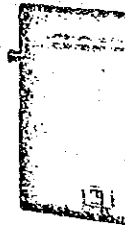


大形乾燥チャンバを備えた実験室内設置形の噴霧乾燥器で、生産ラインに近似した40~100 μ mの微細粒が得られます。実験状態の観察ができる超硬質ガラス製のチャンバ、サイクロン、捕集容器やオートマチックノズルを備え、しかも洗浄が容易に行なえます。また実験条件の設定も任意に行なえます。

- ・水分蒸発量 約3 l/h Max
- ・噴霧方式 二流体ノズル
- ・乾燥チャンバ ϕ 450×H1800 mm
- ・温度調節範囲 40 $^{\circ}C$ ~300 $^{\circ}C$
- ・試料送液量 80 ml/min まで可変
- ・熱風量 1 m^3/min まで可変
- ・電源 AC200V単相25A50/60Hz
- ・外形寸法 W1060×D880×H1750 mm

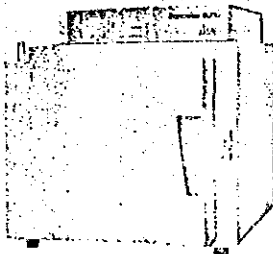
総-11-0461

ヤマト科学株式会社



電気マッフル炉 (セパレーター方式) AMF-1型

¥430,000~700,000

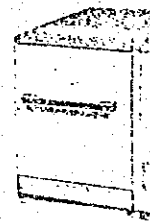


当社の卓上電気マッフル炉はセパレーター方式ですから将来炉内寸法を変更したい場合は炉本体のみを購入する事により各種の電気炉として御使用致します。又出入口ガスノズルも付いていますので準ガス雰囲気炉としても使用出来ます。ヒーターと炉体は一体成型ですから消費電力が少なく済みます。

- ・温度範囲 常温~1200 $^{\circ}C$ 迄
- ・制御方式 P I Dデジタル式
- ・最高昇温速度 1000 $^{\circ}C$ 迄50分
- ・炉内寸法
- AMF-12 W120×D200×H100
- AMF-20 W200×D300×H150
- AMF-25 W250×D500×H200
- ・電源 AC100V及びAC200V

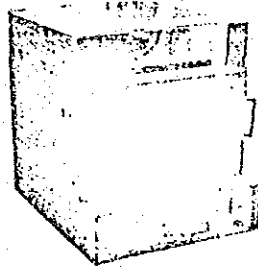
総-11-0462

株式会社 アサヒ理化製作所



高温電気マッフル炉 AMH-1型

¥1,800,000~4,000,000

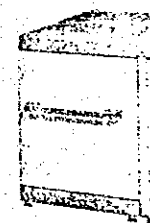


高温度を必要とするセラミックの焼成及び金溶等の高温熱処理などに使用出来ます。機種は炭化硅素発熱体(常用1450 $^{\circ}C$)とケラマックス発熱体(常用1600 $^{\circ}C$)使用の2種類ありますので用途に応じて御選び下さい。

- ・炉内寸法 W200×D350×H150 mm
- ・AMH-S型 シリコニット発熱体
- 常用温度 1450 $^{\circ}C$ 迄(Max 1600 $^{\circ}C$)
- 定電力自動制御 P I Dデジタル式
- ・AMH-K型 ケラマックス発熱体
- 常用温度 1600 $^{\circ}C$ 迄(Max 1700 $^{\circ}C$)
- 定電力自動制御 P I Dデジタル式
- ・電源 AC200V 単相

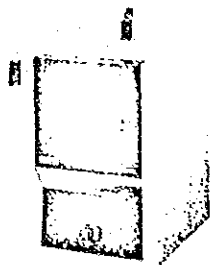
総-11-0463

株式会社 アサヒ理化製作所



電気マッフル炉 (デジタルタイプ) ESF-1・2・3型

¥470,000~520,000

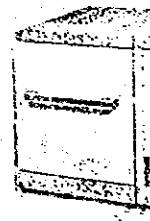


本器は、コンパクト、軽量、機能的で完全自動温度調節器を使用した高性能な電気炉です。発熱体をアルミナセメントに埋め込んだヒートパネルは腐蝕性ガスに強く、耐久性にすぐれております。ヒートパネルを四面に使用しておりますので、温度分布精度が高く試料を均一に加熱することが出来ます。

- ・最高温度 1200 $^{\circ}C$ (常用1150 $^{\circ}C$)
- ・温度調節方式 比例積分微分制御
- ・温度調節精度 $\pm 2^{\circ}C$ ~ $\pm 3^{\circ}C$
- ・発熱体 カンタルA₁
- ・炉内寸法 (W×D×H mm)
- ESF-1 130×185×100
- ESF-2 155×260×130
- ESF-3 180×365×155

総-11-0464

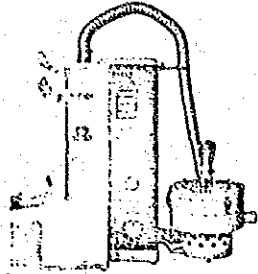
アドバンテック東洋株式会社



21
2025/9

1000~3,600,000
 タイマー2ヶ
 D45×H7cm
 5枚 T-10.1
 2Hp T-10.4
 400W 2Hp
 別寸法風量
 あります。

田中化学機



スプレードライヤー SD-1・2型

¥1,050,000~1,790,000

二液体ノズルを使用して、液状物質を熱風の流れの中に噴霧させ、極めて短時間に均質な微粉末の乾燥製品を得ることが出来ます。物質温度は、空気の湿球温度を若干上回る程度に抑えられるので、熱変性の試料の乾燥にも利用できます。SD-2型はお求めやすい簡易タイプです。

- ・水分蒸発量 1200ml/h
- ・ヒータ容量2kW(ベース1kWコントロール1kW)
- ・噴霧用ノズル 二液体ノズル
- ・噴霧空気量 Max 20ℓ/min (エアポンプ)
- ・吸引ブロー Max 0.83m³/min
- ・電源 AC100V, 50/60Hz 30A

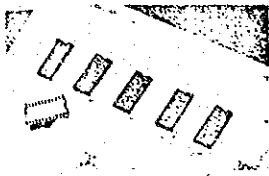
総-11-0457

東京理化学工業株式会社

¥6,200,000

0℃除湿冷凍機
 175×D90cm
 2層4両級送
 3.75kW
 用トレー寸法
 H7cm 2列8
 2.17kWh

田中化学機



シート状乾燥剤 (ハイシート・ドライ)

