



Venture Scientific®

— THE MATERIALS SCIENCE COMPANY —

MATERIALS • LABWARE • CONSUMABLES

PRODUCT CATALOGUE

2026-2027



**PREMIUM
QUALITY MATERIALS**



**CUSTOM
MANUFACTURING**



**GLOBING
SOURCING**



**TECHNICAL
SUPPORT**

QUARTZ

ADVANCED CERAMICS

GRAPHITE

METALS & ALLOYS

LABWARE

RESEARCH MATERIALS



GeM
Government
e Marketplace
Registered Seller



Certified Company

DPIIT
#startupindia

Recognized Startup



Udyam Registered MSME

**MADE IN
INDIA**

Proudly Indian

Collaborate | Innovate | Create

ABOUT VENTURE SCIENTIFIC

Established in 2018 as a partnership firm, Venture Scientific began its journey with a focused vision to support the evolving needs of the materials science and advanced research community. In 2023, the organization was incorporated as Venture Scientific Private Limited, marking a significant milestone in our journey towards building a professionally driven technology and engineering company.

Today, Venture Scientific is a technology-driven Materials Science Company, delivering advanced materials, research solutions, precision-engineered systems and global technology solutions to research institutions, universities, laboratories and industries across India.

WHAT WE DO

Our capabilities span across:

- Advanced Materials & Specialized Laboratory Materials
- Research Furnaces & Thermal Processing Systems
- ARC & Induction Melting Systems
- Vacuum & CVD Systems
- Coating & Surface Engineering Systems
- Electrochemical & Energy Research Equipment
- Battery, Fuel Cell & Hydrogen Research Solution
- Precision Engineering & Customized R&D Systems
- Gas Handling, Flow Control & Process Solutions
- Technical Consultancy, Installation & After-Sales Support

From standard laboratory products to highly customized research systems, we focus on delivering application-oriented solutions engineered around the specific requirements of our customers.

GLOBAL TECHNOLOGY. LOCAL EXPERTISE.

Venture Scientific works with leading international technology brands from **Germany, the United Kingdom, the United States, South Korea** and other technology-driven markets, supporting their products and solutions across India.

Our role goes beyond product supply. We provide technical consultation, application support, installation and commissioning, troubleshooting, maintenance and after-sales service, helping global technology providers effectively serve the Indian research and industrial ecosystem.

By combining global technology access with local engineering expertise, we bridge the gap between international innovation and Indian applications.

OUR APPROACH

We believe the materials science is not simply about supplying a product-it is about understanding the application, solving the technical challenge and delivering the right solution.

Our approach is built around four core capabilities:



OUR GROUP BRANDS

NorthTherm

Advanced thermal processing, high-temperature and research furnace systems.

Piper Alpha

Laboratory, high-pressure reactor and specialized process systems.

Recrystix Ceramics

Advanced ceramic and recrystallized ceramic materials for high-temperature and demanding application.

SilQuartz

Ultra-high-purity fused quartz and silica products for laboratory and industrial applications.

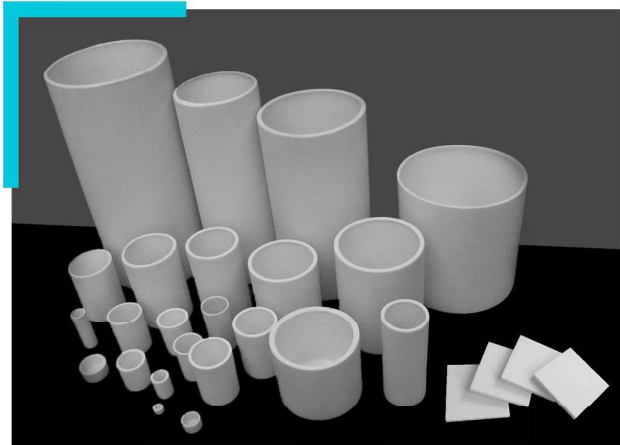
FlowChemist

Precision mass flow controllers, gas distribution systems, gas flow lines and process automation solutions.

OUR VISION

To build a globally connected and technology-driven Materials Science Company, enabling researchers, scientists and industries with advanced materials, innovative technologies and precision-engineered solutions.

Alumina Crucibles



Alumina or Aluminium Oxide, Al_2O_3 is a major engineering material. It offers a combination of good mechanical properties and electrical properties leading to a wide range of applications.

Alumina can be produced in a range of purities with additives designed to enhance properties. A wide variety of ceramic processing methods can be applied to produce a wide variety of sizes and shapes such as crucibles, plates & tubes of component. In addition, it can be readily joined to metals or other ceramics using metallising and brazing techniques.

We offer a variety of alumina products, including Crucibles, tubes and plates. We are also able to supply custom shapes. Our Alumina products have a maximum operating temperature of 1800°C, making them ideal for high temperature applications.

Venture Scientific® supply Oxide Ceramic components of Alumina, Zirconia, and their Composites by Powder Compaction, Injection Molding, ISO-static Pressing, Slip Casting.

Product Technical Specifications

Properties

- Maximum temperature of use: 1,800 °C
- Composition: Al_2O_3 99.8 % with small quantities of MgO and SiO_2
- Porosity: <0.6%
- Sintered Density: >3.84 gm/cc
- Dielectric Constant @1MHz: 9.8

Characteristics include

- Good strength
- Good hardness
- Good wear resistance
- Good corrosion resistance
- Good thermal stability

Applications include

- Laboratory analysis & Industrial analysis
- Sample melting
- High temperature application
- Electric substrates
- Thermocouple tubes & Furnace tubes
- Electrical insulators
- Grinding media & Jar

Standard Available Shape & Size Range

Shape	Cylindrical	Conical	High Form	Low Form	Dish	Disc	Tray	Boat	Plate
Range	0.2 to 1000ml	2ml to 750ml	5ml to 250ml	10ml to 225ml	10ml to 750ml	10mm to 150mm	5ml to 1000ml	3ml to 40ml	10x10 to 260x90mm



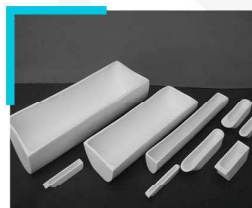
Low Form



High Form



Dish



Boat



Tube

Zirconia Crucibles



Zirconium oxide (Zirconia) is an extremely tough ceramic with a hardness of >9 Mohs which makes it an excellent material for extreme wear, high temperature and harsh environment applications. Zirconia ceramics have remarkable properties of strength, hardness and wear resistance in addition to withstanding attack from molten metal, organic solvents, acids and alkalis. They can also withstand high temperatures for long periods even under severe mechanical stress.

Zirconia Crucibles (ZrO₂) offer advantages over their alumina crucible counterparts: they are more refractory; they are readily machined and give a high-quality surface finish and are a useful oxygen anion conductor for use in sensors and fuel cells. However, they are considerably more expensive than alumina.

