

PRODUCTIVITY IN MINERALS

ABOUT MIT GROUP

MINERAL INNOVATIVE TECHNOLOGIES GROUP, focused on growth through service and staff fulfilment, MIT's offering is a full range of Metallurgical, Sampling, Laboratory Equipment and Consumables. Local production is prioritised and our in-house fabrication facility enables us to be a versatile, fast moving company.

Our technical experience in turnkey projects allows us to design, manufacture, supply, commission and train your staff, ensuring a smooth project delivery.

MIT-GROUP's footprint spans across Africa, Australasia, Europe and South America.

MIT-GROUP aims to provide superior products and unmatched service, delivered timeously across the globe.

WHAT SETS US APART

QUALITY IN OUR SERVICE AND PRODUCT

SAVING TIME WHERE IT COUNTS

DELIVERING INNOVATIVE PRODUCTS

INCREASING PRODUCTIVITY

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Specac,



















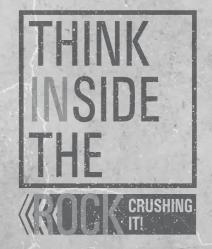
MIT PROCESS





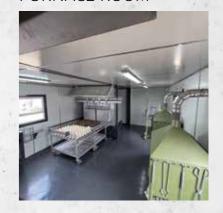








FURNACE ROOM



CRUSHING ZONE



SAMPLE PREPARATION



Full turnkey solutions for new laboratories. Working either through project houses or directly with the client to provide a final stage laboratory, operation-ready.

Project would include:

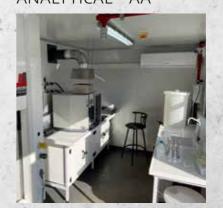
- · Design and layout services
- · Building consultation services, enabling efficient work flow
- Supply and installation of all equipment & furniture needed
- Supply of all consumablesOn-site training courses tailored to each and every project.



XRF/BALANCE/OFFICE



ANALYTICAL - AA



ANALYTICAL - PARTING





SINGLE CONTAINER LAB SOLUTION









CONTAINER LABORATORIES

Container laboratories are custom built to suit your requirements. From a single container too multiple container solutions, we can assist you to maximise your work flow efficiency.

INSTILLATION:

Infra-Red Dryer Soil Grinder Shaker Mixers – Drum Tumbler Custom built workbenches Sample Trays Air Conditioning Consumables.

Floor Scale Double basin sink Rubberised Floor Storage shelving Scales

TURNKEY SOLUTIONS

METALLURGICAL & SAMPLE PREP EQUIPMENT



INFRA-RED DRYER

These units are able to dry samples extremely quickly. Powered by infrared lamps, heat is instantaneous.

ADVANTAGES:

Powered with temperature controlled infra-red lamps, hotplate base & adjustable airflow system.

- IR lamps max temperature 180°C
- · Hotplate base max temperature 200°C
- Robust construction consisting of 304 stainless steel interior & mild steel powder coated exterior
- PID auto temperature controllers
- · Counter weighted lift up doors
- · Lockable castors wheels

AVAILABLE IN CONFIGURATIONS OF:

- · 2 or 4 Position single door
- · 6 or 8 Position double door





MIT-GROUP

SAMPLE DRYING OVENS

These robust and reliable industrial ovens are intended for a variety of drying operations and are designed for the harsh mineral industry.

- With a moisture expelling system to speed up drying times and reduce corrosion to the structure of the Oven
- · Heavy Duty Handles & Construction

Size Range Available:

- · 80lt / 240lt / 400lt / 800lt / 1400lt / 2000lt
- · All ovens come with Analogue or Digital controllers
- · Trolley load system available from 800lt and up
- · Fixed shelf option for all models.





LABORATORY FURNACES

- · Loss on ignition
- Fusion
- High Temperature
- Ashing
- Furnaces supplied to suit any application
- · Replacement Elements and rebuilding available

FURNACE TYPES AVAILABLE:

- E Range Muffle Furnace
- · LM Muffle Range
- E-Temp Range Furnaces (Industrial High Temp)
- · Laboratory High Temp Chamber Furnaces
- · Minimum Free Space Ovens
- · Laboratory Slab Element Furnaces
- Coal and Coke Slab element furnaces
- · Zircon alumina muffle for volatile or chemical applications





FILTER PRESSES

- · High quality materials, 300 WA, EN8, certified m/s and certified stainless steel 304 and 3CR12.
- The tubes for the pots are all certified to minimum pressure of 20 bar.
- · All filter presses come standard with pressure relief valves (Set to 5 bar).
- · Locally Manufactured.







MINI PRESS





CASCADE SPLITTERS

We design and manufacture Rotary Splitters from as small as 36ml up to 2Ton+ capacity

SYSTEMS INCLUDE:

- Vibratory feeders and controllers
- Feed Hoppers
- Clutch system for safety purposes
- · Conveyor feeders for bigger systems.

SPLITTING RANGES:

8 Way 6 Way

 10 Way 12 Way.

COLLECTION VESSELS:

- Glass Test Tubes
- Stainless Steel Cups
- · Stainless and Mild Steel Drums
- · Plastic Drums.



SLURRY VACUUM SYSTEM

- · 315 Dia interchangeable Vacuum pots with air tight O-ring sealed lids
- · HDPE body in a powder coated steel frame with levelling feet.
- 220VAC Electricity actuated valves:
- Vacuum
- Drain
- Pressure release
- Single 380VAC supply
- · 380VAC Vacuum pump to suit

SYSTEMS AVAILABLE IN:

- Single Station
- · Double Station
- · Four Station
- · Six Station

Suitable for integration into your plant process.



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MIT-GROU **METALLURGICAL & SAMPLE PREP EQUIPMENT**

ROD MILL

- · Available in 13lt and 25 lt capacity models
- · Variable speed control
- Geared hand wheel system to assist with loading, grinding and discharging.



ROLLS DRIVE MILL

- · Bench Top or Frame Stand
- 5lt / 7lt / 10lt S/S Vessels
- · Rod Charges available
- · Rubberised rollers
- Multiple sizes available



BOTTLE ROLLER

- Leaching Applications
- · Variable speed drive
- · Safety cage with cut-off switch
- · Fully customizable length, rollers.



TRIPLE DECK BOTTLE ROLLER





STAINLESS STEEL Y-BLENDER

- · Capacity range 35L 500L
- Complete, fabricated from 304 stainless steel supported on a powder-coated mild steel open stand.
- · Polished blender.
- The blender is fitted with inlet and outlet diaphragms



PULVERISING MILL

- Wide range of Grinding Bowls accepted.
- Direct-Motor mounted drive system designed to reduce Cost and increase Reliability.
 Incorporating a High Durability 1.1kW
 Customised motor.



