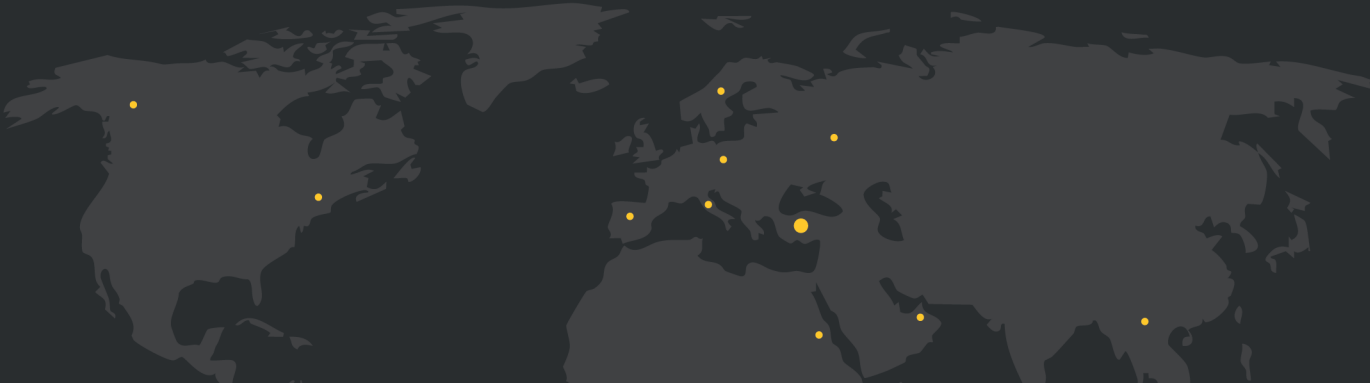




SCIENTIFIC
TESTING
DEVICES

25
YEARS
EXPERIENCE



VECTOR BTC is the leading manufacturer of test equipment for Production Quality Control Measurements of Defense Industry, Iron - Steel, Automotive and Cement Industry companies and has become a world-renowned and reliable company. Our company has been providing solutions to our business partners in the field of testing equipment for decades.

Exported
to over
50+
countries



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COUNTRIES WITH OUR TRADEMARK REGISTRATION CERTIFICATE

Germany
Austria
Belgium
Bulgaria
Czech Republic
Denmark

Luxembourg
Hungary
Malta
Poland
Portugal
Romania

Estonia
Finland
France
Croatia
Holland
Ireland

Slovakia
Slovenia
Greece
Albania
Russia
Egypt

Spain
Sweden
Italy
Cyprys
Latvia
Lithuania

Uzbekistan
Azerbaijan
India
United Kingdom
Mexico
USA

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About Vector



For more than two decades, Vector has been the trusted engineering partner of laboratories that demand unwavering accuracy and rock-solid reliability. Headquartered in Türkiye, we design and build every piece of equipment in-house, from the first 3D model to the final line of software code. So that our customers can concentrate on quality control instead of worrying about instrumentation.

Engineering certainty into every test.

What We Do

Vector operates in two complementary fields—laboratory equipment and mechanical testing systems—yet this catalogue focuses on our laboratory line for cement analysis. Today, eight out of every ten cement plants in Türkiye rely on Vector instruments for routine strength testing, setting-time monitoring, and environmental conditioning. A growing distributor network extends the same solutions to leading producers from Europe to Asia.

Our Journey

Vector was founded by Atılım Gökçe, who brings more than 30 years of hands-on expertise in laboratory equipment, with a clear aim: to offer the market a high-quality, domestically engineered alternative to imported instruments. What began in a modest workshop has grown into a 3,000 m² manufacturing and R&D facility employing more than 40 specialists and supplying laboratories worldwide. Every profit is channelled back into advanced machinery, process optimisation, and talent development, ensuring that our build quality and technical capabilities keep rising, project after project.



End-to-End Partnership Experience

From the first inquiry to long-term maintenance, Vector delivers a seamless, customer-centred workflow. Seasoned sales engineers begin by translating your testing goals and compliance targets into a clear technical brief. That brief then lands on the desks of our R&D specialists, who co-design any required hardware or software adaptations. Once approved, the project moves through our vertically integrated production line: laser cutting, CNC machining, panel wiring, and code deployment—so every component remains traceable and customisable. Before dispatch, each system undergoes a full performance verification to EN and ASTM criteria. On site, our field technicians handle installation, operator training, and hand-over documentation, ensuring your lab is productive from day one. Remote support and scheduled service visits keep accuracy and uptime at their peak for the life of your equipment.

Why Laboratories Choose Vector

Application-Driven R&D - Instruments engineered around real-world laboratory challenges such as temperature stability, sample throughput, and intuitive workflow.

Proven Field Record - Trusted by leading plants and independent labs in more than 25 countries, holding an 80 % share in our domestic market.

Traceable Quality - ISO-aligned inspections at every production stage; complete documentation travels with every shipment.

Rapid Service Model - Remote assistance within 24 hours and on-site support inside five working days across Türkiye and major export hubs.

Lifetime Upgrade Path - Ongoing firmware and software updates keep installed systems competitive and extend service life.

SAMPLE & PREPARATION

A collage of three images related to sample preparation. The top left shows a grey concrete specimen with a yellow coating. The top right shows a rack of blue-capped test tubes. The bottom shows an open laboratory oven.

Mix, mould, cure, and condition complete workflow under one roof

Reliable test data begin long before a specimen reaches the press or the spectrometer; they are forged at the bench where raw powder is blended, moulded, cured, and conditioned. Vector's Sample Preparation family unites every critical step of that journey in a single, compatible toolkit—so your laboratory can move from bagged cement to certified test piece without handoffs, re-calibration, or uncertainty.

Why Laboratories Choose Vector

Laboratories choose Vector because every instrument follows the same interface logic, accepts the same modular accessories, and exports data in identical formats, allowing technicians to master one system and operate the entire preparation chain with confidence. Each specification—whether it is the curing cabinet's ± 0.5 °C temperature stability or the pellet press's ± 1 % load accuracy—is factory-verified and logged for audit-ready traceability, giving users documented precision they can trust. Quiet drive systems, sealed humidifiers, guarded presses, and intuitive touch-screen HMIs deliver a blend of safety and ergonomics that protects operators while maintaining high daily throughput. Finally, Vector safeguards productivity with local spare-parts stock, remote diagnostics, and on-site training—support provided by the very engineers who designed the equipment—so downtime remains an exception rather than the rule.

Seamless Chain of Operations

Cement Mortar Mixer: Homogeneous pastes are the foundation of reproducible strength results. Vector's programmable mixer delivers EN/ASTM-compliant planetary action, automatic sand and water dosing, and batch traceability at the touch of a screen.

Jolting Table & Cement Flow Table: Fresh mix is immediately evaluated and standardised: the electromagnetic Jolting Table compacts $40 \times 40 \times 160$ mm prisms with constant energy, while the Flow Table—manual or motor-driven—quantifies workability and consistency. Rapid adjustments here prevent costly re-runs later.

Curing Solutions: Accurate hydration demands controlled environments. The single-door or double-door Cement Curing Cabinet maintains 20 ± 0.5 °C and ≥ 95 % RH with computer-logged security, whereas rugged Curing Tanks provide water-bath conditioning for cubes and cylinders on construction sites or in plant labs. For expansion studies, the Le Chatelier Water Bath keeps moulds just below boiling, holding temperature uniformity to within ± 0.1 °C.

XRF Pellet Press: When chemical composition is the focus, the fully automatic hydraulic press forms 5 to 40-mm pellets at up to 40 T—maintaining load, ramp, dwell, and release profiles that can be stored and recalled in seconds. The result is smooth, crack-free targets ready for X-ray fluorescence or FTIR. Designed for Laboratories, Trusted Across Industries.

Vector's sample-preparation line was born in the cement sector, where we now serve more than 100 plants and a growing network of international producers. Yet the same hardware has proven invaluable in lime, gypsum, ceramics, mining, and even pharmaceutical pilot sites where powder homogeneity, repeatable mould filling, or controlled curing are equally critical.