We supply high purity zirconia in various grades, shapes (both flat and cylindrical bottom, conical or straight wall) as well as other labware items such as dishes, boats, and lids. We have a wide range of standard sizes and are also able to supply custom size and shaped products.

Product Technical Specifications

Applications

- Zirconia Ceramic Labware & Tubes
- Zirconia Cutters
- Dental Zirconia Ceramics
- Seal Rings, Bearings and Sealing

Zirconia ceramics material

- TTZ: Magnesia partially stabilized Zirconia (ZrO₂)
- YTZP: Yttria partially stabilized Zirconia (ZrO₂)
- ZDY: Yttria fully stabilized Zirconia (ZrO₂)

Zirconia ceramic products by shape

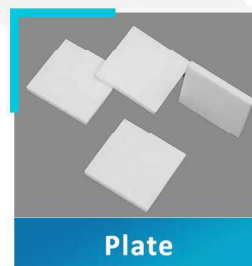
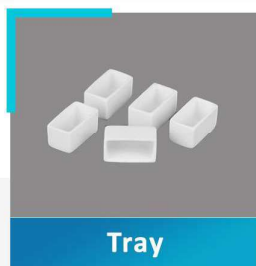
- Zirconia Plate types: plate, piece, sheet, substrates, lining, boards etc.
- Zirconia Rod/Tube types: tube, rod, bar, pins, stick, shaft, plunger, liner, nozzle. etc.
- Zirconia Ring types: washer, ring, gasket, spacer, bushing, sleeve, disc, disk, etc.
- Other shape Zirconia products can be customized. like punching, external thread, internal thread, polishing, hollowing out, concave and convex, bending, etc.

Material Properties

Compound Formula	ZrO ₂
Molecular Weight	123.22
Appearance	White to Ivory
Working temperature	1800°C to 2200°C
Melting Point	2,715° C (4,919° F)
Boiling Point	4,300° C (7,772° F)
Density	4 to 5.68 g/cm ³
Water absorption	< 0.05%
Hardness	1350 HV
Hot expansion coefficient	9.5×10 ⁻⁶ /°C
Dielectric Constant @1MHz:	18 to 26

Standard Available Shape & Size Range

Shape	Cylindrical	Conical	High Form	Low Form	Dish	Disc	Tray	Boat	Plate
Range	0.2 to 1000ml	2ml to 750ml	5ml to 250ml	10ml to 225ml	10ml to 750ml	10mm to 150mm	5ml to 1000ml	3ml to 40ml	10x10 to 260x90mm



For more information, please send a mail to sales@venturescientific.in

Quartz Labware



We specialize in standard labware & custom fabrication of fused quartz products to your exact specifications. From small diameter apparatus to large diameter furnace tubes, our experienced craftsmen have decades of experience that enables us to exceed your expectations for quality.

We also excel in technical product assistance of all types including design, temperature ranges and purity level qualifications. We are capable of achieving the industry's most stringent standards and tolerances. Our products are always fully guaranteed for workmanship and quality. We welcome the opportunity to supply all of your quartz needs.

Product Technical Specifications

Properties such as

- Permeability
- Extreme Hardness
- Very Low Coefficient of Thermal Expansion
- Resistance to High Temperature
- High Chemical Purity
- High Corrosion Resistance
- Extensive Optical Transmission from Ultra-Violet to Infra-Red
- Excellent Electrical Insulation Qualities
- Remarkable Stability Under Atomic Bombardment

Specifications

- Specific Gravity 2.20 g/cm³
- Coefficient of Thermal Expansion 5.5 x 10⁻⁷ cm/cm/°C
- Specific Heat 0.16 cal/g°C
- Annealing Point 1170°C

Our Capabilities

- Quartz Glassblowing
- Quartz Machining
- Complex Custom Fabrications

Products

- Fused Quartz Tubes (Purity 99.9 % to 99.999 %)
- Microscopes Slides & Cover Slips
- Fused Quartz Rods
- Fused Quartz Labware
- Specialty Tubes
- Semiconductor Grade Quartz Components
- Ground & Polished
- Fused Quartz Joints
- Machined Quartz
- Custom Parts
- Frittered Discs

We also offer a wide range of standard products for immediate shipment for your glassblowing needs:

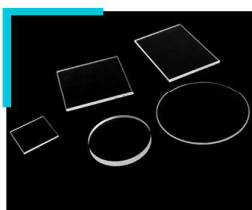
- | | | |
|-----------|--------------------------|--------------------------------|
| • Tubing, | • Ball & Socket Joints, | • Frittered Discs, |
| • Rod, | • Flat O-ring Connectors | • Quartz to Pyrex Graded Seals |
| • Solids* | • GL Threaded Tubes | • Quartz Wool & Felt |
| | | • Standard Taper Joints |



**Clear Quartz
Crucible**



**Milky Quartz
Crucible**



Plate/Disc



Boat



Tube

Platinum Labware



The metal platinum is not only known for its lustrous color, but also for its stability, strength, rarity, and density. It has the symbol 'Pt' and atomic number 78 and is one of the rarest elements in the Earth's crust. Platinum is very dense, stable, non-toxic and is a good conductor of electricity.

Platinum is the choice for many laboratory applications involving high temperature or corrosive substances. Platinum resists the action of most acids and a wide variety of other corrosives. It also has a high melting point (1769° C), a low heat capacity and can be heated in air without weight loss from oxidation. These Crucibles are made with 99.95% pure platinum. Due to their resistance to oxidation and corrosion, as well as mechanical stability at high temperatures, platinum crucibles have become essential for the preparation of samples in analytical laboratories.

We provide an extensive range of platinum crucibles, dishes and moulds. Our platinum labware comes in standard configurations or we can assist in the design and manufacture of specialised platinum products. We take great pride in the fact that it can meet your laboratory needs from the most basic platinum utensils through to the most intricate individual designs.

Product Technical Specifications

Features

- Ductility
- High temperature strength
- High melting point
- Oxidation resistance
- Corrosion resistance

Precious metals are employed in nearly all branches of industry, for instance as

- A material for crucibles in wet chemical and X-ray fluorescence analysis or ignition
- An inert material for instruments to determine chemical and physical properties
- A material for electrodes in analysis and measurement techniques
- Corrosion resistant materials for use in chemical plants
- A material for space technology
- A material for reaction tubes in the polymer industry
- A material for growing single crystals
- Materials for lining melting tanks in the glass industry
- A material for glass fibre bushings and thermocouple thimbles

Properties of Platinum

Density	21.45 g/cm ³
Melting Point	1770°C
Electrical Resistivity at 0°C	9.85uWcm
Temp coeff of resistance (0-100°C)	0.0039°C ⁻¹
Annealed Hardness	40H _v
Ultimate Tensile Strength at 20oC	125 N/mm ²
Tensile Elongation at 20°C	40%
100-Hour Rupture Stress at 1450°C	0.9 N/mm ²
100-Hour Rupture Stress at 1250°C	3.8 N/mm ²



Crucible



Wire



Foil



TGA Pan



Dish

Graphite Components



Graphite Components (Isostatic Grade) offer high performance with good technical and economic effect. They are used in metallurgy, casting, chemical and (scientific) industry in general; they are also used to produce alloy tool steel melting and non-ferrous metal and alloy melting.