¥10~

湿度による損害には、変質、カビ、虫害、金属の錆、電気製品の絶縁不良、食料品の腐敗等、種々あります。「ハイシート・ドライ」はシリカゲルをポリオレフィン系樹脂に封入し、シート化した新しいタイプの乾燥剤です。シート状のため任意の形状、大きさに成形して商品の保管、輸送に充分な乾

燥効果を発揮し、製薬、食品、エレクトロニクス関係をはじめ各種の製品をガード致します。

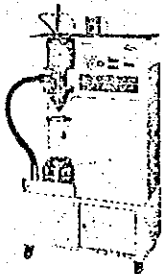
総-11-0458

富山科学工業株式会社

¥10,000,000

0℃除湿冷凍機
 箱式
 50×D1000cm
 455両級送
 排水量150kg
 水分量に応じて

田中化学機



小形造粒乾燥装置 (バルビスミニベッド) GA-22型

¥2,400,000

本装置は、流動層を利用して粉体の造粒及び湿粉体の乾燥を行なうものです。高価な試料や研究室レベルでの少量の試料がかけられます。乾燥温度、風量、バインダ送液量など実験条件を自由に設定できます。また透明な超硬質ガラス製チャンバを採用していますので、内部観察が容易に行なえます。

- ・処理能力 50~300g
- ・流動層チャンバ容量 3ℓ
- ・噴霧ノズル 二液体ノズル
- ・送液ポンプ 定量ペリスタポンプ
- ・温度調節範囲 40℃~200℃
- ・温度調節精度 ±1℃
- ・電源 AC200V 単相14A 50/60Hz
- ・本体寸法 W760×D420×H1350mm

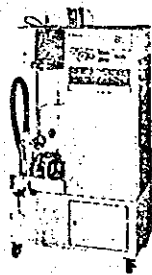
総-11-0459

ヤマト科学株式会社

¥100~350,000

24kW
 50℃・200℃

谷口製作



小形噴霧乾燥装置 (バルビスミニスプレー) GA-32型

¥2,400,000

小形造粒乾燥装置 GA-22型のアタッチメントを交換することにより、噴霧乾燥ができる装置で、試料の固形分が0.5%程度の少量でもかけられます。熱風温度、風量、試料送液量などの調節が任意に設定できる制御部と内部観察ができるガラス製大形乾燥チャンバにより効率のよい作業ができます。

- ・水分蒸発量 1300ml/h Max
- ・温度調節範囲 40℃~200℃
- ・温度調節精度 ±1℃
- ・試料送液量 28ml/min Max (ペリスタポンプ)
- ・温度表示 デジタル(入口・出口)
- ・本体寸法 W760×D420×H1350mm
- ・電源 AC200V 単相18A 50/60Hz

総-11-0460

ヤマト科学株式会社

CATALOGUE NON AVAILABLE

42
F. 13

先進技術で世界をリードする KOBELCO CIP

KOBELCO CIP BY KOBE STEEL, A LEADER IN HIGH PRESSURE TECHNOLOGY

特長

コンパクトサイズ

- Dr. CIP は、幅135cm×奥行110cm×高さ130cmと省スペースな装置です。
- 電源、空気源の接続のみで納入と同時に使用できます。

優れた作業性、メンテナンス性

- プレスフレーム方式の採用で成形容器周りの構造がシンプルになり、製品の取出しが簡単に行えます。
- 自動空気抜き弁を標準装備していますので、わずらわしい空気抜き弁の操作が不要です。
- 成形圧力設定(デジタル入力)、減圧スピード設定(バルブ調整)などすべての操作は、操作盤上で行えます。
- 昇圧・減圧装置などの操作回路も簡単になり、メンテナンスが容易です。

高い安全性

- 成形容器は単純円筒で疲労寿命が長く、安全性の高い装置です。
- 電氣的インターロックで異常昇圧を防止します。

Dry CIP に変身

- 新開発のドライアタッチメント(特許出願中)を装着することで乾式法として使用できます。

ソフト技術に関するコンサルティング

- 神戸製鋼は多くの CIP 装置を有するユーザーでもあり、数多くの操業経験を有しています。
- これらの経験を基にゴム型の設計、製作をはじめ、ハード、ソフトの両面からユーザー各位のサポートをお約束します。

優れたコストパフォーマンス

- 画期的な低価格を実現しました。

FEATURES

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Space saving

- Its compact body (135cm (53.2 in.) wide × 130cm (51.2 in.) high × 110cm (43.3 in.) deep) saves an installation space.
- Ready-to-use unit just after connecting electricity and compressed air source.

Easy operation and maintenance

- A simple construction with a press frame makes an easy handling of products.
- An automatic air-vent valve eliminates a complicated operation.
- Presetting compaction pressure and decompression rate can be easily controlled on the operation panel.
- Simple control system makes an easy operation and maintenance.

Safety consideration

- Threadless and holeless pressure cylinder extends its fatigue life.
- A positive interlock system prevents over-pressurizing.

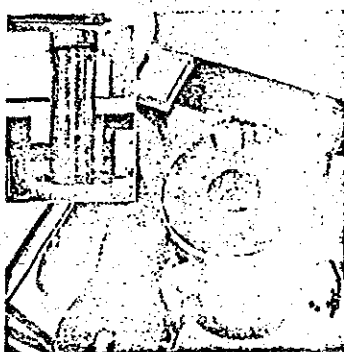
Dry CIP or Wet CIP ?

- Wet CIP can be applied as Dry CIP just by mounting special attachment for Dry CIP (Patent pending)

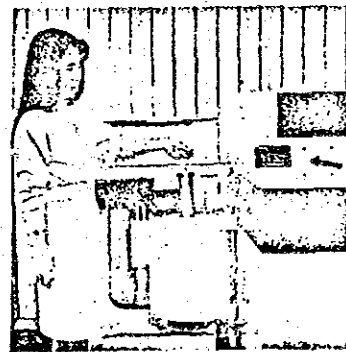
Operation know-how

- A rich experience not only as machine builder but also machine user over 30 years.
- Kobe steel supports customer to design and manufacture rubber molds and relevant equipments.