- Electrical enclosure mounted on rails inside of the machine body. This allows for easy access, when needed, and increased protection from external damage.
- Low Noise and Vibration design, allows for comfortable machine operation.
- Increased safety to the operator, by incorporating a PLC and safety switches.
- · Easy access to all maintainable parts.
- Repeatable results of 90-95%, -75 micron pulverising.



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INDUSTRIAL SIEVE SHAKER

- · Designed to accept 500kg of sample, which includes a closed tube feed conveyor
- The 2 tier system allows for separation of 10 particle sizes.
- · Interchangeable poly-deck screens which allows for customising of aperture sizes
- Each particle size is discharged onto a RS232 compatible Load Cell

All load Cells are linked to a central control board displaying the weights of each particle size.



· Emergency ON/OFF Switch



METALLURGICAL & SAMPLE PREP EQUIPMENT

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LINEAR SHAKERS

- · For larger volumes of wet screening test work
- Oversized & undersized collected in separate chutes
- Customisable According to Aperture Sizes and throughput
- 4 Waterline Sprayers (Adjustable)



CUSTOM BIO LEACH PLANTS

STAINLESS STEEL TANKS:

- Air Sparger
- · Drain & Sample ports with ball valves
- Needle Air Control Valves with all piping, Tubing & Fittings
- Circulating Pump
- Control Solenoid Valves
- PT 100 Temperature Sensors
- 100L Feed Tank



FLOTATION MACHINES

Flotation Machines for laboratory flotation.

FLOTATION CELL SIZES:

- · 250g / 1lt
- · Stainless steel cells
- · 500g / 2lt
- · Clear Perspex cells
- · 1000g / 4lt
- · 2000g / 8lt



LIFTERBOTTLE™

Rolling bottle leach tests are used in many types of laboratories. Historically, rolling bottle tests have been run in smooth walled bottles in which mixing of the solid with the solution is difficult and sometimes not existent.

After several years of development, Kappes, Cassiday & Associates is proud to announce the LIFTERBOTTLE™, a three and one-half lifter, wide mouth, HDPE bottle with intergrated lifters cast into the walls of the bottle.

- Perform metallurgical test work to determine the leachability of an ore product (i.e Cyanide Leaching).
- Perform environmental test work where solids are contacted with a specific lixiviant.
- · Eliminates the need for manual mixing.



CONCENTRATE SHAKING TABLES

- · High weight reduction ratio of 90:1
- Deck designed for maximum recovery and the highest concentrate grade
- Chemical Free
- Low environmental impact
- · High mechanical availability

The ST range is designed to allow for the production of a smeltable product from Gravity-recovered gold concentrates.

With a 90:1 weight reduction, the concentrates from the ST is of the highest grade while maintaining high recoveries

MODEL	ST30	ST80	ST140	ST300	ST700	
Feed Rate (kg/h) Water Requirement(1/h) Water Pressure (kPa) Power Requirement (kW)	25-40 700 30 0.75	70-90 950 30 0.75	135-150 1400 30 0.75	280-320 1800 30 0.75	680-750 2300 30 1.1	

MODULAR EXTRACTION

These systems are perfect for your Laboratory Sample Preparation area's. Offering a safe working environment for the operator, extracting and containing dust with it's built-in fan & filter system. No installation required, move into place and start operation.

PRODUCT SPECIFICATIONS:

- \cdot Built-in Extraction and Filtration System
- · Grated work surface
- In-built auto reverse pulse keeps the pleated cartridge clean and ready
- Built-in pressure indicator lets the operator know when the cartridge is overloaded



MIT-GROUF

PRODUCT SPECIFICATIONS:

- · Flexible Arm (2meters) Mobile Extraction System
- · Extraction Arm Mount Brackets
- · Minihelic differential pressure gauges over filters
- Lockable Castors



JAW CRUSHERS

The jaw crushers are designed to crush brittle bulk materials of various strength and hardness. In the jaw crushers, the material particles are broken down by the compressive and shear strains between the fixed and moving jaws.

The grain size of the crushed material is determined by the gap between the jaws in the lower part (the discharge slot) and the physical properties of the material.







ROTARY SAMPLE DIVIDER

The Rotating Sample Divider RSDM with Vibratory feeder VF is designed for uniform feed and reduction of bulk samples of rocks and ores to prepare them for analysis

- Simultaneous crushing and reduction of samples in a single process;
- Efficient operation by adjustment of grain-size composition of product and degree of reduction of sample within a wide range;
- Ability to carry out multiple crushing of samples to the required particle size with preservation or reduction of total weight of sample;
- Combined control panel;
- Stainless steel receiving tray with adjustable reduction;
- Latch between trays prevents sample from falling past trays.



DRUM TUMBLER S50.0

- No tool (vanes) inside the drum, which makes it possible to avoid grinding and destruction of particles during mixing;
- Operation in 3 mixing modes (with different drum tilt angles) depending on the properties of the material and the volume to which the drum is filled; The ability to turn the drum manually to load or unload material;
- The drum is made of food-grade stainless steel AISI 321;
- The drum is sealed by means of a quickrelease cover with a gasket held in place by latches;
- Operating safety of the shaker mixers is ensured by a protective housing and a limit switch:
- Equipped with MPU3 control panel in metal housing;
- Adjustable tilt angle of drum relative to its axis of rotation (15, 30, 45 and 90°).



SIEVE SHAKERS

The Sieve Shakers are designed for intermittent dry sieving of bulk materials according to particle size.

The Sieve Shaker consists of a vibration drive with a set of sieves installed, a tray, a cover and a device for fastening the sieves. The type of vibration drive, the number of sieves, and the intermediate rings and trays are selected depending on the order and according to the size of the mesh or the apertures in the perforated plate.

- · High quality,
- · Accurate, reproducible sieving results;
- · Vibration drives equipped with shock absorbers to cancel out the vibration which occurs during operation;
- Made of materials permitted to come into contact with food products;
- Sieve Shakers on base Vibration drive VP 30, Vibration drive VP 30 and Vibration drive VPS are equipped with 80 support stands;
- Sieve Shakers on base Vibration drive VP 50 are equipped with T40 support stand and control panels;
- Small size and low weight;
- · Low noise.



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METALLURGICAL & SAMPLE PREP EQUIPMENT

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VIBRATING CONE MILLS

Cone mills are designed to crush and pulverize hard and brittle bulk materials of various strengths.

In the cone mill, pulverization occurs by means of abrasion – simultaneous compressive and shear strain of material particles between the outer and inner shells.