Graphite material is oxidized under heat in an air environment, so it is largely used in inert environments and vacuum applications such as in the manufacture of semiconductors and it's also used by the nuclear industry.

The isostatic grade material we use has similar properties to our Boron Nitride material allowing for use at extreme temperatures (up to 2700°C), in an inert atmosphere. Maximum service temperature is 400°C, maximum inert atmosphere service temperature is 2700°C.

Couldn't find the perfect match?

Just contact us and we find the matching product together. We supply custom made products exactly to your specification. We will request you to kindly let us know your Specification and drawing to provide our best offer.

Product Technical Specifications

Key Benefits

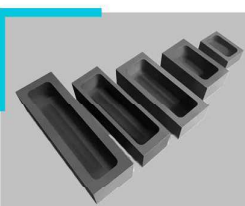
- Technological Merit
- Good mechanical strength
- Long life: Due to a the excellent chemical stability, corrosion, erosion and temperature resistance, the material is afforded a ong lifespan.
- High heat conduction performance and resistance to thermal shock: Possible to use even at 2700°C in inert atmosphere, high thermal shock resistance at high temperatures.
- Excellent corrosion resistance: Resistance is excellent against a wide range of acid and alkaline environments, great degree of chemical stability.

Typical properties of isostatic graphite

- Extremely high thermal and chemical resistance
- Excellent thermal shock resistance
- High electrical conductivity
- Increasing strength with rising temperature
- Easy to machine

We supply

Graphite - Crucibles, Dies, Plates, Boats, Trays, Blocks, Foils, Sheets, Felts, Rods & Custom Shape



Mold



Dies



Crucible



Rod

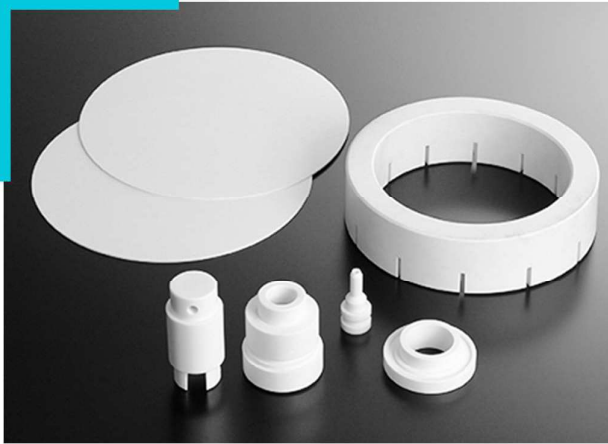


Plate

Technical Ceramics Materials

(For RF & Microwave Applications)

DIELECTRIC RESONATORS / PATCH ANTENNAS / DIELECTRIC SUBSTRATES



We offer a broad range of technical ceramic materials for RF & Microwave applications, shapes and sizes that can be selected to optimize customers' specifications. Because we design and manufacture from raw materials to finished parts, we can ensure the quality and reproducibility of our products in small to very high volume applications.

We offered in both TE, TM, and TEM mode with a wide range of low loss microwave dielectric materials.

Some of these materials exhibit ultra-high Q performance with $Q_f > 300,000$ @ 10 GHz and are ideally suited for applications such as voltage controlled oscillators, dielectric resonator oscillators, microwave filters, combiners, cellular base station filters and satellite based communication equipment.

Dielectric Substrates are available in a wide range of dielectric materials ranging from $K = 9$ to 190 and are used for microwave integrated circuits, strip line and thin film passive network applications for frequencies from 6GHz to 100GHz.

Wide range of dielectric constant materials, sizes and thicknesses available with us. Custom sizes available upon request.

Product Technical Specifications

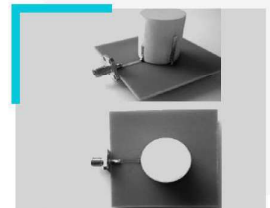
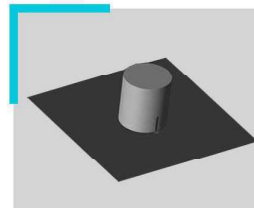
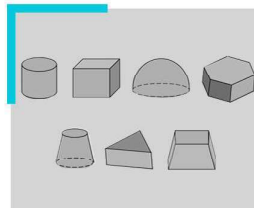
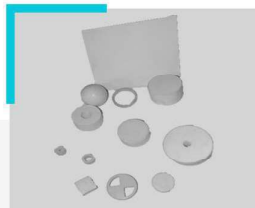
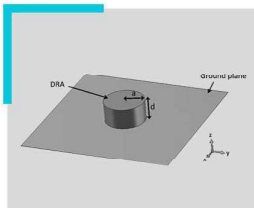
APPLICATIONS

- Dielectric Resonator Oscillator (DRO)
- Global Positioning Systems (GPS)
- Base Station DR Filters and Combiners
- Direct Broadcast System (DBS)
- Radar Detectors
- AMPS / GSM / PCS / WLL / Wireless LAN / MMDS
- Public Safety
- Fixed and Auto-tuned Combiners
- Satellite Communication Equipment
- Dielectric Materials
- Dielectric Resonators (TE/TM)
- Dielectric Resonators (TEM)
- Dielectric Patch Antennas
- Dielectric Substrates

FEATURES

- Dielectric Materials
- Dielectric Resonators (TE/TM)
- Dielectric Resonators (TEM)
- Dielectric Patch Antennas
- Dielectric Substrates

Design variation



For more information, please send a mail to sales@venturescientific.in

Consumables for Battery research



Product

- LI-ION BATTERY ANODE POWDER
- LI-ION BATTERY CATHODE POWDER
- Na-ION BATTERY ANODE POWDER
- Na-ION BATTERY CATHODE POWDER
- BATTERY ELECTRODE/LI CHIPS
- LI-ION BATTERY BINDERS
- LI-ION BATTERY SEPARATOR
- ELECTRODE SUBSTRATE (CURRENT COLLECTOR)
- COIN CELL CASES
- CYLINDER CELL CASE
- POUCH CELL CASES
- NICKEL TAB
- ELECTROLYTE

We deal in all types of consumables item used for manufacturing lithium-ion battery & sodium-ion battery. Under the guidance of the quality team, all items sold are made using high-quality raw materials. We have a variety of cathode, anode, electrolyte materials & other consumables items for use in lithium-ion and sodium-ion batteries R&D or manufacturing. We specialize in supplying specialty materials with compositions and particle morphologies that are not available at commonplace. Our ability to tailor materials results in improved battery performance for your application.