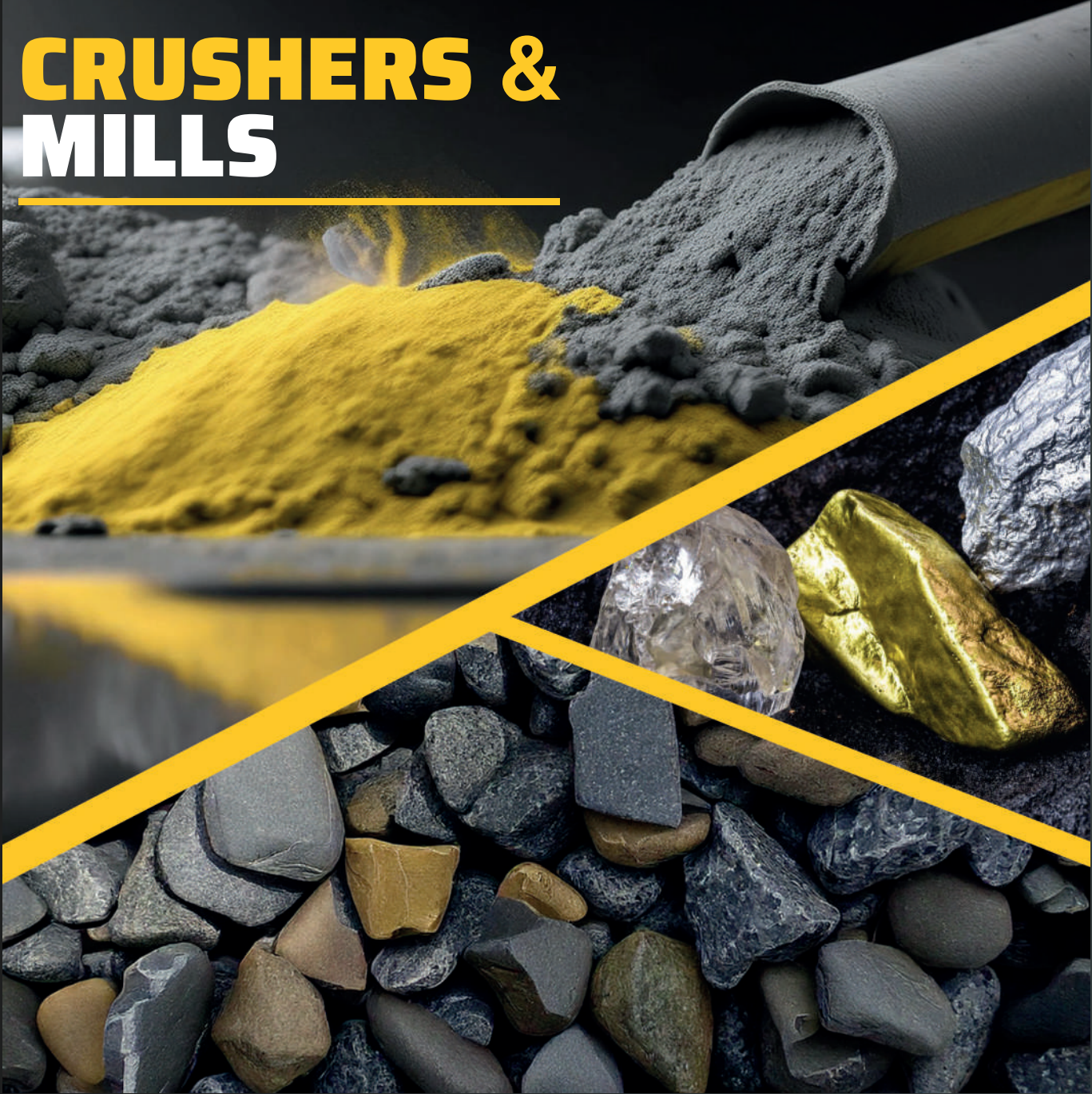
Sustainability & Efficiency

Vector integrates energy-optimised motors, high-grade insulation, and recirculating water systems to cut consumption without sacrificing performance. Ultrasonic cleaning in our water baths extends sieve and mould life, while powder-coated or stainless housings stand up to corrosive lab atmospheres for decades.

Your Path to Reproducible Results

From the moment cement meets water in the mixer to the instant a flawlessly cured specimen is loaded into a press—or a perfectly flat pellet enters the XRF chamber—Vector's Sample Preparation line ensures every variable is under control. Partner with us and transform preparation from a potential source of error into a competitive advantage that anchors the integrity of all downstream testing.

CRUSHERS & MILLS



Laboratory & pilot-scale size-reduction solutions

Vector's Crushers & Mills portfolio delivers the complete pathway from primary break-down of run-of-mine ore to sub-micron milling of finished laboratory samples. For more than twenty-five years our engineers have refined every aspect of comminution technology—jaw geometry, rotor dynamics, wear protection, safety interlocks—so that material scientists, quality-control professionals and process-development teams can concentrate on results, not equipment limitations.

A Single Platform for Every Grinding Stage

Most laboratories struggle with feed materials that vary widely in hardness, abrasiveness and moisture content. Vector bridges that gap with a family of machines that share a common design language yet excel in distinct operating windows:

Jaw Crushers (Lab & XL) accept up to 90 mm rock or clinker and deliver controlled flakes as fine as 1 mm for subsequent milling.

Drum and Vibratory Disc Mills bring particle size below 200µm with reproducible energy input—critical for chemical or mineralogical assays.

Continuous Disc Mills keep pilot plants running around the clock, maintaining steady product streams for downstream testing.

Cross Beater Mills combine impact, shear and friction to achieve < 100µm fineness at throughputs that rival small-scale production lines.

A Single Platform for Every Grinding Stage

Vector mills underpin raw-mix optimisation in cement plants, ore-grade determination in mining camps, powder-preparation in ceramics and glass, as well as nutritional assays in agriculture and compound formulation in polymer laboratories. Each sector values a different performance trait—maximum hardness, final fineness, or contamination-free grinding—but all rely on the same core deliverables: repeatability, productivity and ease of maintenance

Built-In Safety, Documented Quality

Operator protection is never optional. Quick-release chamber locks cannot open until rotor motion has ceased; overload sensors arrest the drive before mechanical stress propagates. All critical dimensions and material certifications are captured in a digital quality dossier, traceable for the life of the machine. This disciplined manufacturing protocol helps Vector equipment outperform international benchmarks for vibration, dust emissions and noise (< 70 dB).

Global Support That Scales With You

From commissioning in a remote mine site to preventive maintenance in a cement-research centre, Vector's service network guarantees spare-part availability and expert response. Remote diagnostics and firmware updates keep control electronics current; on-site training empowers technicians to swap wear parts in minutes rather than hours.

Designed for Tomorrow's Laboratory

Energy-optimised motors, low-friction seals and precision-balanced rotors cut specific power consumption per tonne. Enclosed grinding chambers fitted with extraction ports interface directly with your facility's dust-collection system, safeguarding both personnel and analytical integrity. These attributes make Vector Crushers & Mills an asset not only for today's testing needs but for the sustainability mandates of the future.



NYSOS JAW CRUSHER

Precision Crushing for Reliable Sample Preparation

The Vector Jaw Crusher VTR-1011 is a high-performance laboratory crushing system engineered to transform hard, medium-hard and fast-drying inorganic materials—such as quartz, limestone, slag, coke and cement clinker—into controlled particle sizes. Its robust single-toggle jaw mechanism accepts feed sizes up to 60 mm and, via a step-less gap adjustment (0-30 mm) and minimum jaw opening of 1 mm, delivers output fractions down to 0.5 to 2 mm. With a throughput of up to 300 kg/hour, it supports both coarse crushing and fine pulverization workflows in mining, metallurgy, construction materials and quality-control laboratories.

VTR-1011 NYSOS

JAW CRUSHER

Manufactured under CE machinery-safety directives, the VTR-1011 incorporates mechanical and electrical safeguards—including emergency-stop interlocks, overload protection and dust-extraction ports—to satisfy health, safety and environmental requirements. Its wear-compensation mechanism and calibration-grade gap control ensure repeatable, traceable crushing results consistent with industry testing protocols.

Built on a heavy-duty steel frame and fitted with premium manganese-alloy jaws, the VTR-1011 combines durability with long service life. A zero-point wear-compensation system maintains jaw alignment and extends liner life, while quick-release side panels provide tool-free access for cleaning and inspection. Integrated dust-extraction connectors and sealed drive components protect both the operator and internal parts, reducing maintenance and downtime.

Key Advantages

- **Wide Material Compatibility:** Handles a broad range of inorganic materials, from ores and minerals to slag and clinker.
- **Precise Output Control:** Stepless gap adjustment (0-30 mm) and minimum jaw opening down to 1 mm enable tailored particle-size distribution.
- **User-Friendly Maintenance:** Wear-compensation system and quick-access crushing chamber simplify upkeep and minimize downtime.

Technical Specification

Parameter	Value
Model	VTR-1011 Nysos
Jaw Size	100 × 250 mm
Jaw Material	Special alloy manganese steel
Jaw Opening	Adjustable down to 1 mm
Gap Width Range	0-30 mm (stepless)
Throughput Capacity	Up to 50 - 150 kg/hour
Feed Size	Up to 60 mm
Particle Size Range	Down to 0.5 - 2 mm (material-dependent)
Crushing Ratio	45 : 1
Machine Versions	Continuous; process-line fine
Jaw Options	Manganese steel; stainless steel; tungsten carbide
Drive Power	2.2 kW
Dust Collector Capacity	5 L
Net Weight	Approx. 255 kg
Overall Dimensions (W × H × D)	500 × 1000 × 1000 mm



THOR JAW CRUSHER

High-Throughput Crushing

The Vector Jaw Crusher XL is a heavy-duty, continuous-feed crusher engineered for high-capacity sample preparation in mining and material-testing laboratories. Its jaws accept feed up to 110 mm and reduce samples down to 1 mm, delivering up to 150-500 kg of crushed material per hour. An integrated sample-collection tray and optional automatic sample-splitter allow precise, user-defined subsampling without interrupting operation. A powerful motor and robust frame handle materials up to Mohs hardness 8 under steady, high-throughput conditions.