EXAMPLE OF APPLICATION AS DRY BAG PROCESS



ドライアタッチメント Dry attachment

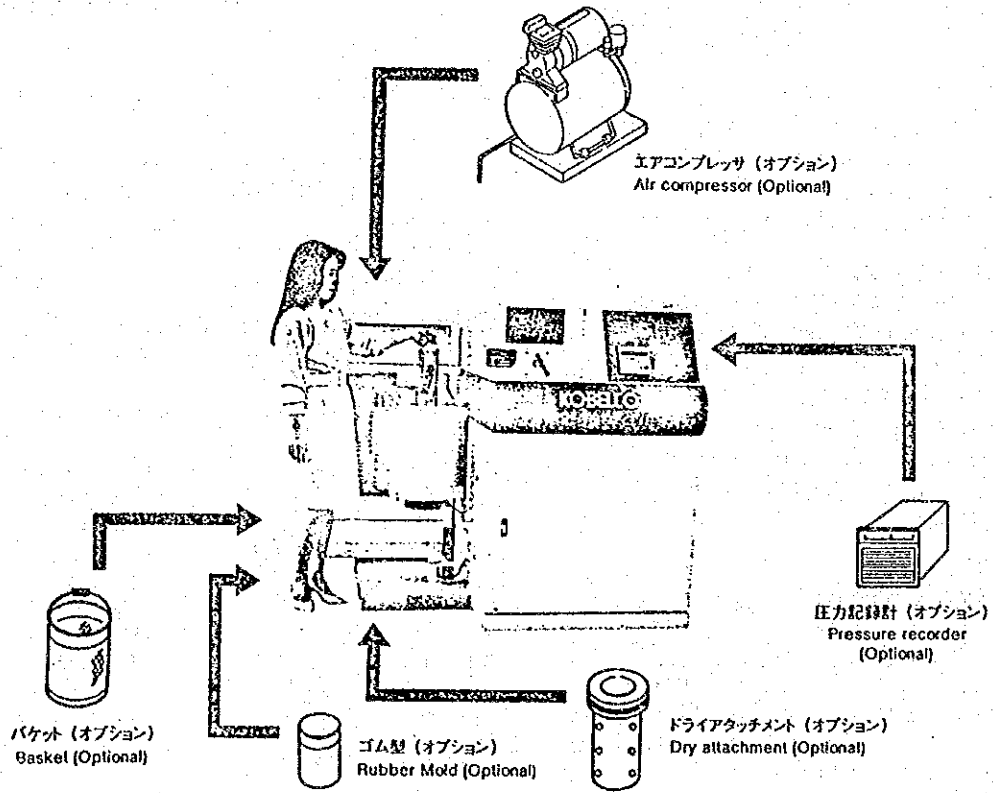


成形体取出し Product discharging

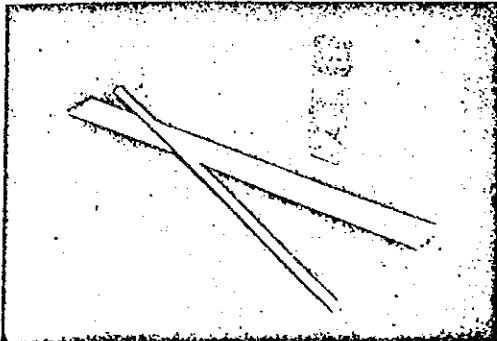


成形体取出し Product discharging

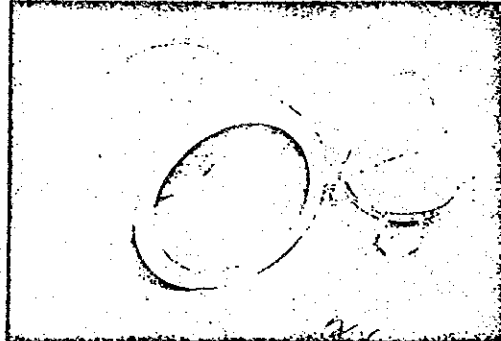
システム構成 SYSTEM COMPONENTS



SAMPLE OF COMPACTED PRODUCTS



成形体 (アルミナ粉) Compacted products (Alumina powder)



成形体 (急冷凝固アルミ粉)
Compacted product (RS aluminum alloy powder)

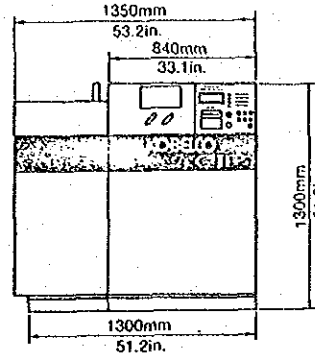
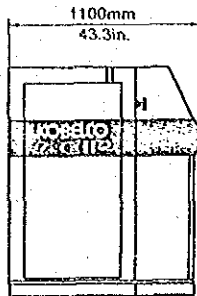
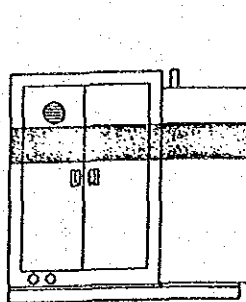
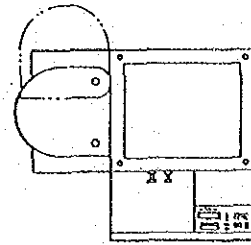
仕様・外形寸法 SPECIFICATION & EXTERNAL DIMENSIONS

仕様 SPECIFICATIONS

最高圧力 Rated Pressure	4000 kgf/cm ²
処理室寸法 Dimension of pressure vessel	100mm (3.9in.) dia × 300mm (11.8in.)

ユーティリティ UTILITY

電源 Electrical	AC 200/220V 50/60Hz 3-phase 3-cable 4kVA
圧縮空気 Compressed dry air	4.0kgf/cm ² G 20Nℓ/min



産業機械本部

東京本社 第二営業部 Tel: (03)218-7539 Fax: (03)218-6466
〒100 東京都千代田区丸の内1の8の2(数研ビル)
大阪支社 第二営業部 Tel: (06)206-6547 Fax: (06)206-6596
〒541 大阪市中央区備前町4の1の3(御堂筋三井ビル)
神戸本社 IPセンター Tel: (078)261-5950 Fax: (078)261-5958
〒651 神戸市中央区備前町1の3の18

Industrial Machinery Group

No. 2 Marketing Department
Tel: (03) 218-7111 Fax: (03) 284-1319 Telex: 02223601 (KOBSTL J)
Tekko Bldg., 8-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100, JAPAN
Isostatic Pressing Center
Tel: (078)261-5950 Fax: (078)261-5958 Telex: 05622177(KOBSTL J)
3-18, Wakinochamecho 1-chome, Chuo-ku, Kobe, 651, JAPAN