We concentrate on creating value through product and process innovation. We work with suppliers to procure quality materials, minimize lead times, and manage risk in the supply chain.

In order to satisfy efficiency expectations for consumer electronics and electric vehicles, batteries are required to fulfill a significant number of requirements. We provide these lithium-ion battery & sodium-ion battery materials at reasonable prices and deliver these within the assured time-frame.

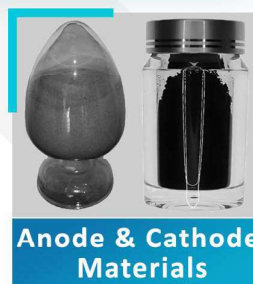
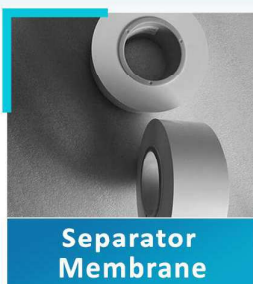
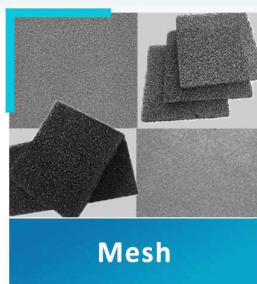
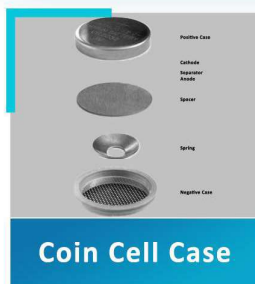
Battery + Supercapacitors

Lithium & Sodium Chemicals

Solid-State Electrolytes

Materials for Battery and Supercapacitor

Cases + Consumables
(for coin cell and pouch cell)



Consumables for Fuel Cell & Electrochemistry research



We offer a wide variety of materials and chemicals item for use in fuel cell research or when fabricating your prototype fuel cells.

Fuel Cell

- Ion Exchange Membranes, Dispersions, Powder, Pellets and Tubing
- Value added products containing Perfluorosulfonic acids (PFSA's)
- Membrane Electrode Assemblies (MEAs), Catalyst Coated Membranes (CCMs) and Gas Diffusion Electrodes (GDEs)
- Catalysts
- Gas Diffusion Layers
- Bipolar Plates
- Humidifiers
- Piping & Tubing
- Electronics & Power Devices
- Gasketing
- Other related component accessories

Electrochemistry

Analytical cell

- Small volume cells
- Flow cells
- Ring disk type electrodes
- Screen Printed Electrodes (SPE)
- Large volume cells
- InterDigitated Array (IDA) electrodes

Corrosion cell

- Standard corrosion cells
- Flat cells
- Plate material evaluating cell
- Avesta cell
- Galvanic cells
- Coating cell

Glassware

- Small & big volume cell vials
- Small size bridge tubes
- Bridge & purge tubes for analytical cells
- Bridge & purge tubes for corrosion cells
- Bridge tubes with ceramic junction

Electrodes

- Working electrodes
- King size reference electrodes
- Counter electrodes
- Coating cell
- Small size reference electrodes
- Metallic electrodes

Rotating electrodes

- Rotating Ring Disk Electrode (RRDE)
- Rotating Disk Electrode (RDE)
- Working electrode tips

Spectroelectrochemistry

- Spectrometer
- Flow experiment
- Static experiment
- Thin layer spectroelectrochemical cell

****Contact us to discuss your fuel cell and electrochemistry needs in details.**



Electrodes



Double-Jacketed Cell



H-Cell



Flat Corrosion Cell



Cells & Electrodes

Materials for Electronics, Photonics, Thin Film & Nano Research



We offer a wide range of Materials for Electronics, Photonics, Thin Film & Nano Research. These materials are available in standard or as well as custom make. Our broad ranges of materials are available in various purity, shape, size and quantity.

With our capabilities and extensive expertise we're the perfect partners for custom manufacturing solutions and niche product sourcing through our trusted network of worldwide suppliers.

Specialising in the following areas:

- Energy Research
- Photonics & Optoelectronics Research
- Thin Films & Nanotech Research
- Materials Processing & Testing
- High Performance Metals & Metallic Compounds
- Support from an expert scientific team
- Custom manufactured components
- Niche product sourcing
- Comprehensive range of standard stock products & consumables with super fast delivery
- No minimum order policy

Above are our most requested lines; however we welcome any enquiry for other specifications including purity, dopant or custom make.

Products

- Single Crystals & Substrates
- Wafers (including Silicon Wafers & Glass)
- Substrate & Wafer Storage
- Sapphire & Quartz Components
- Pure Metal Sputtering Targets
- Alloy Sputtering Targets
- Oxide Sputtering Targets
- Evaporative Coating Pellets & Granules
- Evaporative Sources
- Optical Coating Materials
- Photovoltaic Chemicals
- Nano Powders
- Rare Earth Oxide Powders
- Graphene
- High Temperature Adhesives

Purity

- 2N, 3N, 4N & 5N

Size

- Standard & Customised



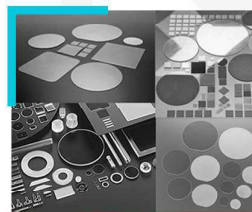
Cosumables



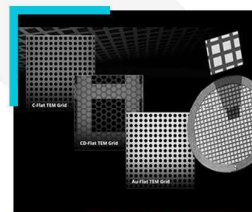
**Evaporation
Materials**



**Evaporation
Sources**



**Wafers &
Substrates**



Tem Grids

Non-Precious Metal Consumables



We offer a wide range of high purity non-precious metals consumable products. No matter what your application, we are able to supply in various purities and forms to meet most specifications.

A wide range of resources for manufacturing and fabrication are available to meet most specialty requirements.