VTR-1011 THOR

THOR JAW CRUSHER

Designed end-to-end by Vector's in-house engineering team, the Crusher XL employs premium wear-resistant steel jaws, precision-machined bearings and a sealed crushing chamber to maximize uptime and jaw life. A seven-inch capacitive touchscreen HMI provides programmable crush profiles and live diagnostics, while a dedicated physical start button and motor-drive with jam detection and automatic clearing routines ensure smooth, reliable operation.

Built and tested under CE machinery-safety directives, the Jaw Crusher XL features guarded moving parts, emergency-stop interlocks and EMC-certified electrical assemblies. Its robust mechanical design and verified performance under continuous operation meet international laboratory and industrial requirements for sample-preparation equipment.

Key Advantages

- **High Throughput:** Crushes up to 150-500 kg/h for rapid sample turnaround.
- **Tight Particle Control:** Reduces feed to 1 mm with stepless gap adjustment.
- **Seamless Subsampling:** Optional auto sample-splitter produces uniform fractions on-the-fly.
- **Advanced Safety & Recovery:** Motor drive with jam detection, auto-clear routines and emergency-stop safeguards.

Technical Specification

Parameter	Specification
Model	VTR 1011 Thor
Jaw Size	300x450 mm
Feed Size	Up to 110 mm
Minimum Particle Size	Down to 1 mm
Throughput Capacity	Up to 150 - 500 kg/hour
Drive Power	7.5 KW
Material Hardness	Mohs $\leq$ 8
Jaw Material	Hardened manganese steel
Gap Adjustment	Stepless, 0-30 mm
HMI	7" capacitive touchscreen display
Physical Controls	Start/stop button; emergency-stop
Sample Splitter	Optional automatic splitter accessory
Electrical Supply	380 V / 50 Hz
Dimensions (L x W x H)	850 x 1350 x 1350 mm
Net Weight	~ 650 kg



HYPERION BALL MILL

Ultra-Fine Grinding, Unmatched Reliability

The Vector Ball Mill VTR-1013 is a laboratory grinding system engineered for ultra-fine particle preparation across a broad spectrum of materials—including ores, minerals, ceramics, cement clinker and fast-drying compounds. Its 330 mm-diameter chamber, running at 70 rpm (adjustable), can operate continuously up to 24 hours to produce end-products as fine as 200 microns. Designed for ease of integration into any lab setup, it accepts feed sizes up to 35 mm and delivers uniform, repeatable results for research, quality control and material analysis applications.



VTR-1013 HYPERION

HYPERION DRUM BALL MILL

the VTR-1013's fully enclosed, sound-damped safety cabinet and automatic shut-off sensor door demonstrate adherence to general laboratory machinery safety principles. Emergency-stop controls, dust-sealing features and electrostatically applied, abrasion-resistant coatings further ensure operator protection and minimal environmental impact.

Constructed around a reinforced drum assembly, the VTR-1013 combines robust internal bracing with abrasion-resistant materials to withstand high-volume, continuous operation. Its electrostatic paint finish resists corrosion and wear, while precision-machined bearings and seals deliver smooth, maintenance-free performance. An ergonomic lid-lock mechanism and intuitive control interface reduce setup time and simplify user interaction.

Key Advantages

- **Exceptional Grinding Efficiency:** Continuous operation up to 24h yields consistent, ultra-fine particle sizes.
- **Broad Material Compatibility:** Processes hard and medium-hard inorganic and organic substances without changeover delays.
- **Advanced Safety Design:** Soundproof cabinet, emergency-stop and auto-stop lid sensor ensure operator protection.
- **Adjustable Speed Control:** Optional variable-speed drive allows fine-tuning of milling intensity.
- **Durable Construction:** Reinforced drum and abrasion-resistant finishes minimize maintenance downtime.
- **Compact Footprint:** Space-saving layout integrates seamlessly into crowded lab environments.

Technical Specification

Parameter	Value
Model	VTR-1013 Hyperion
Grinding Chamber Diameter and Length	330 mm - 330mm
Maximum Grinding Time	Up to 24 hours
Material Feed Size	Up to 35 mm
Final Particle Size	Down to 200 µm
Operating Speed	70 rpm (standard); optional speed adjustment
Power Supply	380 V / 50 Hz or 220 V / 50 Hz
Safety Features	Soundproof cabinet; emergency stop; auto-stop lid sensor
Construction	Electrostatic paint; abrasion-resistant reinforced drum
Dimensions (L x W x H)	950 x 700 x 1100 mm
Net Weight	160 kg



HERCULES VIBRATORY DISC MILL

Automated Precision Grinding for Analytical-Grade Samples

The Vector Vibratory Disc Mill VTR-1012 is a fully automatic grinding solution engineered for rapid, high-fineness processing of fragile minerals and inorganic materials. It accepts feed sizes of 15-20 mm and, through a precision vibratory disc action, reduces samples to 15-90 μm for spectral analysis and advanced material testing. Its versatile design accommodates grinding sets ranging from 100 ml up to 2000 ml, available in chromium-nickel steel or tungsten carbide, to suit diverse laboratory and industrial workflows.



VTR-1012 HERCULES

HERCULES VIBRATORY DISC MILL

Built in accordance with general laboratory machinery safety principles, the VTR-1012 incorporates a soundproof safety cabin, emergency-stop button and a protective switch that halts operation when the front cover is opened. These features ensure reliable compliance with electrical and mechanical safety regulations and promote a secure working environment.

At the heart of the VTR-1012 lies an air-cushioned grinding cell that stabilizes grinding sets and simplifies installation or removal. Its robust, abrasion-resistant construction withstands continuous industrial use, while integrated air-shock absorbers on the lid further reduce mechanical wear. The sound-damped enclosure minimizes noise pollution, and precision-engineered components deliver consistent results with minimal maintenance.

An intuitive touch-screen interface offers seamless control over grinding parameters. Users can select from 10 customizable preset programs or manually adjust grinding time and revolution speed (up to 1800 rpm) to optimize sample preparation for specific analytical requirements

Key Advantages

- **Air-Cushioned Grinding Cell:** Ensures stable, consistent operation and rapid set changes.
- **Fully Automatic Touch-Screen Control:** Streamlines workflows with 10 preset programs and manual override.
- **Adjustable Speed & Time:** Fine-tune revolution speed (to 1800 rpm) and grinding duration for precise particle-size targets.
- **Versatile Sample Volumes:** Supports 100 ml to 500 ml grinding sets in steel or carbide.
- **Enhanced Safety & Comfort:** Soundproof cabin, emergency stop and protective switch for operator protection.
- **Robust Industrial Design:** Abrasion-resistant finishes and reinforced components minimize downtime.

Technical Specification

Parameter	Value
Model	VTR-1012 Hercules
Operating Mode	Fully automatic with touch-screen interface
Preset Programs	10 customizable settings
Input Particle Size	15-20 mm
Final Particle Size	15-90 μm (depending on material)
Grinding Cell Capacities	100 ml, 250 ml, 500 ml
Grinding Set Materials	Chromium-nickel steel; tungsten carbide
Revolution Speed	Adjustable, up to 1800 rpm
Power Supply	220 V / 50 Hz
Construction	Abrasion-resistant, reinforced industrial housing
Dimensions (L x W x H)	1100 x 750 x 1100 mm
Net Weight	275 kg



HERCULES VIBRATORY DISC MILL XL

High-Torque Industrial Grinding with Integrated Pneumatic Cell Handling

The Vector Vibratory Disc Mill XL combines industrial-grade performance with user-friendly operation to deliver fast, reliable grinding of minerals and fragile materials. Its high-torque motor handles heavy workloads without overheating, while the pneumatic cell-loading arm enables safe, effortless placement and removal of 1 000 ml and 2 000 ml grinding cells. Ideal for geology, metallurgy, cement and power-plant laboratories, the XL model ensures consistent particle-size reduction down to 15-90 μm in every batch.



VTR-1012-HERCULESXL

HERCULES VIBRATORY DISC MILL XL

The Vector Vibratory Disc Mill is built on a heavy-duty steel frame housed within a soundproof safety cabin, ensuring both durability and quiet operation during continuous industrial use. Its air-cushioned grinding cell absorbs vibration and simplifies installation and removal of grinding sets, while the integrated pneumatic cell-loading arm precisely positions cells on the table, minimizing operator strain and risk of damage. Behind the scenes, a PLC-controlled PID system retains all settings in the event of a power failure and automatically resumes the last program once power is restored. Ten user-adjustable presets are stored in memory to streamline routine workflows and reduce setup time.

- Intuitive 7-inch touch-screen interface with menu-guided setup
- Customizable grinding time and revolution speed
- Ten user-programmable presets for repeatable sample preparation
- Automatic lock to prevent front cover opening while operation.

Key Advantages

- **Enhanced Motor Power:** Industrial-grade motor delivers 20 % more torque than standard models for faster throughput.
- **Large-Volume Compatibility:** Accepts both 1 000 ml and 2 000 ml grinding cells for high-capacity processing.
- **Ergonomic Cell Handling:** Pneumatic arm loads and unloads cells without manual lifting, reducing fatigue and improving lab safety.
- **Quiet Operation:** Soundproof cabin keeps noise below 70 dB, creating a comfortable workspace.
- **Versatile Applications:** Selectable chromium-nickel or tungsten-carbide grinding sets.
- **Precision Grinding:** Uniform fineness on every run.