名古屋支社: 機械販売部 Tel: (052)584-6001 Fax: (052)584-6107
〒450 名古屋市千代田区名鉄4の7の23(良田ビル)
北海道支店: 機械販売部 Tel: (011)261-9335 Fax: (011)251-2533
〒060 札幌市中央区北三条西4の1の1(日本生命札幌ビル)
東北支店: 機械販売部 Tel: (022)261-6810 Fax: (022)261-0762
〒980 仙台市青葉区一番町3の1の26(日土信託ビル)
新潟支店: 機械販売部 Tel: (025)245-8681(F) Fax: (025)243-1645
〒950 新潟市東区大通2の4の10(日本生命新潟ビル)
北陸支店: 機械販売部 Tel: (0764)41-4226(F) Fax: (0764)42-4068
〒930 富山市桜橋通1の18(住友生命富山ビル)
四国支店: 機械販売部 Tel: (0878)31-7234(F) Fax: (0878)62-6651
〒700 高松市東井町5の1(百十四ビル)
中国支店: 機械販売部 Tel: (082)228-5921 Fax: (082)223-0715
〒730 広島市中区八丁通16の11(日本生命広島第二ビル)
九州支店: 機械販売部 Tel: (092)473-0344 Fax: (092)473-8238
〒812 福岡市博多区博多駅前2の1の1(福岡朝日ビル)

New York: Kobe Steel USA, Inc.
Tel: (212) 751-9400 Fax: (212) 355-5564 Telex: WU12-6928
34F Dillon Road Bldg., 535 Madison Avenue, New York, NY 10022 U.S.A.
Los Angeles: Kobe Steel USA, Inc.
Tel: (213) 628-8480 Fax: (213) 624-0026 Telex: 677392 (KOBESTEEL USA)
300 South Grand Avenue, Suite 2620, Los Angeles, CA 90071, U.S.A.
Düsseldorf: Tel: (0211) 353891 Fax: (0211) 356829 Telex: 8587514 (KSWD D)
Postfach 240143, Immermann Str. 10, 4000 Düsseldorf, F.R. GERMANY
London: Kobe Steel Europe Ltd.
Tel: (01) 836-1225 Fax: (01) 240-7460 Telex: 25309 (KOBEO G)
Alton House, 174/177 High Holborn, London WC1V 7AA, UNITED KINGDOM
Mexico: Tel: (05) 511-4003 Fax: (05) 511-3630 Telex: 1773555 (KOBEO ME)
Rio Sanubio No. 69, 9° Piso, Cdt. Cuauhtémoc, 06500 México D.F., MEXICO
Bahrain: KOBELCO Middle East (E.C)
Tel: 531717 Fax: 530629 Telex: 7303 KOBELC
1st Floor Zeyant House, P.O. Box 2309, Manama, BAHRAIN
Melbourne: Tel: (03) 654-4355 Fax: (03) 654-2849
30F ANZ Tower, 55 Collins Street, Melbourne, Victoria 3000, AUSTRALIA
Beijing: Tel: 513-7766 (Ex. 3088, 3848, Fax Ex. 3851) Cable: KOBELCOPKG BEIJING
Room No. 3088, Beijing Hotel Dong Chang An Jie, Beijing, THE PEOPLES REPUBLIC OF CHINA
Moscow: Tel: 253-28-08, 253-28-06
Room No. 808, International Hotel No. 212, Krasnopresnenskaja Nab. Moscow 123610, U.S.S.R.
Singapore: Tel: 221-6177 Fax: 224-3484 Telex: RS23338 (KOBSTL)
#22-02 DBS Bldg., 6 Shenton Way, Singapore 0106, REPUBLIC OF SINGAPORE

（カタログに掲載の製品、技術には、外国産品及び外国製機器等を使用して製造された製品が数多くありますので、輸出される場合に、日本国政府の輸出許可を要する場合があります。）

This brochure contains the product that cannot be exported without a license from the Japanese Government. Thus, any export contract will only be effective subject to the Japanese Government approval.

69081000 神戸製鋼所 印刷 in Japan

○常用1800°C特超高温シリコニット電気炉

写真-14 1800°C特超高温シリコニット電気炉(定格品)

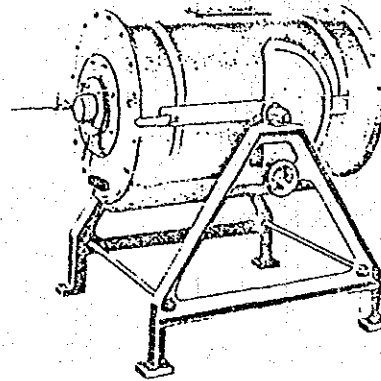
新素材開発のニーズに応える常用1800°Cという超高温域を実用的に達成した管状シリコニット電気炉です。すでに画期的製品として注目をあび、多数を市場に提供して好評を得ています。

この炉の原理は、発熱体には管型シリコニットを、炉心管には99.7% α - Al_2O_3 再結晶溶化管を使用しており、この炉心管内は、自由雰囲気ですが、発熱体は高温で一般炭素雰囲気になるような特殊構造をしています。

この炉の最大の特長は、炉内雰囲気は自由で、1800°Cという特超高温に常用できることであり、貴金属発熱体炉、モリブデン炉、炭素炉、酸化物発熱体炉、誘導炉などに比して安価軽便なことです。

用途例として、高融点金属の溶解、高級耐火物の焼成、耐火度試験、高温計検度、宇宙開発用耐熱材の研究、単結晶の製造、ファインセラミックスの製作などがあります。

この炉の詳細については、別刷解説書があります。



□表-11 常用1800°C特超高温シリコニット電気炉定格表

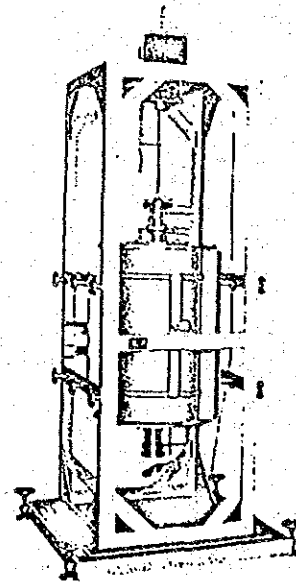
温度域	型 番 号	炉心管内径 ×加熱長mm	最大電力 kVA	シリコニット %
常 用 1800°C	1800SpUSH-240	28.5×300	6	SpL 24
	1800SpUSH-300	38 ×400	7	SpL 30
	1800SpUSH-370	45 × "	8	SpL 37
	1800SpUSH-410	60 × "	9.5	SpL 41
	1800SpUSH-510	65 ×450	12	SpL 51