Materials

- Stainless Steel
- Aluminium
- Copper
- Nickel
- Inconel
- Tantalum
- Zirconium
- Molybdenum
- Tungsten
- Niobium
- Vanadium
- Titanium
- Palladium

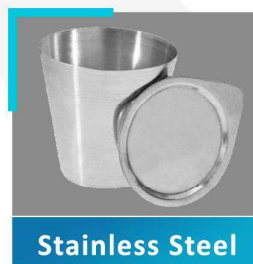
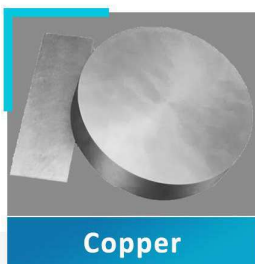
Type

- Crucible
- Powder
- Granules
- Foil
- Wire
- Customised

Purity

2N to 6N

• Nickel Foam	• Iron Nickel Foam	• Copper Mesh
• Copper Foam	• Nickel Copper Foam	• Nickel Mesh
• Open/Closed Cell Aluminum Foam	• Nickel Chrome Alloy Foam	• Titanium Mesh
• Titanium Foam	• Iron Foam	• Silver Mesh
• Spherical Open-Cell Aluminum Foam	• Cobalt Foam	• Gold Mesh
• Silver Foam	• Ceramic Foam Carbon Materials	• Molybdenum Mesh
• Stainless Steel Foam	• Titanium Fiber Belt	• Stainless Steel Mesh
• Graphene Foam	• SS Fiber Belt	
• Carbon Foam	• Metal Foil	



Furnace Tubes



There are various working Tubes available, depending on application and temperatures. The technical specifications of the different working Tubes are presented in the following table:

Seamless high-temperature Tubes or furnace Tubes suitable for use in applications with temperatures above 500°C

The VENTURE SCIENTIFIC® portfolio of high-temperature Tubes includes a wide range of recrystallized alumina, quartz, mullite, austenitic stainless steels, nickel alloys as well as iron-chromium-aluminium (FeCrAl) alloys, which can be used in applications with temperatures above 500 °C to below 1800°C depending upon the tube material.

High-Temperature Tubes

- Boiler Tubes
- Composite Tubes
- Ethylene furnace Tubes
- Finned Tubes
- Furnace Tubes
- Lance Tubes
- Muffle Tubes
- Radiant Tubes
- Recuperator Tubes
- Reheater Tubes
- Superheater Tubes
- Thermocouple Tubes

Tube Material	Physical & Chemical Properties			Maximum Temperature (C°)		
				In air		Under Vacuum pressure
	Porous / Impervious	Resistance to thermal shock	Chemical resistance	Horizontal	Vertical	Horizontal & Vertical
60% Alumina Tube	Porous	Good	Good chemical resistance but porous	1100°	1100°	-
Mullite (3Al ₂ O ₃ ·2SiO ₂)	Impervious	Very Good	Good chemical resistance against gases, with the exception of fluorine. Resistant to flux sulphurous or carbonaceous atmospheres	1200°	1200°	1000°
80% Alumina Tube	Impervious	Very Good	Good chemical resistance against gases, with the exception of fluorine. Resistant to flux sulphurous or carbonaceous atmospheres	1400°	1400°	1000°
Recrystallized Alumina 99.7%	Impervious	Excellent	Highly resistant to chemical attack, with the exception of fluorine	1800°	1800°	1600°
Quartz	Impervious	Excellent	Generally good but reactive with sodium & at upper temperature limit with metals, carbonates & halides	1100°	1100°	1050°
Powder metallurgy (FeCrAl)	Impervious	Excellent	Resistant to oxidation, carburization & sulphidation	1200°	1200°	1000°
Inconel (NiCr Alloy)	Impervious	Excellent	Good high temperature oxidation resistance combined with good resistance in carburising and chloride containing environments	1100°	1100°	650°
Stainless Steel 316	Impervious	Excellent	Good oxidation resistance	1100°	1100°	500°

Please Note:

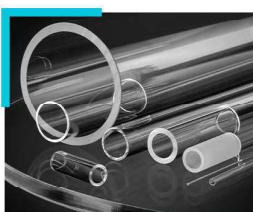
- Long unsupported horizontal work Tubes will bend at high temperatures
- The max. allowed temperature might be reduced operating under aggressive atmospheres

Work Tube Selection Guide:

The material, length and diameter of the work tube required for use with each furnace differs. The appropriate material work tube for each furnace can be selected from the tables above. Work tube length depends on whether the furnace will be used to work in air or with modified atmosphere/vacuum.



Alumina Tube



Quartz Tube



Inconel Tube

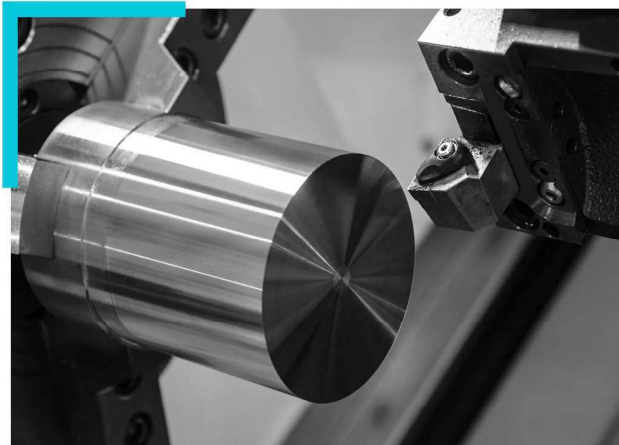


APM-Fecral Tube



Stainless Steel

Pellet Press Dies



Each piece in our quality powder pellet press die sets are designed, machined and precision ground for simple, easy, reliable powder pressing. The carefully chosen steels for our powder press dies are heat treated for maximum hardness and strength, permitting reliable and repeatable long term performance. Our durable, hardened tool steel dry pellet pressing die sets can safely tolerate large stresses from the hydraulic press required to make quality pellets and the wide range of hydraulic pellet press and laboratory pellet press dies and in our selection range gives flexibility on the size of pellet you need.

Every one of our pellet dies are made to high tolerances to allow the pieces to slide within one another without allowing the powder to escape which would cause the die set to jam up and prevent it from working efficiently. The superior level mirror surface finish of the interior pressing surface and spacers reduce cross contamination and make. Dies can be operated with or without spacers to give flexibility on thickness of pellets you want to make. KBr pellet press die set and IR die sets can be readily used for making FTIR pellets in the laboratory setting, these smaller diameter dry powder press dies can be used with hand pellet presses as well as typically hydraulic lab press.

Material

- Hardened tool steel with polished to a high tolerance fit.

Properties

- Hardened steel (Rockwell hardness, Rc > 60)
- or Tungsten carbide (Rockwell hardness, Rc > 85)

Characteristics

- Polished to high tolerances to allow the Plunger to slide through perfectly.
- High yield strength steel
- Machined and polished to high tolerance for the perfect fit
- Interior surfaces ground to mirror like finish.

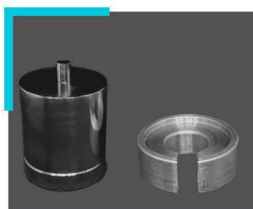
Precision Dies for Perfect Pellets

- Made from high strength steel
- Heat treated for high hardness
- Precision ground for mirror-like finish
- Long lasting trouble free operation
- Easy to use design

Need a custom size?

- We can make die sets to fit your needs
- Small, wide, long, square, vacuum, stainless - we've done it all!
- Same high tolerance, same great finish.