Technical Specification

Parameter	Value
Model	VTR-1012 Hercules-XL
Operating Mode	Fully automatic with touch-screen interface
Preset Programs	10 customizable settings
Input Particle Size	15-20 mm
Final Particle Size	15-90 μ m (depending on material)
Grinding Cell Capacities	1000 ml and 2000 ml models
Grinding Set Materials	Chromium-nickel steel; tungsten carbide
Revolution Speed	Adjustable, up to 1800 rpm
Construction	Abrasion-resistant, reinforced industrial housing
Dimensions (L x W x H)	1250 x 1200 x 1600 mm
Net Weight	275 kg



GAIA VIBRATORY DISC MILL

Continuous Precision Grinding with Automated Feeding

The Vector Continuous Vibratory Disc Mill VTR 1012-C delivers nonstop sample preparation by combining an integrated fixed grinding cell with an automatic feed and fractionation system. Material in the 2-3 mm size range is metered from the top-loading hopper into the cell at a constant rate. After grinding, particles are passed through the built-in proportional sample divider, which continuously discharges material finer than 0.5 mm. This design enables uninterrupted operation for large-volume laboratories and industrial plants.



VTR-1012 GAIA

GAIA VIBRATORY DISC MILL

The Vector Continuous Vibratory Disc Mill employs a fixed, integrated grinding cell that removes the need for manual cell swapping, enabling truly continuous operation in a single, heavy-duty chamber. An automatic feed system meters 2-3 mm samples from the top hopper into the cell at a consistent rate, and the built-in proportional sample divider routes particles under 0.5 mm directly to the collection outlet for uniform fineness.

To prevent cross-batch contamination, pneumatic air-purge tubes, flush the cell and feed lines between runs. A dedicated vacuum port automatically captures airborne dust when connected, supporting clean operation. The entire unit rests on a robust steel frame, housed within a soundproof safety cabin and mounted on an air-cushioned cell support, ensuring both low noise levels and long service life.

Key Advantages

- **True Continuous Grinding:** No downtime for cell changes or manual intervention.
- **Consistent Particle Size:** Automatic divider ensures uniform < 0.5 mm output.
- **Zero Cross-Contamination:** Pneumatic purge cleans all pathways between runs.
- **Dust-Free Operation:** Integrated vacuum input removes fines at the source.
- **High Throughput:** Designed for 24/7 processing in industrial and research environments.

Technical Specification

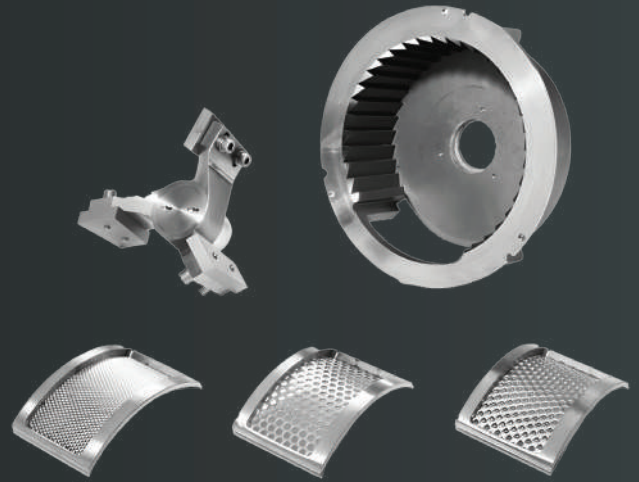
Feature	Description
Feed Mechanism	Hopper with constant-rate metering for 2-3 mm material
Sample Divider	Built-in proportional divider yields < 0.5 mm fraction
Cleaning System	Pneumatic purge tubes activated via HMI
Dust Extraction	Vacuum interface for automatic dust removal
Control Interface	7" HMI touchscreen with adjustable feed, divider and cleaning controls
Noise Level	< 70 dB in soundproof cabin
Electrical Safety	CE-approved components, EMC filters, safety thermostat
Operation Mode	Continuous-run design—no manual cell exchange
Applications	Geology, metallurgy, cement, power plants, mineral processing
Dimensions (L × W × H)	1400 x 1000 x 1500 mm
Net Weight	400 kg



CROSS BEATER MILL

Flexible, High-Throughput Comminution for Diverse Applications

The Vector Cross Beater Mill VTR 18-001 is a versatile size-reduction solution for both coarse and fine grinding in batch or continuous mode. It processes medium-hard to brittle materials (up to Mohs hardness 6) using a combination of impact, friction and shearing forces. Adjustable speed (500-2 000 rpm) and interchangeable grinding tools deliver final fineness below 100 μm , while throughput of ≥ 30 kg/h meets the demands of laboratories, pilot plants and production facilities across agriculture, mining, ceramics, plastics and metallurgy.



VTR-18-001

CROSS BEATER MILL

Designed and manufactured under CE-directive guidelines, the VTR 18-001's safety features—including a motor brake, central locking device and robust construction—ensure full compliance with European machinery-safety standards.

Every mill features durable grinding inserts and beaters in cast iron, stainless steel, tungsten carbide or zirconium oxide, chosen for wear-resistance and contamination control. Sieves and rotor components are quickly exchangeable for fast tool changes and cleaning. The optional cyclone separator minimizes thermal buildup, enhances fine-particle discharge and prevents cross-contamination—making it ideal for heat-sensitive samples.

Key Advantages

- **Wide Speed Range:** 500–2 000 rpm adapts to material characteristics.
- **Fine Fineness:** Achieves < 100 µm particle sizes depending on settings.
- **High Throughput:** Processes ≥ 30 kg/h for efficient sample preparation.
- **Interchangeable Tools:** Variety of rotors, inserts and sieves (0.12–10 mm) for customization.
- **Optional Cyclone Separator:** Improves cooling, discharge and purity of fine powders.
- **Easy Maintenance:** Central locking and quick-release components minimize downtime.
- **Batch & Continuous Operation:** Flexible processing modes to suit any workflow.

Technical Specification

Parameter	Specification
Feed Material Size	< 25 mm
Final Fineness	< 100 µm (depending on material & sieve)
Speed Range	500 - 2 000 rpm
Throughput	≥ 30 kg/h
Grinding Tools	Cast iron; stainless steel; tungsten carbide; zirconium oxide
Sieve Sizes	Trapezoidal & round holes from 0.12 mm to 10 mm
Collection Vessel	5 L standard; optional 30 L cyclone collection
Drive Power	1.5 kW
Electrical Supply	220 V / 50 Hz

TESTING & ANALYSIS



Fineness, setting time, strength and chemical reactivity measured with confidence

Accurate test results are the final verdict on raw-material quality, process stability and finished-product performance. Vector's Testing & Analysis family delivers that verdict with a portfolio that spans air-permeability, setting-time, strength and chemical-reactivity determinations—all designed to the latest EN, ASTM and AASHTO standards and united by a shared data-handling philosophy.

One Toolkit, Multiple Insights

From the first Blaine reading that confirms cement fineness to the compression test that certifies concrete strength, every instrument in this range has a clear role in a coherent analytical workflow:

Automatic & Manual Blaine Testers quantify specific surface area with repeatable air-permeability measurements, using precision-machined cells and temperature-corrected manometers. The automatic model executes the entire cycle and prints results; the manual version provides a robust field alternative without power requirements.

Automatic Multi-Station Vicat systems capture setting-time curves on six, eight or twelve moulds simultaneously—ideal for high-throughput QC labs—while the Single-Unit Automatic Vicat offers the same dynamic-interval logic and 0.01 mm resolution on smaller daily batches. For teaching labs or quick checks, the Manual Vicat provides cost-effective compliance in a simple frame.

Cement Press and Compression Test Plant apply up to 3 000 kN with servo-hydraulic control, measuring Young's modulus and compressive strength of mortar prisms, cubes and cylinders. Closed-loop electronics, transparent safety doors and software-controlled load profiles guarantee both operator safety and data traceability.

Each device feeds results into Vector's common software environment, where data can be reviewed on screen, exported as PDF/CSV or pushed to a LIMS, ensuring seamless audit trails from Blaine value to breaking load.

Built for Standards, Tuned for Productivity

All systems ship pre-loaded with EN, ASTM or AASHTO methods; operators simply choose the profile and press Start. Automatic Blaine instruments compensate for air density and temperature in real time – no fiddling with barometers. Vicat testers tighten drop intervals automatically as penetration depth decreases, pinpointing initial and final set without operator judgement. Compression presses recognise false breaks and adjust load ramps accordingly, eliminating wasted specimens.

Key Advantages at a Glance

- Unified Interface – Similar touch-screen menus, export options and user hierarchies reduce training time and operator error.
- Documented Accuracy – ± 0.5 °C curing stability, ± 1 % load accuracy and 0.01 mm Vicat resolution are not just specifications but certified values in the machine file.
- Safety by Design – Guarded presses, needle-cleaning shields, splash-proof burettes and low-noise drives protect users and align with CE directives.
- Scalable Investment – Start with a manual Vicat and upgrade to multi-station automation later; the data format and accessory ecosystem remain the same.