写真-15 1800 SpUSH ブリッジマン炉

○ブリッジマン法単結晶炉

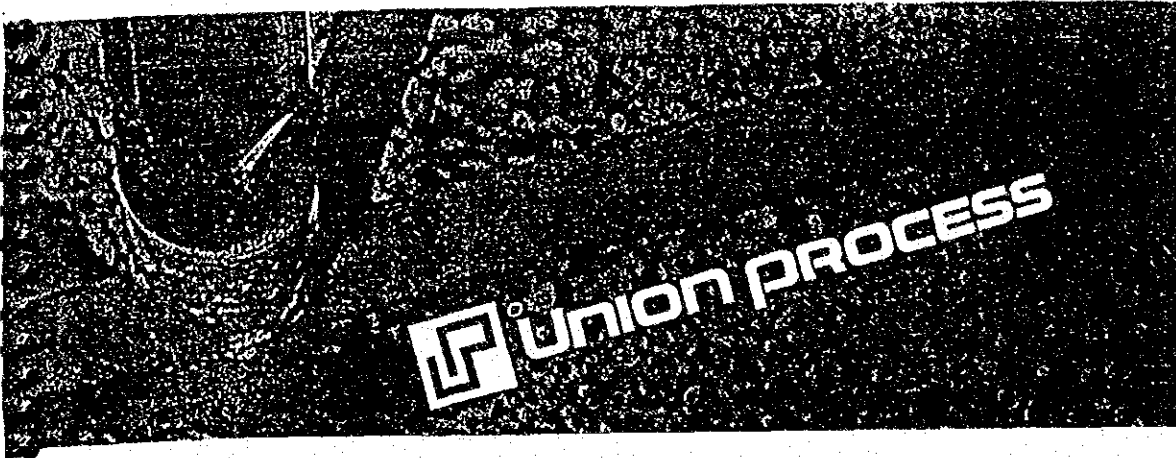
各種フェライト、金属間化合物および諸鉱物の単結晶を製作する目的の専用炉で温度は、1600°CまでのDSp型超高温炉と1800°Cまでの1800SpUSH型の特超高温炉があります。

いずれも微速駆動つり下げ装置、炉体上下動および回転機構、雰囲気送入装置、観測窓、測温自動調節計器など、付属品も完備であり、すでに全国多数の研究所、大学、および事業所に採用されて絶大な信用を博しています。



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LABORATORY ATTRITORS



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ATTRITOR ACTION

The operation of an Attritor is simple and effective. The material to be ground is placed in a stationary tank with the grinding media. Carbon steel, stainless steel, chrome steel, tungsten carbide and ceramic balls are commonly used media. The material and media are then agitated by a rotating internal shaft with arms. The final result is a fine, even particle dispersion.

ATTRITOR TYPES

Attritors are produced in three types:

- Batch
- Circulation
- Continuous

In the batch Attritor, the material to be ground is charged into the Attritor, processed, and discharged. No premixing is necessary, and ingredients can be added anytime during the processing. Inspections and formula corrections can be made during grinding without stopping the machine.

1-S

BATCH ATTRITOR

The 1-S is a versatile, reliable, rugged laboratory size grinding machine designed to meet virtually

all lab grinding and dispersing needs — either wet or dry. Plus, it can be used to reliably scale up to production size equipment, and for mechanical alloying to produce dispersion-strengthened metals (DSM). The 1-S can be equipped with a variety of accessories to expand its versatility.

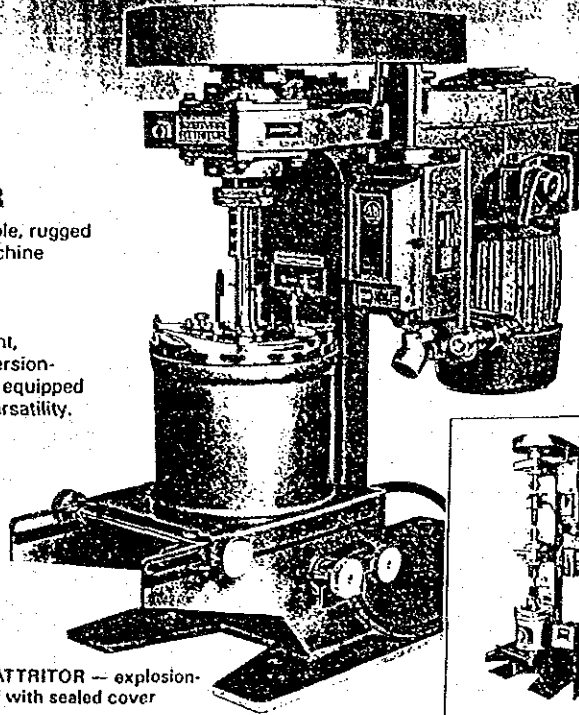
FEATURES

- Variable-speed drive motor
- Adjustable agitator shaft height to accommodate different size grinding media
- Bottom discharge grid with valve for easy slurry removal and fast cleaning
- Tank tips to 90° for media discharge and fast cleaning
- Jacketed stainless steel tank for heating or cooling
- Standard (TEFC) or explosion-proof electric motor and controls

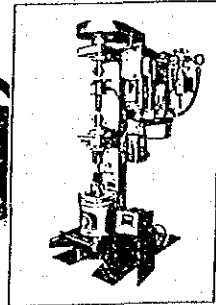
TANKS

- Stainless steel — ½, 1, 1½, 2½ gal.
- Ceramic-lined — 2½ gal.
- Rubber-lined — 1½, 2½ gal.
- Tefzel® lined — 1½, 2½ gal.
- Polyurethane lined — 1½, 2½ gal.

All tanks include cooling jacket, agitator shaft, arms, and bottom valve.