***Each powder Pellet Press Die Set includes and 1x Die Body, 1x Plunger rod, 1x Spacers, 1x Base plate and 1x Release ring with viewing slot.*



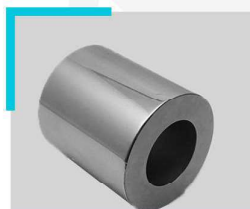
Round without Head



Square with Head



Base Plate & Plunger



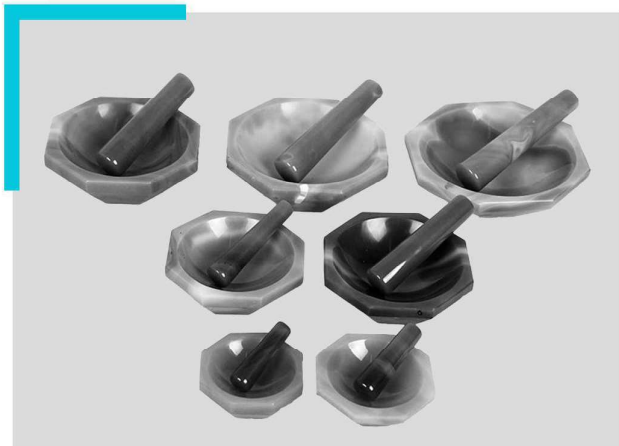
Die Body



Round with Head

****If you want a custom rectangular dies, one of our square pressing dies in whatever size you need, or a heated pellet or dies as per your drawing, please contact our technical sales team.**

Mortar & Pestle



Agate is a microcrystalline variety of silica, chiefly chalcedony, characterised by its fineness of grain and brightness of color. Although agates may be found in various kinds of rock, they are classically associated with volcanic rocks and can be common in certain metamorphic rocks.

Our mortars and pestles are made from especially hard and dense agate, and their grinding surfaces are polished to reduce contamination. Because of their natural origins, our Agate mortars and pestles may vary slightly in appearance from the picture

Apart from Agate mortar & Pestle We also have Black Agate Mortar & Pestle, Zirconia Mortar & Pestle and Alumina Mortar & Pestle.

Product Technical Specifications

Features

- Mortar and pestle are handcrafted from the finest translucent high quality, natural agate stone with shining polished surface with standard depth.
- Supplied with a pestle with relevant size to agate mortar.
- High purity, no cracks and easy cleaning.
- Anti-wear, corrosion resistance, high hardness & acid resistant (except HF) and alkali resistant.

Applications

Used to grind solid materials or grind the mixture of solid powder. For ordinary laboratory and educational needs, Agate mortar and pestle is an adequate and economical choice. Its relatively hardness and low porosity compared to porcelain make it suitable for general laboratory works.

Tips during uses

1. Grinding operation: mortars should be placed on hard objects on the slide, and research pestle should be kept vertical.
2. Explosive materials can only be lightly crushed, not grinded by use of force.
3. Material to be grinded shall not exceed the capacity of 1/3.
4. Mortar & pestle cannot be heated for drying, not even into the electric oven.
5. Mortar can be washed with water, hydrochloric acid causes acid corrosion of mortars.
6. It is difficult to wash mortar attached to the material, in such a case, add a small amount of salt, then wash with water

Grey Agate Properties

Items	Unit	Typical Values
Composition	wt%	≥99% SiO ₂
Specific Gravity	g/cm ³	2.57-2.63
Mohs Hardness(HV)		6.4-7

For Extra depth compared to standard deep mortars or round pestle are given on request and prices are different too.



Metallography Consumables



We offer various consumables for metallography and similar applications. The consumables are offered after careful study and with vast experience of applications support given to industrial and research needs. We offer largest variety in each category, both cost effective and high performance supplies to suit individual's needs. Sample preparation requires good quality consumables that improve the results of Microstructure analysis. The usage of right consumables at every stage of sample preparation aid in obtaining enhanced results. Thus Consumables are the key of your Metallography preparation. Also we undertake the standardization of consumables for critical applications like-thin layer retention, edge rounding prevention, multilayer coating, inclusion study, specimen preparation of soft material / ceramics / glass / composites etc., in conjunction with suitable machines, technologies to be used or applied and their parameters.

Product Technical Specifications

- Reliable consumables for Metallography, Mineralogy, Petrology,
- Ceramology
- For Industrial and Research Applications
- Indigenous & Imported
- Perfected for critical applications
- Suitable for any International machines
- Applications support

Our range includes

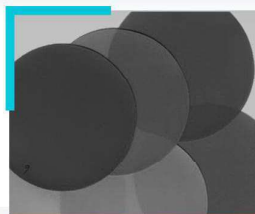
- Abrasive Cutting Consumables
- Diamond Sectioning Consumables
- Moulding Consumables
- Grinding Consumables
- Polishing Consumables
- Precision Cutting
- Compression & Castable Mounting
- Diamond Grinding & Composite Disks
- Lapping Films
- Polishing Cloths (PSA)
- Magnetic Polishing Pads
- Polycrystalline & Monocrystalline Diamond
- Final Polishing
- Cleaning
- Etching
- Hardness Testing

ABRASIVE CUTTING RECOMMENDATIONS

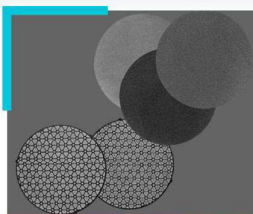
APPLICATION	ADVANTAGE	BLADE COMPOSITION
General cutting with universal thin resin / rubber bonded blades	Thin durable longer lasting blade for cutting most materials.	Alumina resin-rubber bonded
Hard non-ferrous metals (titanium, zirconium, etc.)	SiC abrasives are much more effective in cutting non-ferrous metals	SiC / resin-rubber bonded
General purpose blade for steels and ferrous metals	Resin bonded blades break down easily to expose fresh abrasives for cleaner cuts	Alumina / resin bonded
Soft non-ferrous metals (aluminum, brass, zinc, etc.)	Resin bonded blades break down easily to expose fresh abrasives for cleaner cuts	Alumina / resin bonded
Industrial general purpose reinforced blade	Lower cost, longer life resin bonded blades	Alumina / resin-bonded
Heat treated and hardened steels	Specifically designed metallographic abrasive blades to reduce heat damage during sectioning	Alumina / resin bonded
Non-metallic materials such as glass, minerals, ceramics and composites	Diamond Blades do not wear down like ceramic abrasives blades	Diamond



Abrasive & Precision Cutting



Lapping Films



Diamond Grinding & Composite Disks



Compression & Castable Mounting



Grinding Polishing

Ball Milling Jars & Grinding Media



Ball mill jar, grinding media and milling media are used in milling or grinding processes to crush, grind and mill various materials. We offer a wide variety of jar, grinding media and ball milling media with the package size ranging from g and Kg.