Turning Measurements into Decisions

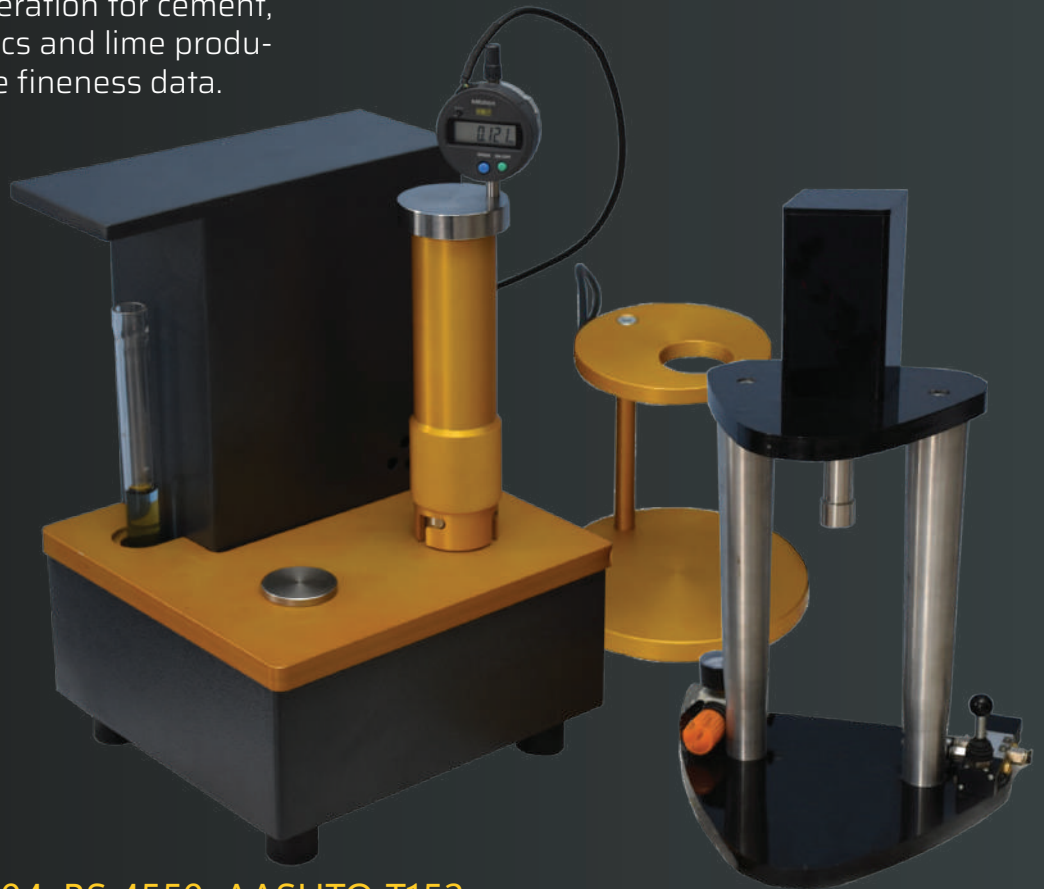
In cement and concrete technology, numbers matter only if they are trustworthy and delivered on time. Vector's Testing & Analysis range ensures both, giving laboratories a harmonised set of tools to quantify fineness, setting kinetics, mechanical strength and aggregate cleanliness—each step feeding validated data to the next. Choose Vector to transform testing from a mandatory expense into a strategic resource that accelerates product development, certifies compliance and underpins continuous improvement.



AUTOMATIC BLAINE

Automated Fineness Measurement for Consistent Quality Control

The Vector Automatic Blaine Air Permeability Tester VTR-1016 delivers fast, precise measurement of powder specific surface area by automated air-permeability testing. Equipped with a high-accuracy manometer system and touch-screen control, it calculates porosity, volume correction and sample weight without manual intervention. Its robust stainless-steel construction and low-maintenance design ensure reliable operation for cement, pharmaceutical, ceramics and lime producers seeking repeatable fineness data.



EN 196-6, ASTM C204, BS 4550, AASHTO T153

VTR-1016

AUTOMATIC BLAINE AIR PERMEABILITY TESTER

Designed to satisfy EN 196-6, ASTM C204, BS 4550 and AASHTO T153 requirements, the VTR-1016 features calibrated airflow measurement, temperature monitoring with digital alerts for out-of-range conditions, and automatic volume correction algorithms that align results with each standard's procedures. Its software logs compliance warnings and maintains traceable test records.

A capacitive touch-screen interface streamlines test setup and data review, while onboard software supports unlimited result storage and multiple calibration profiles. Automatic volume correction computes sample mass from density, porosity and cell volume, eliminating manual calculations and potential errors. Corrosion-resistant materials and precision-machined components minimize service needs and maintain measurement integrity over years of daily use.

An intuitive software suite lets users:

- Save and recall unlimited test methods and calibration profiles
- Monitor real-time temperature and airflow graphs
- Export detailed test reports via USB or direct print
- Receive automated alerts for standard-deviation or temperature deviations

Key Advantages

- **Full Automation:** From volume correction to porosity calculation, reduces operator steps and variability.
- **User-Friendly Interface:** Touch-screen control and unlimited data storage simplify routine testing and audit readiness.
- **Custom Calibration & Accessories:** Supports multiple calibration sands and optional compression stands and filter sets.

Technical Specification

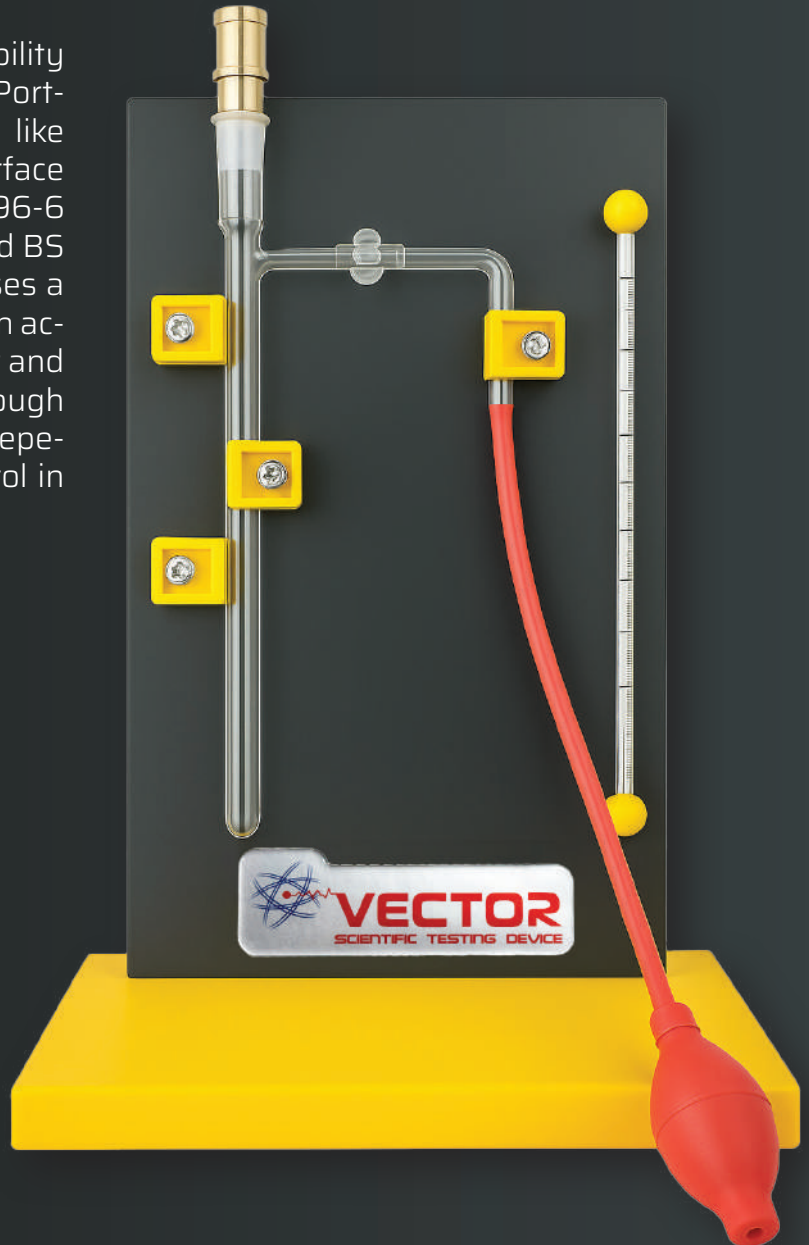
Parameter	Value
Measurement Range	Specific surface area in cm^2/g
Standards	EN 196-6 • ASTM C204 • BS 4550 • AASHTO T153
Control Interface	Capacitive touch-screen
Temperature Measurement	Digital sensor with auto - alert
Automatic Volume Correction	Yes (density, porosity, cell volume-based)
Calibration Support	Multiple calibration samples
Data Recording	Unlimited storage of test results
Manometer Fluid	250 ml
Sample Cell Components	Perforated disc and plunger
Funnel	Plastic
Power Supply	220 V / 50-60 Hz
Dimensions (W × H × D)	350 × 450 × 450 mm
Net Weight	30 kg



MANUEL BLAINE

Precision Fineness Testing with Manual Air-Permeability Method

The Vector Manual Blaine Air Permeability Tester determines the fineness of Portland cement—and similar powders like lime—by measuring their specific surface area in cm^2/g . Compliant with EN 196-6 and equivalent to ASTM, AASHTO and BS methods, this compact instrument uses a stainless-steel test cell and plunger, an accurately mounted U-tube manometer and a rubber aspirator to drive airflow through filter-paper disks. It delivers reliable, repeatable Blaine values for quality control in cement and materials laboratories.