1-S ATTRITOR — explosion-proof with sealed cover



1-ST ATTRITOR — with torque meter and digital display

DATA

Tank Capacity	1.5 gal.	2.5 gal.
Slurry Capacity	0.8 gal.	1.1 gal.
Media Volume	1 gal.	1.5 gal.
Height	37"	37"
Bench Space	20" x 44"	20" x 44"
Horsepower		
A) Standard use	2 HP	2 HP
B) Dry grinding or WC media	2 HP	3 HP
C) DSM	3 HP	3 HP or 5 HP
Weight	670 to 700 LBS.	670 to 760 LBS.
Power	230/460 V 3Ø	230/460 V 3Ø
Explosion-proof	Yes	Yes

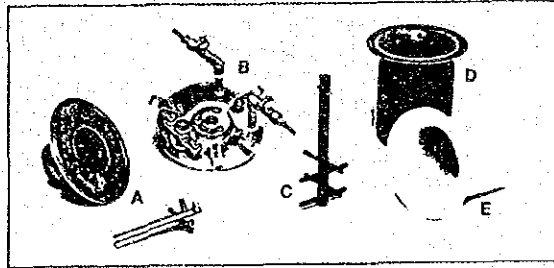
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ACCESSORIES

In conjunction with its custom design capabilities, Union Process also offers a broad line of accessories ideally suited to meet varied and critical laboratory requirements.

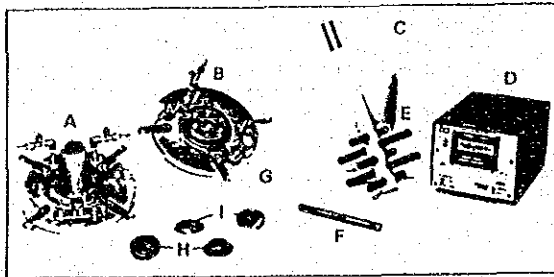
O1 ACCESSORIES

- A. Interchangeable stainless steel or Tefzel® coated 110 CC mini-tank assembly
 - B. Sealed cover with floating packing seal, charging port and gas inlet and outlet for grinding under inert gases
 - C. Plastic coated shaft and arms
 - D. Tefzel® coated grinding tank
 - E. Ceramic grinding tank
- Bottom discharge valve and tachometer are available for O1-HD



1-S ACCESSORIES

- A. Vented cover for cryogenic grinding with liquid nitrogen
- B. Sealed cover with floating packing seal, charging port and gas inlet and outlet for grinding under inert gases
- C. Ceramic tank liner
- D. Digital display for torque meter, with torque, horsepower and RPM readout
- E. Plastic arm sleeves with plastic coated shaft
- F. Nickel hard-faced arms
- G. Ceramic arm sleeves
- H. Plastic bottom bar grids (1/16", 3/32", 1/8")
- I. Stainless steel bottom bar grids (1/16", 3/32", 1/8")



Note: Also available

- Stainless steel sample vessel for discharging under inert atmosphere
- Interchangeable dry grinding metering discharge valve
- Tungsten carbide and silicon nitride arm sleeves
- Tachometer

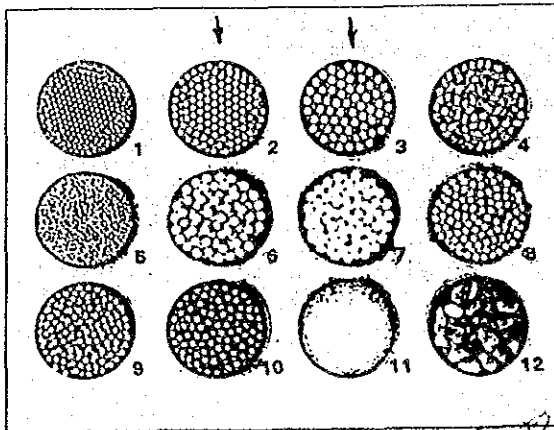
GRINDING MEDIA

Union Process carries a full line of all types and sizes of the highest quality grinding media available to meet your particular needs.

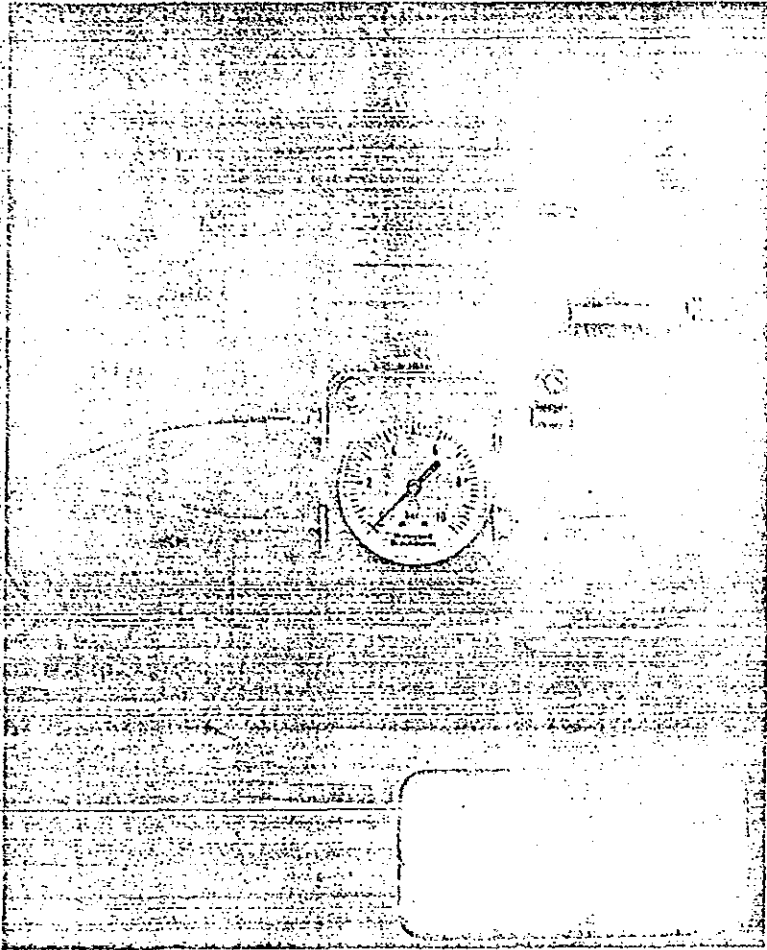
The examples shown at right are:

- | | |
|------------------------------------|---------------------------------|
| 1. 1/8" stainless steel | 7. 1/4" high alumina 86% or 95% |
| 2. 3/16" chrome steel | 8. 3/16" zirconium oxide |
| 3. 1/4" case hardened carbon steel | 9. 3/16" tungsten carbide |
| 4. 3/16" stainless steel diagonals | 10. 3/16" silicon nitride |
| 5. 1/8" mullite | 11. 1/8" glass |
| 6. 1/4" ceramic | 12. Flintstones |

For additional information regarding composition and sizing recommendations, contact Union Process.