DISC GRINDERS

Disc grinders are designed for comminution of samples of bulk materials to a fine-grained state. In disc grinders, comminution occurs by means of abrasion – simultane-ous compressive and shear strain of material particles between fixed and moving discs. The grain size of the comminuted product is regulated by the gaps between the discs (openings) and the physical properties of the material.



SOIL GRINDERS

The SG 1 soil grinder is designed to grind dry soil samples without comminuting plant inclusions and stones.

Soil comminution in the grinder occurs as result of material particles being crushed by rollers.

The grain size of the comminuted product is regulated by the size of the discharge grating openings and depends on the physical properties of the material.







SHAKER MIXER TURBULA S2.0

Shaker mixers S 2.0 and S 50.0 are designed for mixing bulk or liquid substances.

The Turbula S 2.0 shaker mixer is laboratory-class equipment with a cup volume of 2lt. The distinctive feature of the S 2.0 is the ability to adjust the rotational speed from 10 to 75 rpm.



PLANETARY BALL MILL

In a planetary mill, grinding occurs due to impact destruction during the motion of balls, as well as abrasion – simultaneous compression and shear deformation. The size of the crushed material particles depends on the running time of the mill, the physical properties of the material, the volume of material loaded, as well as the volume of balls loaded.

Recommended volume of material loaded in one bowl: 15 – 45 cm3, recommended volume of balls



loaded in one bowl: 50 – 130 cm3. MPP 1-4 planetary mill can be used as a mixer for the preparation of emulsions, suspensions and slips.

CYCLONE DUST COLLECTOR

The cyclone dust collector is designed to create an air flow that captures the duct fraction of the material crushed and settles it in a cyclone and bag filter. The primary components of the product are a fan, cyclone with shutter, frame and bag filter. The support structure has wheels equipped with brakes for moving the dust collector.

The dust collector has an adjustable exhaust hood for use as a local exhaust unit. The exhaust hood can be used as an air intake in both the loading zone and discharging zone.



DOUBLE-ROLLER CRUSHER

The Roller crusher with smooth rollers DRC 200 \times 125 is designed to crush brittle materials of various strengths.

The operational principle of the roller crusher is based on simultaneous compressive and shear strains between rollers rotating in opposite directions.

The grain size of the crushed material is determined by the gap between the rollers, the compressive force of the springs and the physical properties of the material.



METALLURGICAL & SAMPLE PREP EQUIPMENT

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CUTTING MILLS

Cutting mills are designed to comminute fiber, polymer and plant materials. In cut-ting mills, comminution occurs by means of cutting - shear strains of material particles between rotor blades and a housing.

The grain size of the comminuted product is regulated by the openings in the discharge grate and the physical properties of the material.



SAMPLE SPLITTERS

Riffle sample splitters are designed to divide samples of bulk materials into two parts of equal size and with equal content. Sample splitters DP 5, DP 10, DP and DP 20 differ in the riffle width, sample receiver volume, and maximum particle size of the material to be divided.

- · The splitting unit, sample collectors and charging shovel are made of stain-less steel
- · The detachable design allows full cleaning of the splitter.
- · Low weight.



APEX XRF PELLET DIE

XRF PELLETS - HIGH THROUGHPUT, HIGH QUALITY The Apex® Quick Release die makes XRF sample pellet preparation faster and more simple than ever before.

The patented automatic pellet eject sleeve enables the release of the finished XRF pellet, without the requirement to reset the die at an inverted position, at the middle point of the sample pressing cycle.

The Apex® Die improves consistency by reducing space to human error, and increases throughput by speeding up pellet preparation. Less time is spent dissembling dies and awkwardly removing pellets. More time can be spent on analysis and increasing the quantity of pellets prepared.



APEX 400 PRESS HIGH THROUGHPUT XRF

The APEX 400 hydraulic press is dedicated to the production of pressed pellets for XRF laboratories and other elemental analyses. It is a benchtop press designed for repeated use in high-throughput analytical testing environments, producing sample pellets in steel rings, aluminium cups, or as unsupported pellets.



ATLAS MANUAL HYDRAULIC PELLET PRESS

The Atlas 15 ton and 25 ton Manual Hydraulic Presses have been designed to handle a wide variety of pressing applications. They are specifically suited to the preparation of KBr discs using Specac Evacuable Pellet Dies.

The Atlas Presses can also be used with Specac Heated Platens for applications such as the preparation of thin polymer films

FEATURES:

- · Polycarbonate safety guards
- Adjustable upper bolster
- Pressure release valve
- Adjustable pressure control valve
- Vacuum ports
- Gauges for low pressure applications (0-1, 0-2 and 0-5 ton options).



ATLAS AUTOTOUCH PELLET PRESS

The Atlas™ Series Autotouch Automatic Hydraulic Press, is available in 8 Ton, 15 Ton, 25 Ton and 40 Ton load configurations. It is particularly popular with users conducting analysis through Fourier Transform Infrared Spectroscopy (FTIR) and X-Ray Fluorescence (XRF), therefore known as both an FTIR or XRF press. It is ideal for preparing FTIR KBr pellets or as XRF sample preparation equipment.

The Autotouch Press has fully programmable, microprocessorcontrolled, power-assisted hydraulics for ease-of-use and repeatability. It also boasts a small footprint, ergonomic design and low noise characteristic. Its ease-of-use makes this hydraulic press appropriate for both lab and industrial environments.

FEATURES:

- Automatic hydraulic press
- 8T, 15T, 25T and 40T available.
- Colour LED touch screen control
- Programmable microprocessor controlled pressure application
- · Simple user operation via symbols & prompts
- End of cycle alarm
- Integral high-clarity PETG safety guards
- Fully CE marked
- Ideal for FTIR or XRF sample preparation



METALLURGICAL & SAMPLE PREP EQUIPMENT

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SAMPLING AND CONSUMABLES



MANUAL SAMPLE

CUTTERS

Manufactured in 3 different designs, each design to suit your application. They are manufactured in a 1, 2 & 4L Capacity, the slot sizes are made to your requirements (eg. 200mm Long X 10mm Wide)

- Type A: Handheld Jug/ Pelican Type Cutter
- Type B Jug/ Pelican Type Cutter with Extended Handle
- Type C Flat Bottom Straight Edge Type Cutter with Extended Handle
- Type B & C Cutters are supplied with a 1M Handle standard, but you can specify if a longer handle if required.

We are also able to manufacture other designs to meet your specifications.