EN 196-6; ASTM C204; AASHTO T153; BS 4550

VTR-1015

www.vectorbtc.com.tr

MANUAL BLAINE AIR PERMEABILITY TESTER

Fully conforms to EN 196-6 protocols for Blaine specific-surface determination and provides equivalent performance to ASTM C204, AASHTO T153 and BS 4550 procedures. All critical dimensions and test conditions meet or exceed the requirements set by these international standards.

Stainless-Steel Test Cell & Plunger: Precisely machined for a snug, leak-free fit against the conical manometer seat.

Complete Accessory Kit: Includes 500 filter-paper disks, manometric liquid, Vaseline coupling grease, funnel and brush—everything needed for immediate operation.

Robust Stand Design: Powder-coated steel frame holds glass U-tube securely and positions the cell at ergonomic height for manual operation.

Key Advantages

- **Standardized Accuracy:** Meets EN, ASTM, AASHTO and BS Blaine test methods.
- **Complete Manual Operation:** No external power—ideal for field or lab use.
- **Comprehensive Kit:** All valves, bulbs, filters and accessories supplied for immediate testing.

Technical Specification

Parameter	Specification
Measurement Principle	Manual air-permeability (Blaine method)
Specific Surface Range	up to 10000 cm ² /g
Test Cell Material	Stainless steel
Manometer	Glass U-tube with valve & level marks
Accessories	Rubber aspirator; funnel; brush; grease
Dimensions (W × D × H)	210 × 180 × 500 mm
Weight	7 kg



CEMENT MORTAR MIXER

Standards-Compliant Mortar Mixing at the Touch of a Button

The Vector VTR 1017 is a microprocessor-controlled mortar mixer engineered for consistent, standards-compliant blending of cement, mortar, gypsum and related materials. It's 5 L stainless-steel bowl and precision planetary-motion paddle deliver uniform mixing for laboratory or industrial workflows. Automated sand dispensing and programmable mixing cycles reduce manual steps and ensure repeatable results on every batch.



EN 196-1; EN 196-3; EN 480-1; ASTM C305; ISO 679

VTR-1017

AUTOMATIC PROGRAMMABLE MORTAR MIXER

Built to comply with EN 196-1/3 and EN 480-1 protocols, the VTR 1017 features programmable mixing sequences that match prescribed timing and speed requirements. Its planetary-motion paddle maintains shear rates specified by ISO 679 and ASTM C305, while automatic water and sand dosing ensures each mix meets strict material proportions.

An advanced microprocessor oversees every cycle—controlling both low (140 ± 5 rpm) and high (285 ± 10 rpm) paddle speeds and managing the sand dispenser for impurity-free blends. The robust stainless-steel construction resists corrosion, while splash guards, interlocks and automatic safety cut-offs protect operators. Plug-and-play setup and intuitive touch-screen controls minimize training time and optimize lab throughput.

- Programmable mixing profiles (automatic and manual modes)
- Real-time display of mixing time, speed and cycle status
- Automated sand and water dispensing controls
- Cycle-complete alerts and error diagnostics

Key Advantages

- **Automated Precision:** Ensures exact timing and speed per international standards.
- **Integrated Sand Dispenser:** Eliminates manual addition and prevents contamination.
- **Robust Construction:** Bowl and paddle withstand daily industrial use.
- **User-Friendly Interface:** Touch-screen control with plug-and-play functionality.
- **Enhanced Safety:** Splash guards, access interlocks and automatic shut-off protect users.
- **Versatile Operation:** Supports a wide range of cementitious materials and mixing volumes.

Technical Specification

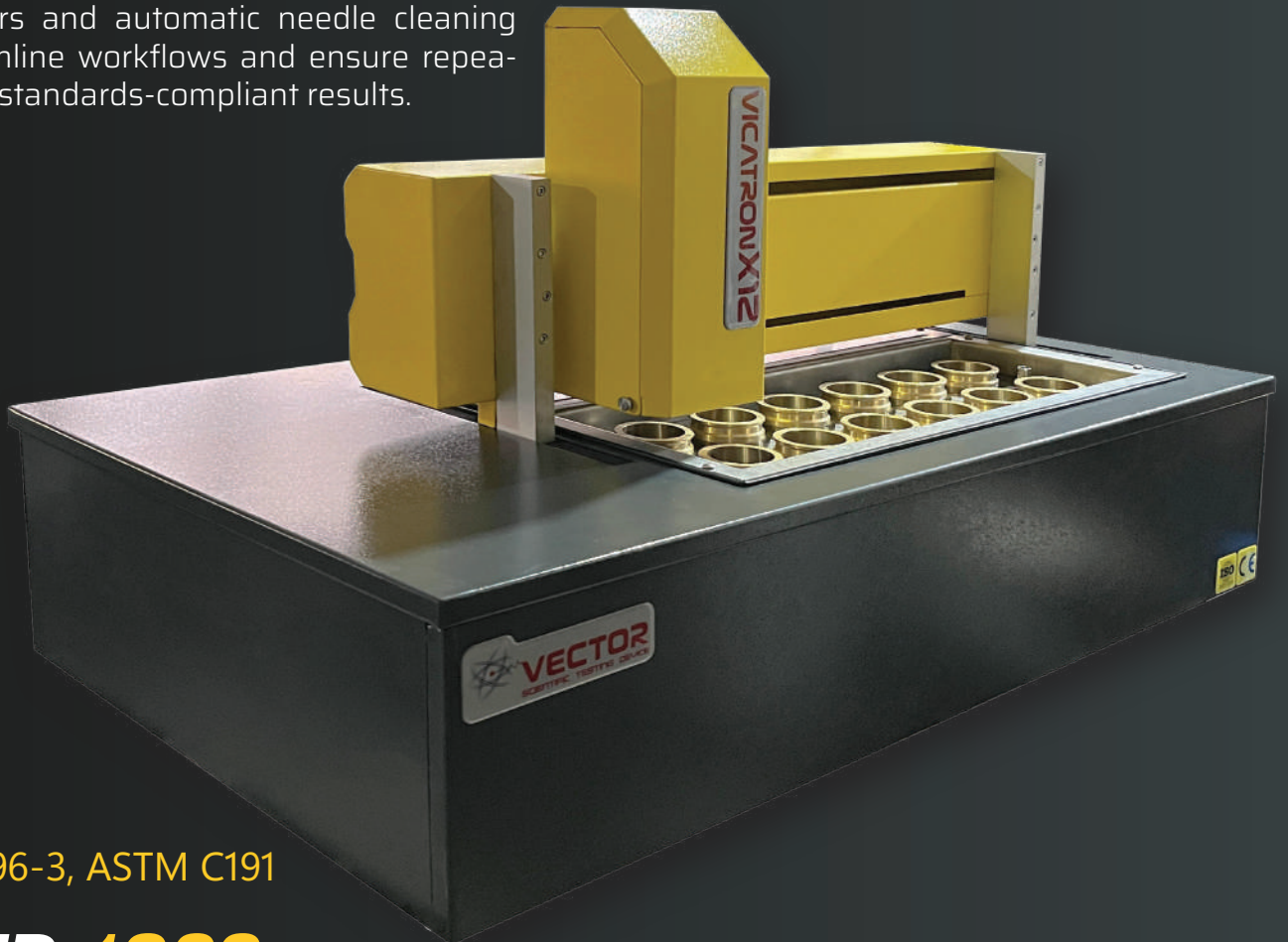
Parameter	Specification
Standards	EN 196-1; EN 196-3; EN 480-1; ASTM C305; ISO 679
Bowl Capacity	5 L (Custom Models Available)
Paddle Speeds	Low: 140 ± 5 rpm; High: 285 ± 10 rpm
Control System	Microprocessor-controlled; touch-screen HMI
Mixing Modes	Automatic programmable; manual override
Power Supply	220–240 V AC, 50–60 Hz, single phase
Safety Features	Splash guards; interlocks; over-speed shutdown
Accessories Included	Stainless-steel bowl; paddle; sand dispenser
Optional Accessories	Anti-splash plexiglass protection
Dimensions (L × W × H)	500 × 300 × 500 mm
Net Weight	40 kg



AUTOMATIC MULTI-STATION VICAT

Scalable Multi-Station Testing for Maximum Lab Efficiency

The Vector Automatic Vicat Testing Device automates cement consistency and setting-time analysis, offering multi-station configurations (6-, 8- and 12-station) to match your laboratory's throughput needs. Designed for precision and efficiency, it captures the full chronological sequence of setting behavior with 0.01 mm penetration accuracy and records temperature in real time whether testing in air or underwater. Integrated software, safety sensors and automatic needle cleaning streamline workflows and ensure repeatable, standards-compliant results.



EN 196-3, ASTM C191

VTR-1023

AUTOMATIC VICAT TEST DEVICE

Fully compliant with EN 196-3 and ASTM C191, the device features free-fall needle weights and dimensions per standard, digital alerts for out-of-range temperatures and built-in compliance checks to guarantee valid test sequences.