100 AFG Fluidised Bed Opposed Jet Mill



High Technology Adds More Value

Fr. 100 AFG
9

The Grinding Process of the Future

Compact and Compi
Also Convertible into a Turbo

Products of any hardness can be pulverised in the 100 AFG to a maximum fineness of $d_{97} = \text{approx. } 2.5 \dots 40 \mu\text{m}$. This machine operates with minimum wear and -- with corresponding equipment -- freedom from iron pick-up, i.e. contamination-free, even when micronising abrasive materials up to a hardness of 9.5 Mohs!

Therefore the 100 AFG is, also, ideally suitable for the ultra-fine grinding of highly pure products, such as:

— Rare earths; pure silicon, fluorescent powder etc.
The application range also covers extremely difficult materials. For example: Samarium cobalt! Even this pyrophoric metal powder is successfully micronised on AFG systems in practical operation, using inert gas. Fineness achieved: $d_{50} = \text{approx. } 3 \dots 6 \mu\text{m}$ (analysed by the Fisher Sub Sieve Sizer). The ultra-fine end products are of prime quality: They have a closely defined particle size distribution with sharp topsize limitation, and are free from oversize particles!

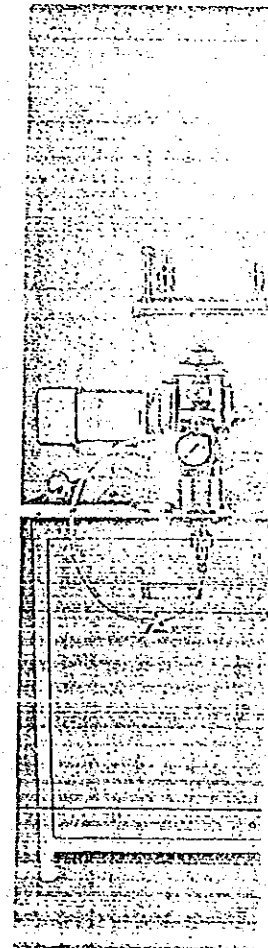
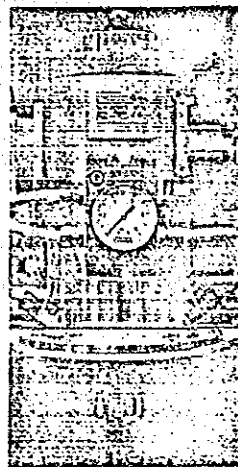
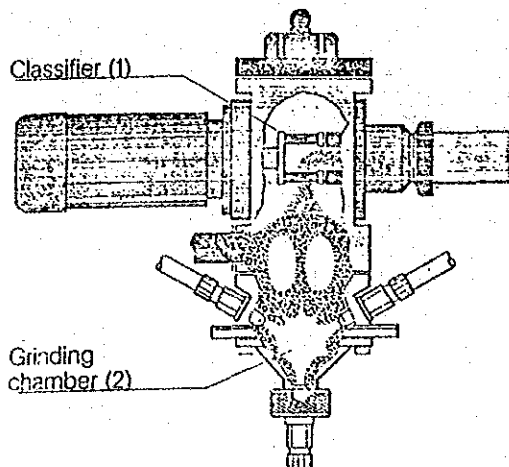
Besides achieving the required product fineness, the 100 AFG is also very economical to operate, because Alpine mills type AFG work with much lower energy consumption than any other jet mill. The very low noise level whilst in operation represents a further advantage. The noise level of the 100 AFG is below 85 dB(A). The technology of the 100 AFG allows even difficult problems to be solved.

Design and mode of operation (Schematic illustration)

The 100 AFG is a combination of a special focused bed exposed jet mill (2) and a very precisely separating Turboplex[®] ultrafine classifier type 50 AFP (1). The grinding and classifying steps can be individually adjusted. The special size reduction principle (opposed jets in a focused bed) and the horizontal arrangement of the classifier shaft allow the ultra-fine size reduction of products of any hardness with a minimum of wear.

If necessary, almost the total material charge can be pulverised, without a residual heel, due to the special arrangement of the grinding nozzles. One common annular duct supplies compressed air to the three nozzle assemblies. Only air, but no product passes through the grinding nozzles; therefore these parts are not subjected to wear. The ground product is transported to the classifier in the grinding air stream. Fine product particles are discharged; the coarse material rejected by the classifier is recirculated into the milling section and completely pulverised in closed circuit operation.

Fig. 100 AFG -- detail view.



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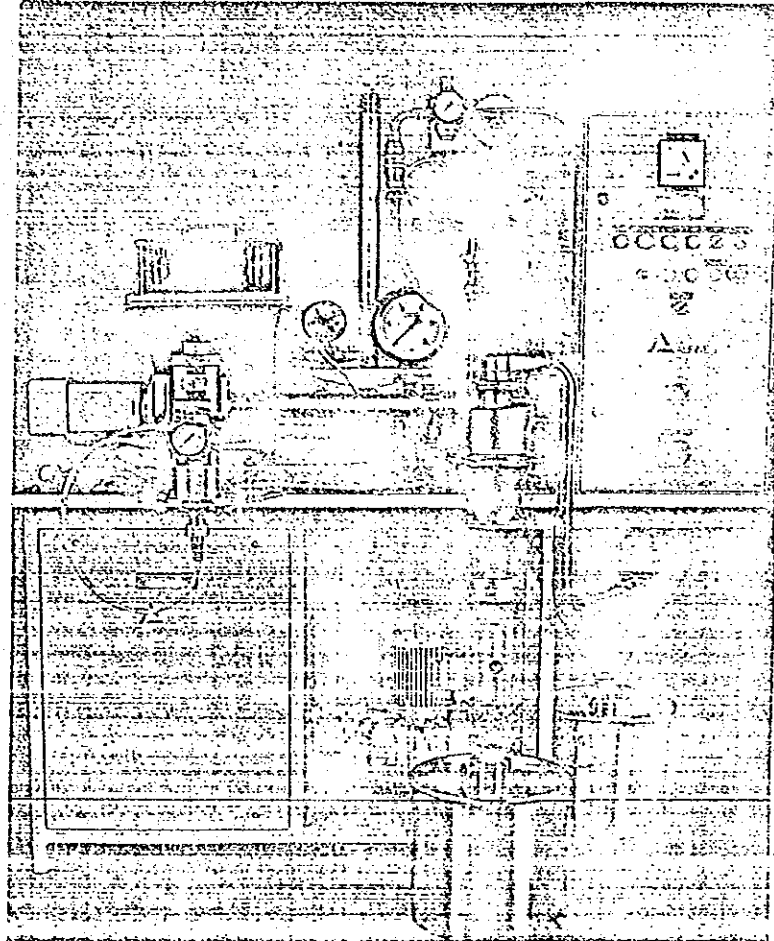
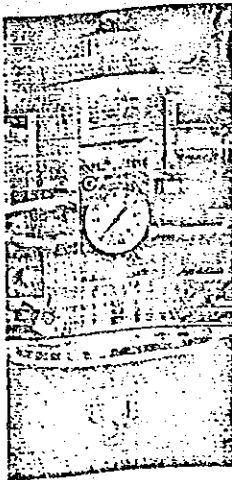
Compact and Complete: The 100 AFG System
 Also Convertible into a Turboplex® Classifying Plant 50 ATP