A full range of sampling consumables are available including:

- Labels
- · Paper Bags
- Plastic Bags
 5L, 10L, 15L, 20L
- · Sample Bottles
- Sampling Buckets with Lids
- Stainless Steel Drying Pans
- Sampling Jars



DENSITY AND

MAGNETIC SAMPLERS

- Magnetic Separators
 - Wet Magnetic Chute
- Handheld
- SG Scales
 - Digital
 - Mechanical
 - Flasks



AUGERS

The stainless steel sampling augers are used for sampling of dry ore materials in mines and agriculture applications.

Single sample auger

- · 28mm diameter
- · 34mm diameter
- · 38mm diameter
- · 40mm diameter
- 50mm diameter

Double sample auger

- · 28mm/25mm diameter
- · 38mm/34mm diameter



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LABORATORY EQUIPMENT





CIRCULATION BATHS

- · 20 (- 40) °C to 120 °C
- Constant Temperature
- · Timer On/ Off
- Internal and external Circulation Pump
- Flow Rate: 10 liter/min.
- · Pressure: 0.5 bar



Model	Capacity	Temp	Accuracy
JSRC-06C JSRC-06CL	7L	-20°C to 120°C -40°C to 120°C	
JSRC-13C JSRC-13CL	11L	-20°C to 120°C -40°C to 120°C	10.106
JSRC-22C JSRC-22CL	20L	-20°C to 120°C -40°C to 120°C	±0.1°C
JSRC-30C JSRC-30C(L)	30L	-20°C to 120°C -40°C to 120°C	

SHAKING WATER BATHS

- Corrosion resistant stainless steel sheath immersion heater directly heating and boiling water in the bath to reach set temperature quickly
- Stainless Steel shaking rack and mechanism with powerful AC motor supports linear shaking motion up to 120 rpm
- Maximum temperature up to 99 °C, accuracy ± 0.2 °C



ULTRA LOW COLD

TRAP BATH

- · Durable epoxy powder coated metallic casing
- Corrosion resistant seamless stainless steel 304 bath with cooling coil
- Transparent bath cover to hold glass trap and easy to check condensate level of trap
- Minimum temperature down to - 85.0 °C



TEMPERATURE CONTROLLED WATER BATHS

- · Durable epoxy powder coated metallic casing
- Corrosion resistant Stainless Steel 304 bath
- Corrosion resistant stainless steel 304 sheath immersion heater directly heating water in the bath to reach set temperature quickly
- Perforated heater cover helps convection of heated water circulation to maintain thermal uniformity of the bath
- Maximum temperature up to 99 °C, accuracy ± 0.1 °C



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RESEARCH CENTRIFUGES

RESEARCH, UNIVERSITIES AND PHARMACEUTICAL LABORATORIES

- · Imbalance Protection
- · Multi Point Lid Locking
- Quiet Operation
- Refrigerated options
- Rotor Recognition
- Overspeed Sensor
- · 3 Year Warranty
- · Multiple models and sizes available

ANALYTICAL CENTRIFUGES

ANALYTICAL, GENERAL AND INDUSTRIAL LABORATORIES

- · Imbalance Protection
- · Multi Point Lid Locking
- **Quiet Operation**
- Rotor Recognition
- · High Technology AirFlow
- · Multiple models and sizes available
- · Ambient Mode
- · 3 Year Warranty
- · Multi Users



LABORATORY SHAKERS

· Wrist Shakers · Linear Shakers · Orbital Shakers



PLATFORM SHAKER:

- · Micro Processor PID Controller
- · Digital speed and timer indicators
- · Audio / Visual alarms
- · Digital Timer 1 to 999 minutes or hours

1010

- · Front panel on/off switch
- · Epoxy coated housing and cover

HEATING BLOCK UNITS

Dry Block Heaters conform to the Low Voltage Directive 73/23/EEC and are manufactured to the highest standards with the following features:



- · Micro Processor PID Controller
 - Digital temperature indicator, 0,1°C
 - · Audio / Visual high temperature alarm
 - · Temperature Deviation indicators
 - Digital Timer and buzzer 1 to 9999 minutes
 - Interchangeable Aluminium Blocks
 - Block Extractor
 - · Stainless steel sheathed heating element

DESICCATING CABINET

- · Robust epoxy coated housing
- · All stainless steel interior
- · Hinged toughened glass door
- · Stainless steel perforated shelves
- · Stainless steel desiccant tray



MAGNETIC STIRRERS

- · Sizes available: 150 x 150 mm & 180 x 180 mm
- · Available with or without hotplate
- Surface temperature variable up to 350°C
- · Speed range 100 1800 RPM
- · Stainless steel top
- · Max. load 20 kg



HOTPLATES

- · Heavy duty mild steel top
- · Variable heat control
- · Continuous use friendly
- · Temperature control separate from hotplate optional
- · Available in the following sizes: 300×300mm, 300×450mm, 450×600mm



INCUBATOR

Incubators have 304 stainless steel inners, powder coated outer housings and fitted with a temperature controller, digital or thermostatic plus the following:

- · Micro Processor PID Controllers
- · Digital Temperature, Speed and Timer indicators
- · Audio / Visual alarms
- · Over temperature safety thermostat and indicator lamp



INCUBATOR SHAKERS

FMH Incubator Shakers conform to the Low Voltage Directive 73/23/EEC and are manufactured to the highest standards with the following features: - Incubator Shaker with Cooling option available.

- Micro Processor PID Controllers
- · Digital Temperature, Speed and Timer indicators
- · Audio / Visual alarms
- · Over temperature safety thermostat and indicator lamp



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MIT-GROUP LABORATORY EQUIPMENT

ROTARY EVAPORATOR

The rotary evaporator STRIKE 300 combines excellent operating characteristics and high performance levels, all in an ergonomic design.

STRIKE 300 has been projected in complete respect of safety needs and in compliance with the existing directive regarding equipment construction and electromagnetic compatibility.



· Easy to use

FEATURES:

- · Multifunction touch-screen
- · Maintenance-free vacuum and solven sealing
- Powered glassware lifting equipment as standard
- · Removable safety shield
- · Removable thermostatic bath
- · Compact design

ULTRASONIC CLEANERS

- Maintaining and Cleaning of Test Sieves and other components
- With or without heating option available
- Analogue or Digital Timers



SIZES AVAILABLE:

- 600ml, -Tank size: 152 x 88 x 65 mm
- 1.3lt, -Tank size: 150 x 135 x 65 mm
- · 2lt, -Tank size: 150 x 135 x 100 mm
- · 3.2lt, -Tank size: 240 x 135x 100 mm
- 6.5lt, -Tank size: 300 x 150 x 150 mm
- 10lt, -Tank size: 300 x 240x 150mm
- 15lt, -Tank size: 330 x 300x 150 mm
- 22lt -Tank size: 500 x 300x 150 mm
- 30lt -Tank size:500 x 300x 200mm

MICROSCOPES

- · Digital and Stereo Microscopes
- Microscope Cameras
- LED illumination provides constant colour temperature at all light intensity levels







TURBIDITY METERS

Turbidity Meters handheld & benchtop is specially designed for water quality measurements, providing reliable and accurate readings in the low turbidity range.