A rugged stainless-steel frame houses contactless drop sensors, automatic needle-cleaning mechanisms and an integrated water-bath system with circulation and drainage. The drop height and test intervals adjust dynamically via software, reducing manual steps and ensuring consistent sample conditions. Real-time monitoring and PDF-report generation with customizable headers and logos make data review and archiving effortless.

- Live display of penetration depth and temperature for all stations
- Dynamic step-time adjustment based on real-time setting detection
- Unlimited test-result storage and multi-profile calibration
- Automated PDF reports with operator, company and logo fields
- Secure USB data export and password-protected access

6-Station Configuration: Six independent molds run simultaneously, each with variable dynamic-impact control and individual test-scheduling. Ideal for moderate-volume labs seeking efficient parallel testing.

8-Station Configuration: Eight independent molds provide a balance of throughput and floor space. Offers the same dynamic-impact control and real-time monitoring as other configurations, accommodating expanded testing schedules.

12-Station Configuration: Twelve independent molds maximize throughput for high-capacity labs. Supports asynchronous testing—different samples at different intervals—without sacrificing penetration-accuracy or data fidelity.

Key Advantages

- **Scalable Throughput:** Choose 6, 8 or 12 stations to match your workload.
- **Comprehensive Data Capture:** Full setting-curve recording, not just initial/final times.
- **Automated Workflow:** Needle cleaning and dynamic step-time adjustments reduce hands-on steps.
- **Professional Reporting:** Automated PDF generation with custom branding and secure data export.

Technical Specification

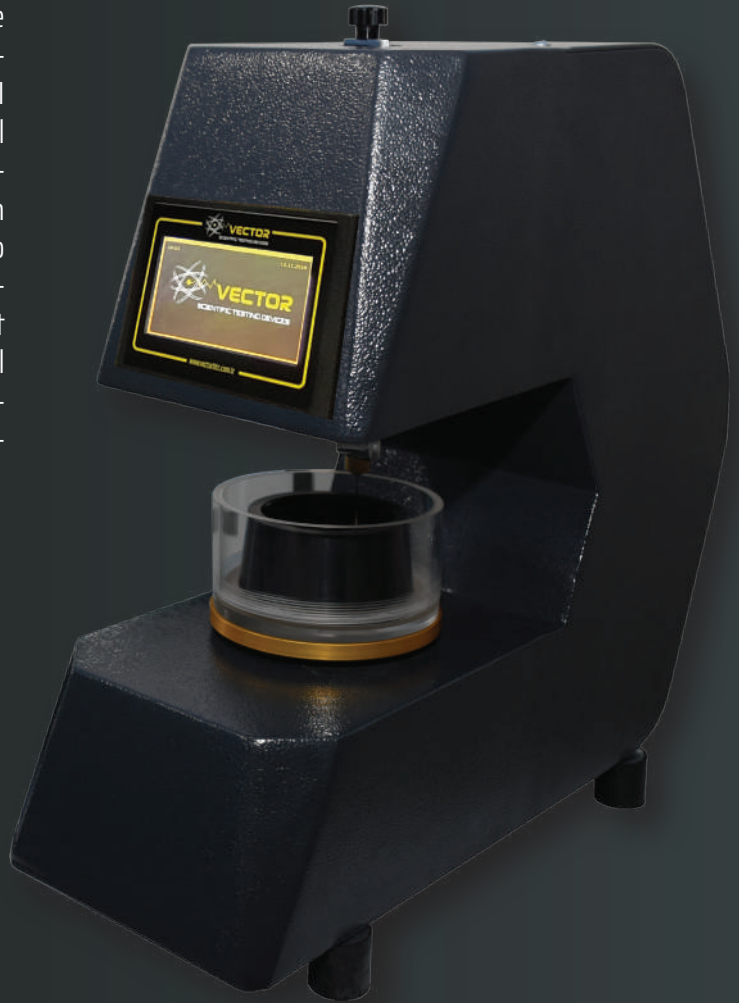
Parameter	6-Station	8-Station	12-Station
Vicat Molds	6	8	12
Penetration Accuracy	0.01 mm		
Needle Weight	300 g		
Penetration Step Time Range	Dynamic, software-controlled 1-15 min		
Data Connectivity	USB interface		
Power Supply	220 V / 50 Hz		



AUTOMATIC VICAT DEVICE

Fully Automatic Precise Setting-Time Analysis

The Vector Automatic Single-Unit Vicat Tester automates the entire cement (or mortar/gypsum) setting-time procedure on one mold. After the operator places a single Vicat mold into the chamber, the tester's motorized needle-drop and retrieval mechanism, guided by a 7" color HMI touchscreen, executes the test from initial penetration through final set. Dynamic timing intervals adjust in real time based on measured needle depth, capturing sharp "initial set" and "final set" endpoints while eliminating false-end artifacts. All test data: needle depths, timestamps, initial and final set values are logged and retained in onboard memory for unlimited records; results export as PDF via USB.



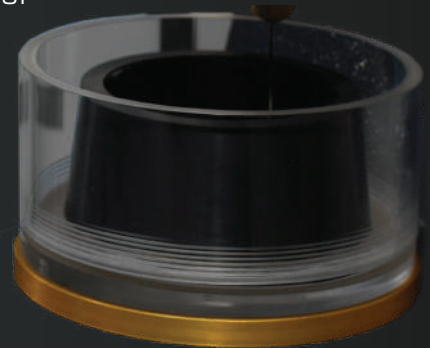
EN 196-3; EN 480-2; ASTM C187; ASTM C191; AASHTO T129; AASHTO T131;
BS EN 196-3

VTR-1021

VECTOR AUTOMATIC SINGLE-UNIT VICAT TESTER

This single-unit tester conforms fully to EN 196-3 protocols for cement setting-time determination and meets the equivalent requirements of ASTM C187/C191, AASHTO T129/T131 and BS EN 196-3. All critical parameters—drop intervals, penetration thresholds and environmental conditions—are pre-configured to the relevant standard version selected via HMI.

The Vector Vicat Tester incorporates dynamic stroke control that automatically tightens drop intervals as the sample stiffens, guaranteeing precise capture of both initial and final set without any operator intervention. A rapid “final-set verification” mechanism prevents false-set readings by delivering confirmatory blows at the endpoint. Its high-precision sensor measures needle depth to 0.01 mm, ensuring exceptional repeatability, while the stainless-steel plunger and corrosion-resistant test cell provide the durability needed for continuous operation. Designed for ease of use, the unit offers generous test-cell access, a single-button start and a quick-release mold holder to minimize setup time and streamline your workflow.



Key Advantages

- **Hands-Free Operation:** Simply load one mold and press “Start”—the tester runs itself to completion.
- **Unlimited Data Storage:** Retains thousands of test records for traceability and trend analysis.
- **Highly Accurate:** 0.01 mm sensor precision and dynamic interval control ensure standard-compliant results.
- **Quick Setup & Cleanup:** Tool-free mold insertion and integrated needle-cleaning device streamline workflows.
- **Optional In-Water Testing:** Add “wet-mode” kit for submerged set-time profiles without external fixtures.