Design and mode of operation
 (Schematic illustration)

The 100 AFG is a combination of a special fluidised bed separator jet mill (2) and a very precisely separating Turboplex® ultrafine classifier type 50 ATP (1). The grinding and classifying steps can be individually adjusted. The special size reduction principle (opposed jets in a fluidised bed) and the horizontal arrangement of the classifier shaft allow the ultra-fine size reduction of products of any hardness with a minimum of wear.

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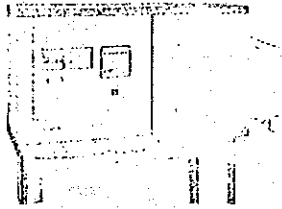
Fig. 100 AFG - detail view.



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急速昇温 電気炉 (HTシリーズ)



グレードの高いアルミナ質耐火材とカンタルスーパー33で構成した本炉は、速い、高い昇温速度とメンテナンスが容易な、新しい昇温タイプの運転が手軽にできる研究・開発用電気炉です。炉体と制御盤を一体化していますのでスペースを取りません。運転操作は2つの押ボタン操作と温度プログラム設定により自動運転します。

¥2,300,000~4,000,000

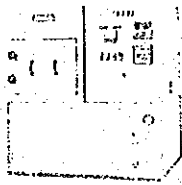
- ・最高温度 HT/16型 1600℃
HT/17型 1750℃
- ・温度分布 ±5℃
- ・炉内容積 4ℓ~16ℓ
- ・電気容量 3kW~7kW
- ・発熱体 カンタルスーパー33
- ・温度制御 PIDプログラム制御

総-11-0685

中外エンジニアリング株式会社



高温雰囲気炉 (Atmos・ATMシリーズ)



"Atmos"は、真空、大気、N₂、H₂など処理目的に応じた雰囲気で作る高温雰囲気炉です。迅速な昇温速度ができるので、新素材の開発研究用に最適です。温度制御、真空制御、真空監視、安全管理システムが完備しています。特許仕様にも応じますので初級者下まで。

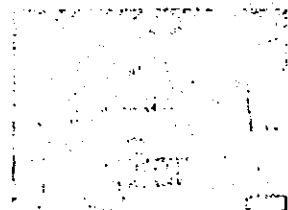
¥6,500,000~

- ・最高温度 1700℃ (大気)
1500℃ (不活性ガス)
- ・温度分布 ±3℃
- ・炉内寸法 20×20×25cm
- ・電気容量 6kW
- ・発熱体 カンタルスーパー33
- ・真空度 1×10⁻⁴Torr
- ・温度制御 PIDプログラム制御

総-11-0686

中外エンジニアリング株式会社

生産用高真空・ガス雰囲気炉 (外熱式) THD-1200



本装置は、生産用大型外熱式電気炉です。発熱体が炉芯管の外にあるため、材料から出る水分、ガス等の影響で発熱体が破損することなく、十分な高真空・ガス雰囲気の中で、高品質の材料が安全確実に熱処理できます。昇温の昇温・真空・ガス導入・冷却もプログラム等の自動化が出来ます。

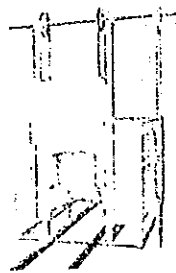
¥23,800,000~

- ・仕様 外熱式 10⁻⁴Torr
- ・温度 最高1200℃ 常用1150℃
- ・炉芯管内寸法 φ700×1700mm
- ・電気容量 3φ200V 120kVA
- ・発熱体 全周式酸化鉻製
- ・温度制御及びガス導入を含む
- ・制御盤 制御盤・監視計等含む
- ・上記は仕様の一つです。

総-11-0687

東京電炉株式会社

台車式電気炉 THF-CT-1400



台車式電気炉は、主に重量物の熱処理を効率的に製作しております。材料が大きい台車を使用し、作業の安全化をより、作業のスピードアップも致します。温度分布を広く取り出来るだけ多くの材料を熱処理するために、設備が効率的出来、より一割省エネルギー化に向けて製作されている炉です。

¥6,850,000~

- ・最高温度 1100℃
- ・常用温度 1200℃
- ・炉内寸法 810×380×1350mm
- ・発熱体 灰化鉻製
- ・制御電力 3φ200V 99kW
- ・温度制御 選定可自由
- ・上記の温度、寸法は仕様の一つです。制の仕様は別見当です。

総-11-0688

東京電炉株式会社



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② 持ち帰り資料一覧表

② 持ち帰り資料一覧表

②-1 : 小冊子

“IPT Technological Research Institute” (1990, from IPT)

②-2 : ゼロックス資料

“Institute for Technological Research of Sao Paulo State”

②-3 : “Technical Cooperation, Brazil-Japan, Technological Capacitation in Materials” Sao Paulo-Brazil Feb. 1992

②-4 : ゼロックス資料

“Fine Ceramics” - Industries (International Companies)

②-5 : “Ceramica”1991年のブラジルセラミックス学会の予稿集

ポルトガル語で印刷されている。(別添せず)

②-6 : “Anuario Brasileiro de Ceramica - 1991”

ブラジル国内の1991年のセラミックス関係の状況要覧

ポルトガル語で印刷されている。(別添せず)

②-7 : タイプおよびゼロックス資料

“Available I.P.T. Equipments”

②-8 : ゼロックス資料

“Education Centers for Ceramics”

②-9 : ゼロックス資料

“IPT Ceramics Laboratory Working Team”



INSTITUTE OF TECHNOLOGICAL RESEARCH
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