VORTEX MIXERS

Vortex mixers suitable for mixing substances in any shape or size of test-tube thanks to the orbital movement of the rubber cup and many accessories/attachments.





OVERHEAD STIRRER

Digital Fuzzy Control

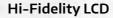
Digital Fuzzy Logic Controller precisely controls Stirring Speed by 1 rpm resolution. Digital Timer from 1 min to 99 hour 59 min

Touch Button

Touch-sensitive Multi-Functional Capacitive Button compatible to all kind of latex gloves as well as finger touch

Jog Dial

Easy-to-use Jog Dial for quick and convenient setting of stirring speed and timer. Push to Run, Stop and Save Set RPM and TIMER



High-fidelity clear back light LCD displays complete operating conditions at a glance. Easy to monitoring set values, present stirring speed and timer.



DRYING OVENS

Ovens have 304 stainless steel inners, powder coated outer housings and fitted with a temperature controller, digital or thermostatic plus the following:

- · Over temperature safety thermostat
- Over temperature indicator lamp
- Fan assisted air circulation
- Non tip self runners
- Adjustable fresh air vent and supplied with two chrome plated wire shelves



HOMOGENIZER

The ideal solution for dispersing, homogenizing and mixing biological tissues (cells, animal and vegetable tissues), pharmaceutical products, cosmetics, and food products.



GLASS & PLASTIC WARE

We offer a full range of glass and plastic ware for laboratories, please scan the QR code or visit our website to download the full list of consumables.



GLASS WASHERS

The lab glassware washers integrate programmed cleaning, disinfecting and drying functions to clean all glassware stuff, for beaker, flask, pipette, petri dish, burette, measuring cylinder, test tube etc.

- · High efficient cleaning system
- Rapid and efficient drying system
- Water heating temperature can reach 99°c
- Hot air drying temperature can reach 120°c
- Stainless steel for corrosion resistance



HEATING MANTLES

- Hand woven mineral wool with flexible braiding, which adapts snugly around the flask,
- The heating element is distributed homogeneously throughout the mantle.
- Double walled fibre wool thermally insulated casing.
- Pure Nickel connection terminals protected by mineral fibre tubing that prevent the deterioration of the contact due to high temperature.
- For digestion distillation, extraction, evaporation and boiling processes.



SCALES & BALANCES

We stock a range of High accuracy, low capacity analytical balances or a high capacity platform scales.

BALANCE RANGES AS FOLLOWS:

0.0001g – 120g to 250g Capacity 0.001g – 150g to 750g Capacity 0.01g – 1500g to 6000g Capacity 0.1g – 4000g to 30kg Capacity

SCALE RANGES AS FOLLOWS:

- · 0.1g 8000g
- · 0.5g 16kg
- 1g 32kg to 75kg
- · 2g 60kg to 150kg
- 5g 75 to 120kg
- · 10g 150kg
- · 20g 60Kg
- · 50g 150kg to 600kg
- · 100g 300Kg



VACUUM PUMPS

- · Contamination-free pumping and evacuation
- Even high Flow rate
- · Ouiet and low vibration
- · Durable and maintenance-free drive system
- For corrosive and non-corrosive gases and vapours



CALIBRATION SERVICES

Specialising in the fields of Pressure, Temperature, and Mass, we will ensure that you are certain of your measurements! Visit our website for more information.

Calibration of all Pressure Instrumentation including:

- Pressure Gauges
- Vacuum Gauges
- · Digital Pressure Indicators
- Barometers
- Data Loggers
- On-site Calibrations

Calibration of all Temperature Instrumentation including:

- · Temperature Gauges
- Thermocouples (All Types)
- Water/Oil Baths
- Furnaces (on-site)
- Incubators (on-site)

Calibration of all Mass Instruments including:

- Single Weights
- Weight Sets
- Mass Balances Scales (on-site)



GLASS BLOWING SERVICES

Custom and Unique Glass blowing services available for your distinct requirements.

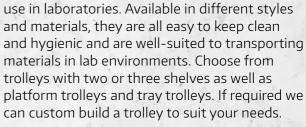








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LABORATORY TROLLEYS

We offer a wide range of trolleys suitable for



MEDICAL FRIDGES

Medical Refrigerator is specialized refrigerating equipment for cold storage of pharmaceuticals as well as biological products and so forth. It is suitable for hospital, drugstore, pharmaceutical factories, sanitation and antiepidemic station and clinics.

-25°C TO -86°C FREEZER

The Low Temperature Freezer offers a wide variety of research and storage application, such as low temperature scientific experiments, preservation of plasma, biomaterial, vaccine, biomedical properties of military products.

It is suitable for research institutes, electronic industries, chemical engineering industries, hospitals, sanitation and antiepidemic stations, university laboratories, military industries.



CONSUMABLES

- Aluminium Scoops
- Automatic Liquid Handlers
- · Benchtop Timers
- Burettes
- · Chemicals Lab
- · Clamps
- · Cleaning Brushes
- Colorimeters
- · Digital Thermometers
- Contact
- Infrared
- Dispensers-Bottle top
- Dissolved Oxygen Meters
- Flocculators
- Handheld
- and Benchtop Meters
- PH/Con/DO/TDS/Temp/Mv
- Heating Mantles
- Hydrometers
- Laboratory Trolleys
- Magnetic Stirrer bars
- .
- Melting point apparatus

· pH Electrode

Pipettes

Polarimeters

Polarimeter Sample
 Cells

Refractometers

· Sample Tags

Spatulas and Tongs

Saccharimeters

Saccharimeter
 Sample Cells

 Stirrers, Mixers and Blenders

Titrators

· Thermal Cyclers

Transilluminators

Wash BottlesVacuum Pumps

Viscometers

Vortex Mixer

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Moisture Balances

LABORATORY EQUIPMENT

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SAFETY CABINETS

FOR CHEMICALS

SAFETYBOX® for the storage of chemical, acid and base products comply with the requirements of EN 14727, EN 61010-1 norms, are TÜV certified and CE marked. Tall, underbench, 1 or 2 doors, acid and base products in separate compartments.





DESCRIPTION:

- · E-FLOW® energy saving system.
- · Painted with epoxide acid-proof dusts
- · Activated charcoal filter Carbox®
- · Cunctator® for filter replacement
- · Termically protected electro aspirator.
- · Certified palletized base.
- Bottom basin with drilled shelf in each compartment.