Jar, milling media and grinding media are most popular in grinding processes that involve ball milling equipment such as planetary milling jars and planetary mill machines. Milling balls made of steel and ceramic are our most popular materials. We provide quality, durable, and high performance milling jar & media. We urge our customers to select the best grinding media to fit their research needs.

Milling jar, media and grinding media are used to meet many industrial needs. Some products are used for powdering food products, grinding glass, making ceramic glaze, creating custom vanishes, making black powder, and powdering various chemicals. It is also used to manufacture medical devices, composites, plastics, glass, electronics, and semiconductors. Jar, grinding media and ball milling has many uses, such as cleaning and preparing surfaces, tool and die-sharpening, deburring and deflashing, maintenance, repair operations, and construction.

Grinding media & jar can be used in milling and dispersion in the following applications.

- Advanced Ceramics
- Bio Technologies (DNA & RNA isolation)
- Chemicals Including Agrochemicals, e.g. Fungicides, Insecticides
- Coatings, Paints, Printing and Inkjet Printer Inks
- Electronic Materials and Components, e.g. CMP Slurry, Ceramic Capacitors, Conductive Inks
- Food Processing
- Lithium Ion Battery Materials
- Nanomaterials
- Minerals Processing
- Organic Synthesis
- Pigments and Dyes
- Pharmaceuticals

Jars & Grinding Media

- | | | |
|-------------------|--------------------|------------|
| • Agate | • Alumina | • Zirconia |
| • Stainless Steel | • Tungsten Carbide | |
| • Porcelain | • Polyurethane | |

Jar Sizes

- 50ml to 500ml or as per user requirements
- Grinding media sizes
- 2mm to 20mm or as per user requirements

****Contact us to discuss your milling media & jar needs in details. Every jar set is available with a jar lid, rubber sealing gasket, and a grinding jar. You can always find jars or balls to meet your application and budget.**



PU Jar



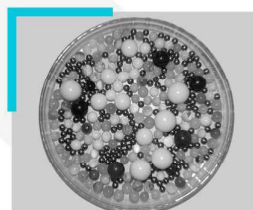
SS Jar



Planetary Ball Mill Jar



Ball Mill Jar



Grinding Media

For help in selecting the right milling media for you, please contact our technical support team.

For more information, please send a mail to sales@venturescientific.in

Piezoceramic Components



We offer a wide range of Piezo materials & their components. Our specializes in the custom fabrication of ultrasonic piezoelectric transducer crystals, optical and electronic substrates, surface acoustic wave substrates components and associated bulk wave components. We work with an extensive selection of piezoelectric and optical materials, and also provide fabrication services on materials supplied by our customers. From small prototype orders to large quantity runs, we work closely with our customers to supply the unique components required for today's ever changing piezo requirements. We can easily accommodate your need for unusual orientations, shapes, sizes and plating configurations.

We offered

- Piezoceramic materials (PZT)
- Piezoceramic components
- Customized and application specific ultrasonic transducers/transducers
- Monolithic multilayer piezo actuators
- Miniature piezo actuators
- High-load piezo actuator
- Multilayer bender actuators
- Tube piezo actuators
- Preloaded actuators with casing

Your Advantages with VENTURE SCIENTIFIC as a Partner

- Custom piezo element and transducer manufacturing
- Value-added designs
- Miniaturized piezo components
- Flexible quantities

Product Technical Specifications

Piezoceramic Materials and Components

- Range of geometries
- Large variety of materials
- Linear and shear actuators
- Tubes, disks and bender elements

Piezoceramic Sensor Components

- Flow rate measurement
- Level measurement
- Force and acceleration measurement

Piezoceramic Multilayer Actuators

- Resolution to below one nanometer
- Response time to below one millisecond
- Long lifetime, unaffected by humidity
- Flexible cross sections and displacements
- Bender elements

Piezoceramic Stack Actuators

- Range of geometries
- High resonant frequencies for fast response times

Applications

- Therapeutic and Surgical Instruments
- Medical Sensors
- Microfluidics
- Diagnostic Imaging
- Flow Metering
- Pressure detection
- Sensor Devices
- Hydroacoustics
- Aerospace
- Oil & Gas
- Automotive
- Marine
- Industrial Dispensing
- Industrial Printing
- Non-Destructive Testing
- Air transducers



Piezo Ring



Piezo Stacks



Piezo Transducer



Piezo Buzzer



Piezo Plate

Ceramic Ignition Electrode for Oil & Gas Burner



Ignition electrodes used for the ignition and temperature control in gas and solid combustion equipment, work on the principle of ignition by high voltage flashover. Ignition electrodes can be used as ionisation probes and vice versa. The ignition electrode and the ionisation probe are usually positioned together in the combustion chamber of the gas combustion equipment - gas-fired boilers, instantaneous water heaters, gas ranges, cookers etc.

We are leading & well recognized firm engaged in manufacturing and supplying ceramic ignition electrodes. Providing you the best range of ignition spark electrodes, ignition electrodes and burner ignition electrode with effective & timely delivery. Our ignition electrodes, flame sensor rods and assemblies come in over infinite configurations.

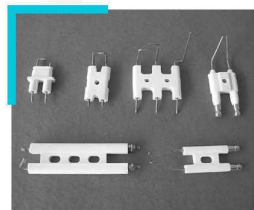
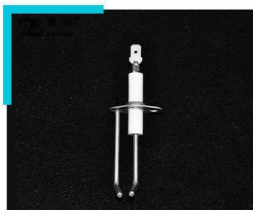
Application

Natural Gas: Gas boiler, heating equipment, Furnace/burner, Table stove / Table top burner, Commercial kitchen equipment, Commercial burner, Industrial burner

Renewable Energy: Pellet stove/boiler/burner, igniter, Hydrogen direct combustion burner, Hydrogen direct combustion boiler, Fuel cell system ignition and flame detection

We have a vast quantity of ceramics electrode in stock; please contact us for standard or customised sizes to suit your application. Our standard products can easily be modified with wire cut to length, bent or bodies or fittings added.

Design variation



Products

- Ignition electrodes
- Single electrodes
- Double electrodes
- Blocks of electrodes
- Electrode assemblies
- Single or multiple pole ignition electrode
- Flame monitoring pole
- Flame sensor rods
- Ionization electrodes
- Ceramics hot surface igniter
- Double plan igniter
- Pellet stove igniter
- Cathode and anode
- Spark plug
- Interference suppressors
- Temperature sensors

Characteristics

- High mechanical strength and resistance to thermal and electrical load (electric strength of the insulator is 18kV).
- The electrode is made of a special fire-proof material (Kanthal® or Nikrothal®) which is resistant to high temperatures and electrochemical corrosion.
- The electrode is a crucial part of every burner and is responsible for creating the spark that initially ignites the fuel within the burner

Specification

Insulator material available: Mullite, Steatite, Heat Resistant Resin, Alumina 90~99.8%,

Electrode material available: Kanthal A, C, D, APM, Inconel, Various Ni-Cr alloy wire

Wiring and connector available: all type

Ceramic insulator size available: length 10 to 1800 mm, diameter 3 to 15mm

Heat resistance range 700 to 1400°C

High Pressure Reactor



We offer a variety of pressure reactor in both single and parallel format which can be used safely across a range of pressure ratings. Every reactor is designed and engineered in the INDIA to the highest possible safety specification.