FUME EXTRACTION

Modulab - ACADEMIA

Modulab's ACADEMIA Range of fume cupboards are specially designed for schools and other academic institutions. The range is made up of three different size models. All fume cupboards in this range are made from light weight, chemical resistant Polypropylene therefore little to no degradation is caused by chemical fumes and spills. All fume cupboards are pre-fitted with a built-in extraction fan making installation quick and simple.



Modulab - THRU-FLOW



Modulab's THRU-FLOW Range of fume cupboards are high-quality, general-purpose laboratory fume cupboards. The range is made up of six different size models to meet client requirements. All fume cupboards in this range are made from light weight, chemical resistant Polypropylene therefore little to no degradation is caused by chemical fumes and spills. All powered items are controlled via a touch screen panel (HMI) giving the operator ease of access to all electrical functions. A variety of add-ons and utilities are available. Stand alone extraction fans and rigid thermo-plastic ducting for remote installations are also available for this range.

Modulab - INTE-FLOW

Modulab's INTE-FLOW Range of fume cupboards are specialist acid fume cupboards manufactured with integrated fume scrubbers. The integrated scrubber alleviates the need for separate, large and costly abatement systems down line. The range is made up of three different size models. All fume cupboards in this range are made from light weight, chemical resistant Polypropylene therefore little to no degradation is caused by chemical fumes and spills. Special attention has been paid to ensure the best compact and ergonomic design possible. All integrated scrubbers will remove more than 98% of acid contaminates from the air stream. All scrubber functions are automated and run by a PLC. These automated functions include, sump level control and PH adjustment. All powered items are controlled via a touch screen panel (HMI) giving the operator ease of access to all electrical functions and alarms. A variety of add-ons and utilities are available for this range.



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SCRUBBERS

Our laboratory acid scrubbers are specially designed for the removal of acid extracted from laboratory fume cupboards. There are four models available, depending on the air flow rate extracted. With the ability to handle air flow rates of 2 500 - 10 000 Am3/hr, extraction from one or multiple fume cupboards at the same time is possible. The Polypropylene construction means that these scrubbers are impervious to most chemicals.

All Enviro range scrubbers will remove 98%+ of acid contaminates when the optimum PH is maintained in the scrubber liquor.
The Enviro range of acid scrubbers will remove all commercially used acids, ensuring that no harmful emissions are present in or around your laboratory.

DUST EXTRACTION

Dust Extraction for all Sample Prep Equipment: Splitters, Crushers, Mills and Shakers ect.

- · Flexible Arms
- Hoods
- Extraction Fans
- Filters
- Ducting
- Installation
- Services
- Validations



DUST EXTRACTION WORK BENCHES

- Designed and Manufactured to suit all Laboratories
- Provides a cleaner and healthier environment for all operators



RO WATER SYSTEM

High Grade water produced through highly advanced, non-chemical Reverse Osmosis purification system technology. Filtered and sterilized for specifically formulated use in critical applications where ultra-high purity water is essential.

Type 1 and Type 2 water applications.

- Stable high quality medium for water based chemical formulations
- Solution, dilution and processing of medicinal & chemical ingredients
- Spot free rinsing for laboratory equipment
- Solution and dilution of laboratory equipment
- Emulsion compatible due to low mineral content
- Industrial processes
- Rinse of semiconductor integrated circuits & electronic printed circuit boards
- Final rinse of electroplating equipment.



ADD AIR SYSTEM

- · Made from Polypropylene
- · Replaces 70% of extracted air
- Supplies the Laboratory with 3500m3 of clean air per hour



LABORATORY FURNITURE

We manufacture custom furniture for all types of laboratories, meeting all the different types of conditions.

CHEMICAL RESISTANCE TABLE TOPS:

Trespa, Polypropylene, Serino, Granite & Laminated Selinga

TAPS & FITTINGS:

Water, Gas & Air

BASINS:

Epoxy, Ceramic & Stainless Steel

BALANCE TABLES:

Single and Double

EXTRAS:

Lab Stools, Drying Racks, Doors and Floors



ACI-CAB A 900

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ACID STORAGE CABINETS

- Manufactured from Polypropylene 100% Acid Resistant
- · Under Work Surface or Free Standing
- Standard Size: 800mm (h) x 1000mm (w) x 550mm (d) (Special Sizes on request)
- Sliding Fold-away Doors takes up no space in your walkways
- Adjustable Shelves with Removable Containment Drip Trays
- · Adjustable Ventilation Option
- · Easy Extraction Connectable Outlet
- Perfect for WET CHEM No Corrosion No Deterioration



LABORATORY EQUIPMENT WWW.M-I-T.CO.Z

ANALYTICAL EQUIPMENT



AUTOCLAVES FLOOR STANDING

JSAT-Series Autoclave, Steam Sterilizer is an innovative replacement of conventional laboratory autoclave by providing reUable performance, upto-dated design and safety door inter-lock system integrated with temperature and pressure for perfect user safety.

JSAT -Series Autoclave, Steam Sterilizer is for sterilization of bacteria, microorganism and virus with steamed hot air usually at 121'C, 0.12 Mpa. Sterilization for laboratory ware needs being sterilized before use such as flasks, bottles, pipets, animal cages and plastic ware, broth or agar media for bacterial culture or disposal of biohazard wastes such as syringe, cloth, gloves or petri dishes.

PROGRAM CONTROL

Fully automatic autoclave cycle Maximum sterilization temperature and pressure up to 123 °C and 0.13 Mpa Validation compliance performance accuracy within ± 0.5 °C uniformity within ± 2.0 °C

CONSTRUCTION

Vertical loading chamber with light weight self balanced door

Stainless steel 304 chamber, lid and top plate

SAFETY

SAFETY DOOR INTER-LOCKING SYSTEM lock the door during operation which integrated with temperature, pressure in the chamber and in case electric cut-off

CONVENIENCE UTILITY

Two steam collection bottles removes most of steam generated during operation for comfortable laboratory environment

JSAT-SERIES VERTICAL AUTOCLAVE



- · Max. 123 'C
- · Timer On / Off
- Automatic sterilization cycle



- · Max. 250 'C
- · Constant Temperature
- · Timer On / Off



MIT-GROUP WWW.M-I-T.CO.ZA 37

LUMINA 3400 ATOMIC

FLUORESCENCE SPECTROMETER

The LUMINA 3400 Atomic Fluorescence Spectrometer utilizes precise syringe pumps to provide sub trace detection and elemental analysis of hydride-forming elements. The unique vapour/hydride generator provides enhanced sensitivities and reduced interferences for parts per trillion (ppt) detection of Mercury (Hg), Arsenic (As), Cadmium (Cd), Zinc (Zn), Bismuth (Bi), Selenium (Se), Tellurium (Te), Antimony (Sb), Tin (Sn), Germanium (Ge), and Lead (Pb).

- Sub-trace level detection limits for mercury and hydride-forming elements
- · Linear dynamic range of 10³
- · Covered optical design
- · Dual-channel simultaneous measurement

ABSORPTION SPECTROMETER

TRACE AI 1200 ATOMIC

The TRACE Al1200 Atomic Absorption Spectrometer is a fast and accurate system. Features such as the fast dry technology alongside the optional auto sampler completely removes sample splatting, this details better detection whilst considerably shortening analysis time.

Taking advantage of the multiple atomizer configurations allows for high-intensity analysis whilst providing the ultimate ease of use within multiple applications settings such as environmental, agricultural and clinical, as well as high throughput labs. The TRACE Al1200 features 300mm focus length and Czerny-Turner 1200 line/mm grating optics, this paired with both D2 and Smith-Hietftje background correction gives rise to greater performance.

TRACE AI 1800 ATOMIC

The TRACE 1800 is a high-performance atomic absorption system. The combination of D2 and Smith-Hietfje background correction techniques alongside 1800 line/mm optic grating gives clear, consistent results.

The instrument is supplied with an 8 lamp motorized array which offers the highest sensitivity on the market. The TRACE 1800 has the most versatile autosampler and combined with the fast dry technology completely removes sample splatter, shortens the analysis time and gives rise to unparalleled detection.

- All-in-one mixing manifold, low dead volume, high efficiency, double gas/liquid separator design
- · Automatic Ar-H2 flame ignition







MICROWAVE DIGESTION

TRANSFORM 680

- 6 Vessels (5 Standard & 1 Sensor Vessel)
- · 400 psi Operating Pressure
- 250°C Operating Temperature
- · 60mL Vessel Volume
- Microwave Power 1200W
- Magnetron Frequency 2450 Mhz



TRANSFORM 800

- · 10 Vessels (9 Standard & 1 Sensor Vessel)
- · 800 psi Operating Pressure
- 250°C Operating Temperature
- · 50mL Vessel Volume
- Microwave Power 1200W
- Magnetron Frequency 2450 Mhz



HALLOW CATHODE LAMPS

Directly used in the following AAS systems: Agilent, Varian, Analytic Jena, Thermo Fisher, GBC, Shimadzu, Hitachi and many more. Cathodes are designed with either a pure element or compound to produce the best sputter rate at the lowest current. To enable a lamp to run the most economical way possible.

Note: increasing lamp current increases the sputter rate and deceases lamp life, sensitivity and linearity. Hollow cathode lamps produced by Green Scientific are designed and manufactured to achieve all of the following fundamental requirements for a spectral line source.



- · Intense emission of resonance (ground state derived) lines.
- · Narrow line width, for maximum senitivity and linearity.
- · Minimal spectral interference from continuum emission, present in the cathode.
- · Rapid warm up to produce stable long term light emission.
- · Noise free operation.
- · Long running life and a 5 year shelf life.

0.				
Symbol	Part No.	Primary Wavelength	Secondary Wavelength	Secondary Wavelength
Al	G801	396.2nm	308.2nm	309nm
Sb	G802	217.6nm	206.8nm	217.9nm
As	G803	193.7nm	189nm	197.2nm
Ba	G804	553.5nm	455.4nm	493.4nm
Be	G805	234.9nm	-	-
Bi	G806	223.1nm	222.8nm	227.7nm
В	G807	249.8nm	208.9nm	-
Cd	G808	228.8nm	326.1nm	-
Ca	G809	422.7nm	239.9nm	-
Cs	G810	852.1nm	455.6nm	-
Ce	G811	520nm	569.7nm	-
Cr	G812	357.9nm	425.4nm	427.5nm
Co	G813	240.7nm	304.4nm	-
Cu	G814	324.8nm	217.9nm	218.2nm
Dy	G815	421.2nm	404.6nm	-
Eu	G816	459.4nm	462.7nm	-
Gd	G818	368.4nm	405.8nm	407.9nm
Ga	G819	294.4nm	403.3nm	417.2nm
Ge	G820	265.2nm	271nm	-
Au	G821	242.8nm	267.6nm	-
In	G824	303.9nm	325.6nm	410.2nm
Ir	G825	208.9nm	264nm	266.5nm
Fe	G826	248.3nm	248.8nm	372nm
La	G827	550.1nm	403.7nm	-
Pb	G828	217nm	283.3nm	261.4nm
Li	G829	670.8nm	323.3nm	-
Lu	G830	353.9nm	356.7nm	337.6nm
Mg	G831	285.2nm	202.5nm	-
Mn	G832	279.5nm	279.8nm	280.1nm
Hg	G833	253.7nm	-	-

Symbol	Part No.	Primary Wavelength	Secondary Wavelength	Secondary Wavelength
Mo	G834	313.3nm	320.9nm	-
Nd	G835	492.5nm	463.4nm	-
Ni	G836	322nm	321.1nm	341.5nm
Nb	G837	334.9nm	405.9nm	408nm
Os	G838	290.9nm	305.9nm	426nm
Pd	G839	247.6nm	244.8nm	340.5nm
Pt	G840	265.9nm	264.7nm	299.8nm
K	G841	766.5nm	404.4nm	769.9nm
Re	G843	346nm	346.5nm	-
Rh	G844	343.5nm	328.1nm	369.2nm
Rb	G845	780nm	794.8nm	-
Ru	G846	349.9nm	392.6nm	-
Sm	G847	429.7nm	476nm	-
Se	G849	196nm	204nm	-
Si	G850	251.6nm	250.7nm	251.4nm
Ag	G851	328.1nm	338.3nm	-
Na	G852	589nm	330.2nm	589.6nm
Sr	G853	460.7nm	407.8nm	-
Ta	G854	271.5nm	275.8nm	-
Te	G855	214.3nm	225.9nm	-
TI	G857	276.7nm	258nm	-
Sn	G860	235.5nm	224.6nm	266.1nm
Ti	G861	364.3nm	365.4nm	399nm
W	G862	255.1nm	294.7nm	400.9nm
٧	G864	318.5nm	306.6nm	318.4nm
Yb	G865	398.8nm	346.4nm	-
Υ	G866	410.2nm	414.2nm	-
Zr	G868	360.1nm	468.7nm	354.8nm
Zn	G869	213.9nm	307.6nm	-
Р	G874	213.6nm	-	-



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SAFETY EQUIPMENT



SAFETY SHOWERS

- · Floor mounted or free standing
- Platform operated
- · Epoxy coated Mild Steel or Stainless Steel
- · Independent hand operated eyewash
- · Overhead water rose or nozzle
- · Stainless steel eyewash bowl with soft flow aerated nozzle
- Multiple body nozzles
- · Ideal for plants, tank farms, in or outdoors



EYEWASH STATION

- · Wall mounted
- · Steel and PVC Construction
- · Soft flow aerated nozzles (angled)
- Drain connection
- · Hand operated
- · Ideal for laboratories and confined spaces



FURNACE PPE

- Aluminised Gloves
- Aluminised Coat
- · Aluminised Apron Knee Length
- Aluminised Overboots
- · Aluminised Knee Length Spats
- · Oberon 24k Gold Face shield
- Kevlar Mitts

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· 100% Cotton Balaclava Shoulder Length



SPILL KITS

We supply Oil. Diesel and Chemical Spill Kits in a wide variety of options. All spill kits are supplied with full MSDS and Spec Sheets.