Designed to be used in conjunction with a simple magnetic stirrer hotplate, this is a cost effective lightweight unit suitable for numerous stirred or non stirred applications including hydrogens, carbonylations and applications where air sensitive materials are used. Indeed any other reaction where pressure or temperature are required.

"Compact design for space saving in the laboratory fume hood, light enough to move around with Health & Safety implications, and readily configured to your custom specifications".

Common options

- Stainless steel 304 materials
- Liners: PTFE & PPL
- 50 or 180 bar max working pressure
- 300°C max temperature
- Heating using hotplate stirrer
- Pressure relief valve, gauge & thermowell
- Standard Swagelok fittings
- Magnetic agitation

Upgrade options

- Stainless steel 316 material can also be provided if needed, which is better for corrosive materials
- Exotic metals eg. Hastelloy or Inconel
- Pressure to your requirement; 500 bar +
- Temperature to your requirement
- Upgrade to dedicated heater; 700°C+
- Liners: Glass or other materials
- Cooling
- Hosing for connection to gas lines
- Overhead stirring
- Gas uptake and pressure control /data logging options
- Many options for customization

Applications

Ideal for use in:

- Hydrogenations & other gas phase reactions
- Hydrothermal synthesis
- Homogeneous and heterogeneous catalysis
- Corrosion testing
- Catalyst Screening, reaction optimisation & materials testing
- Supercritical studies Environmental science
- Energy
- Advance material science
- Material Engineering
- Nanotechnology
- Polymer industry
- Petrochemical Industry

Our services

By chemists and engineers, for chemists:

- Your reactor system will be designed around your application/budget
- We offer solutions from simple reactor vessels to elaborate reactor systems
- After design & manufacture, we offer installation, servicing & testing spares
- Every reactor is fully tested & certified

Design variation



For more information, please send a mail to sales@venturescientific.in

Hydrothermal Autoclave



Design & Engineered in the INDIA for working safely under pressure

Every reactor is designed and engineered in the INDIA to the highest possible safety specification.

The Hydrothermal Autoclave reactor use to carry hydrothermal reaction at high pressure and high temperature.

This is a cost effective lightweight unit suitable for numerous applications including hydrogens, carbonylations, new materials, energy, environmental engineering and applications where air sensitive materials are used. Indeed any other reaction where pressure or temperature are required. Also other fields in the scientific laboratory, research and development labs, institutional organizations, quality analysis section in industries etc.

Product Technical Specifications

Properties

- Maximum operating temperature: $\leq 240^{\circ}\text{C}$ (PTFE), $\leq 260^{\circ}\text{C}$ (PFA), $\leq 280^{\circ}\text{C}$ (PPL)
- Safe temperature: $\leq 200^{\circ}\text{C}$ (PTFE), $\leq 240^{\circ}\text{C}$ (PFA), $\leq 260^{\circ}\text{C}$ (PPL)
- Working Pressure: $\leq 3\text{MPa}$ to 5MPa or 30 Bar to 50Bar
- Heating and Cooling Rate: $\leq 5^{\circ}\text{C}/\text{min}$
- Material: Stainless steel Grade 304
- Liner Option: PTFE, PFA, PPL, Silica, Alumina, Stainless Steel
- Can be customized as per requirement, SS 316 can also be provided if needed, which is better for corrosive materials.

Characteristics

- Ultra Strong Corrosion Resistant & acidic and alkaline resistant Performance
- Perfect fitting of liner into the Reactor
- Beautiful Appearance, Strong & durable, Easy to Use
- Dissolve sample rapidly without any leakage
- PTFE lined, PFA Lined & PPL lined can be replaced

Standard Available Volume Range

Shape	Screw/Threaded with PTFE	Nut n Bolt with PTFE	Screw/Threaded with PPL	Screw/Threaded with PFA	Screw/Threaded Clamp with Glass	Screw/Threaded Bolt with PTFE
Range	10ml to 5000ml	50ml to 5000ml	10ml to 5000ml	10ml to 5000ml	25ml to 300ml	50ml to 500ml



**Screw/Threaded Type
with PTFE/PPL/PFA**



**Nut & Bolt Type
with PTFE**



**Screw/Threaded with
Vent Type with PTFE**



**Threaded with Clamp
Type with Glass Lined**

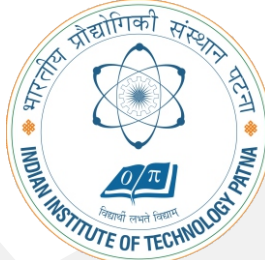


**Screw/Threaded
Bolt Type**

OUR ESTEEMED CUSTOMERS



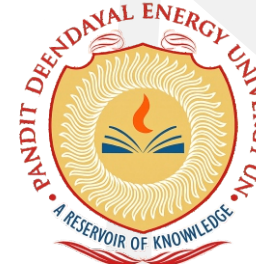
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Indian Institute of Technology Dharwad



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...and the list continues to grow.

THANK YOU

—ENGINEERING THE FUTURE OF MATERIAL SCIENCE—

Your trusted partner for precision material,
laboratory consumables and engineering solutions.



ABOUT VENTURE SCIENTIFIC

At Venture Scientific, we are dedicated to supporting researchers, universities, government laboratories and industrial R&D organizations with high quality materials, laboratory consumables and customized engineering solutions.

Our focus on quality, precision and technical excellence enables innovation across research, manufacturing and advanced industrial application.

WHY VENTURE SCIENTIFIC?



Customer-Focused Approach

Understanding your needs, delivering value.



Technical Consultation

Expert guidance for right product selection.



Customized Solutions

Tailored products for specialized application.



Reliable Supply Chain

On-time delivery with quality assurance.



Responsive Support

Quick response, dedicated support.

INDUSTRIES & RESEARCH WE SERVE



Universities &
Research Institutes



Material Science



Semiconductor



Government
Laboratories



Industrial R&D



Battery &
Energy storage



Hydrogen &
Fuel Cell



Thermal
Processing



Metallurgy &
Powder Metallurgy



Steel, foundry
& Forging



Automotive



Chemical &
Process Industries



Defence &
Aerospace



Solar &
Photovoltaics



Pharmaceuticals &
Biotechnology



CORPORATE OFFICE & PRODUCT EXPERIENCE CENTER



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Quotations



Product
Selection

Made for Research - Build for Industry