240 WHEELIE KITS:

- · Universal Spill Kit Multi-Use (Absorbs 120lt)
- · Ideal for Oils, Diesels, Hydraulic Oil and nonaggressive chemicals

ACID SPILL KITS:

Used for Aggressive Chemicals Eg. Sulphuric Acid

PORTABLE SPILL KITS:

Universal/Multi-Use

ADDITIONAL PRODUCT LIST

- · Respirator Single or Double Cartridge
- · Blue Nitrile Gloves
- · Dust Coats
- Dust Masks
- · Green Nitrile Gloves
- · Latex Gloves
- Overalls
- · Reflective Clothing
- · Safety Signage

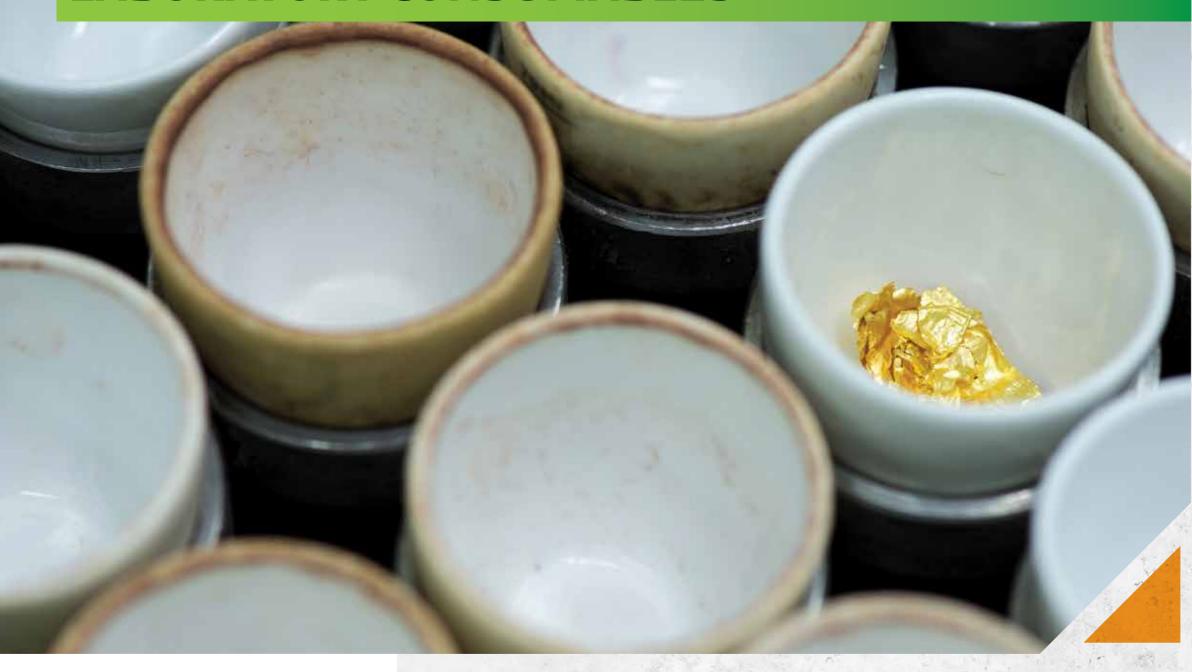






MIT-GROUF

LABORATORY CONSUMABLES



ADDITIONAL PRODUCT LIST

We offer a full range of glass and plastic ware for laboratories, please scan the QR code below or visit our website to download the full list of consumables.

- · AA Lamps
- Aluminium Scoops
- Benchtop Timers
- Centrifuges
- · Chemicals Lab
- Clamps
- · Cleaning Brushes
- $\cdot \ \mathsf{Colorimeters}$



- Digital Thermometers
- Contact
- Infrared
- Dispensers
- Flocculators
- · Flotation Equipment
- Glass blowing services
- · Glassware Washer
- · Handheld and Benchtop Meters
 - PH/Con/DO/TDS/Temp/Mv
- · Heating Mantles
- Hydrometers
- Incubators
- · Laboratory Consumables and Hardware

- Laboratory Trolleys
- Magnetic Stirrer bars
- Microscopes
- Overhead Stirrers
- · Sample Tags
- Spatulas and Tongs
- · Stirrers, Mixers and Blenders
- Titrators
- · Vacuum Pumps
- Viscometers
- Vortex Mixer
- Waterbaths
- · Waterstills

ZIRCONIUM CRUCIBLES

Types Available:

- Straight walled
- · Autofluxer Types

Sizes:

- · 35ml x 1.6mm Wall
- · 35ml x 2.0mm Wall
- · 40ml x 1.0mm Wall
- · 25ml x 2.0mm Wall lipped with Lid







CRUCIBLES

Types Available:

- Ceramic
- Nickel
- Platinum
- PorcelainSilica





Filter paper ranges from small laboratory uses, through to large diameter wet strength for heavy filtration uses In filter presses or plate-type filter presses.

Our most common grades are as follows:

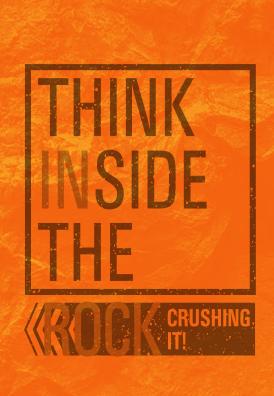
- 609 W/S Retention Size 10um (Generally used for Filter Press Applications)
- F60 Retention Size 25um
- · 500AWS Retention Size 6um
- These can be cut or folded to your exact specifications or needs.

We also offer a large range of Glass Fibre, Cellulose Nitrate, Cellulose Acetate and Ashless papers for laboratory uses.

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PRODUCTIVITY IN MINERALS