Technical Specification

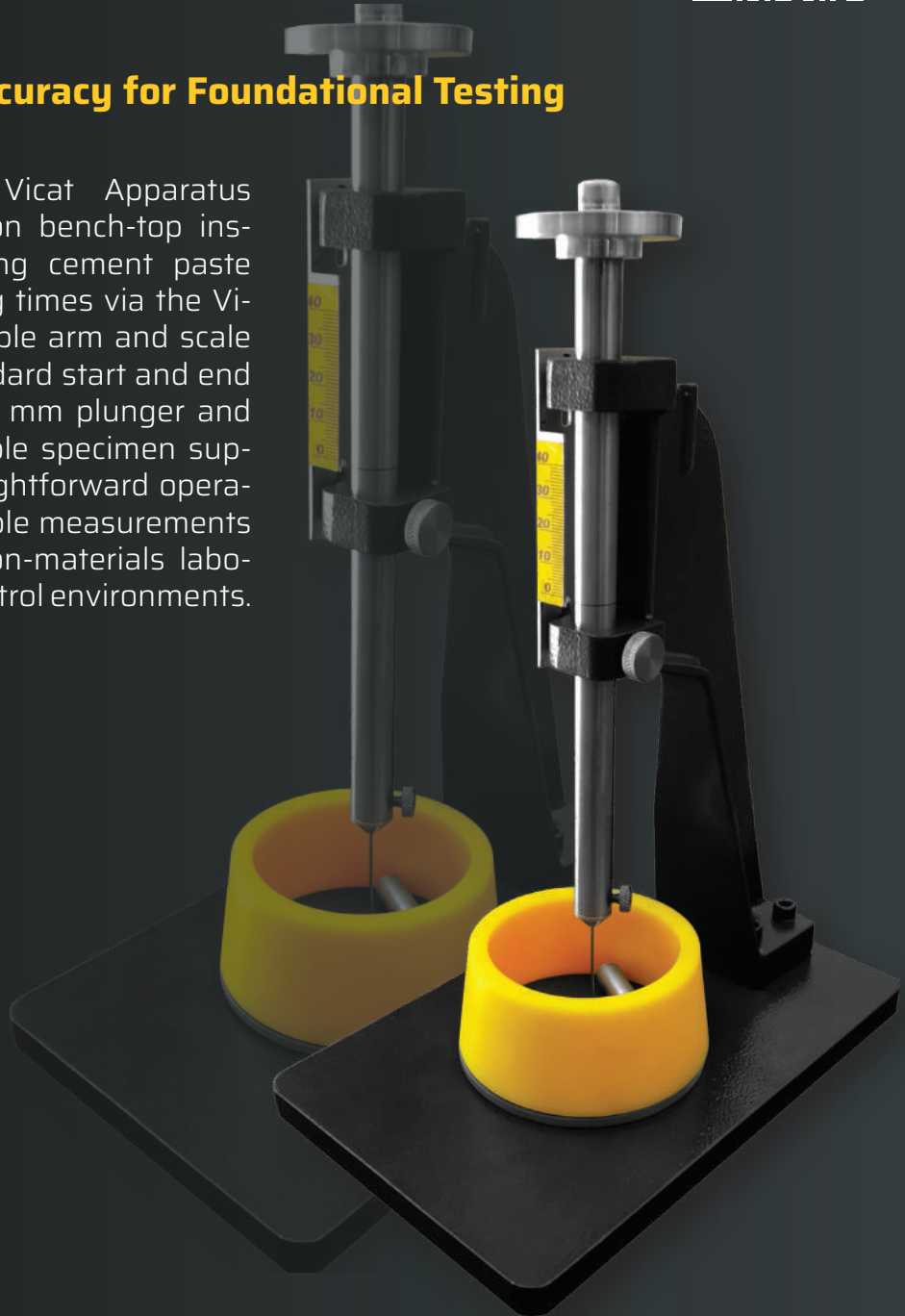
Parameter	Specification
Test Station	Single mold
Needle-Depth Sensor Resolution	0.01 mm
HMI Display	7" color touchscreen
Dynamic Drop Interval	Programmable, auto-adjusting based on penetration
Needle-Cleaning	Built-in, post-test automated
Data Storage	Unlimited onboard records
Report Export	PDF via USB
Operation Modes	Dry & optional wet testing
Power Supply	230 V / 50 Hz
Dimensions (L x W x H)	220 x 390 x 400 mm
Weight	18 kg



MANUEL VICAT

Hand-Operated Accuracy for Foundational Testing

The Vector Manuel Vicat Apparatus VTR-1020 is a precision bench-top instrument for determining cement paste consistency and setting times via the Vicat method. Its adjustable arm and scale accommodate the standard start and end needles, while the Ø 10 mm plunger and glass plate ensure stable specimen support. Designed for straightforward operation, it delivers repeatable measurements essential to construction-materials laboratories and quality-control environments.



EN 196-3; ASTM C187, C191; AASHTO T129, T131

VTR-1020

MANUEL VICAT APPARATUS

Fully compliant with EN 196-3, ASTM C187/C191 and AASHTO T129/T131, the VTR-1020 features calibrated needle weights and a graduated 0-50 mm scale to satisfy all dimensional and procedural requirements. Its glass thermometer and mold conform to standard dimensions, enabling direct adherence to official testing protocols.

Crafted from corrosion-resistant materials and precision-machined components, the VTR-1020's robust metal frame resists wear under daily laboratory use. The movable arm with quick-change holder accommodates multiple needle and test-stick attachments, while the integrated ruler lock maintains zero settings between runs. A clear glass plate provides a stable, non-reactive surface for sample molding.

Key Advantages

- **Standards-Ready Design:** Includes Vicat mold, full needle set and glass plate per EN/ASTM dimensions.
- **Precision Measurement:** 0-50 mm scale and adjustable ruler deliver clear zeroing and depth readings.
- **Durable Construction:** Sturdy metal frame and glass components ensure longevity and chemical resistance.
- **Easy Operation:** Simple weights-and-arm mechanism requires minimal training and no power source.
- **Complete Kit:** Supplied with all required accessories for immediate testing.

Technical Specification

Parameter	Specification
Scale Range	0-50 mm
Plunger Diameter	Ø 10 mm
Needle Weight	300 g
Frame Construction	Precision-machined metal
Specimen Plate	Top diameter 70 mm × Bottom diameter 60 mm × Height 40 mm
Accessories Included	Needle set (start, end, test stick); glass plate; thermometer; mold



CEMENT FLOW TABLE

Standardized Flow Testing for Reliable Material Assessment

The Vector Cement Flow Table VTR 1036 measures the flow, consistency and workable life of fresh concrete, mortar and similar mixtures. Available in both manual and motorized versions, it determines how far a sample spreads under controlled drops, providing critical insights into workability, cohesion and water-vapor permeability for quality control on-site or in the lab.



EN 459-2, ASTM C230; ASTM C109; ASTM C452; ASTM C87; EN 1015-3, EN 13279-2

VTR-1036

CEMENT FLOW TABLE

Engineered to meet ASTM C230, C109, C452 and C87 as well as EN 459-2, EN 1015-3 and EN 13279-2 protocols, the VTR 1036 delivers repeatable results via a preset drop counter (motorized models) and precision handwheel control (manual models)

Constructed from corrosion-resistant stainless steel (EN version) or high-quality brass (ASTM version), the Flow Table features a robust circular platform mounted on a stable tripod. The motorized model employs a speed reducer to rotate at exactly one revolution per second and an automatic digital counter to stop at the programmed drop count eliminating operator variability and ensuring conformity to standard test conditions.

Key Advantages

- **Dual Operation Modes:** Manual handwheel adjustment or motorized operation for precise, consistent flow tests.
- **Digital Drop Counter (Motorized):** Automates stop-at-count, enhancing repeatability and efficiency.
- **Comprehensive Accessories:** Supplied complete with molds, tampers and (EN models) filling hopper ready for immediate use.
- **Durable Materials:** Stainless steel or brass construction for long-term accuracy and easy cleaning.
- **Standards-Driven Design:** Conforms fully to both ASTM and EN specifications for broad applicability.

Technical Specification

Feature	EN Version	ASTM Version
Operation	Manual or Motorized	
Table Diameter	300 mm	254 mm (10 inches)
Table Material	Stainless steel	Brass
Conical Mold	Stainless steel (Ø 100 × 70 × 60 mm)	Brass (Ø 100 × 70 × 50 mm)
Filling Hopper	Stainless steel (included)	Not included
Spread Mold & Mallet	Not included	Bronze spread mold; Ø 40 × 200 mm mallet (250 g)
Motorized Operation	1 rev/sec	
Power Supply (Motorized)	220 V AC, 50 Hz	



JOLTING TABLE

Precision Compaction for Reliable Mortar Specimens

The Vector Jolting Table VTR-1024 automates the standardized compaction of fresh mortar into three-gang moulds (40 × 40 × 160 mm), delivering uniform, repeatable specimens for flexural and compression testing. A rotating cam drives the solid mould table at 60 jolts per minute, while 15 mm drop height ensures thorough consolidation. Its isolation cabinet and one-button digital control streamline operation and maintain laboratory safety.



EN 196-1; ISO 679; EN 413-2

VTR-1024

JOLTING TABLE

A robust steel frame guided by dual ball-bearing arms provides deformation-free operation, while a removable wear-plate on the compaction surface extends service life. The fast-action articulated clamping system secures moulds from multiple manufacturers in seconds. An interchangeable digital control module above the sound-insulated cabinet allows quick replacement and rapid programming of test cycles.

Engineered to exceed EN 196-1 and ISO 679 requirements, the VTR-1024's calibrated jolting speed (60 rpm) and adjustable drop height (15 ± 0.3 mm) conform to EN 413-2, EN 459-2 and EN 13454-2 protocols. Its digital control unit logs test end-points automatically, supporting full traceability under CE directives.

Key Advantages

- **Uniform Compaction:** 60 jolts/minute and 15 mm drop height deliver consistent specimen density.
- **Rapid Setup:** Fast-action clamps and universal mould compatibility speed workflow.
- **Durable Design:** Ball-bearing guidance and replaceable wear-plate resist heavy use.
- **Enhanced Safety:** Soundproof cabinet (< 70 dB) with electrical interlock for operator protection.
- **Modular Control:** Swappable digital module simplifies maintenance and upgrades.

Technical Specification

Parameter	Specification
Compliance Standards	EN 196-1; ISO 679; EN 413-2; EN 459-2; EN 13454-2
Operating Speed	60 jolts per minute (60 rpm)
Drop Height	Adjustable to 15.0 mm (± 0.3 mm)
Isolation Cabinet	Steel enclosure with sound-insulating cover; CE-compliant
Noise Level	< 70 dB
Safety Features	Electrical interlock prevents operation when door is open
Motor	Electric motor driving cam at 60 rpm
Power Supply	220 V AC, 50 Hz
Control Options	Set target jolts/drops or total working time
Clamping System	Quick-action articulated grips for mould and hopper
Table Surface	Precisely machined, removable steel wear-plate
Dimensions	1200 x 600 x 1150 cm
Net Weight	300 kg



CEMENT CURING CABINET

Uniform Curing Conditions for Reliable Test Results

The VTR 1025 cabinet delivers fully automatic, computer-controlled curing of cement specimens, mortar prisms and concrete cubes under precisely regulated temperature ($20 \pm 0.5^\circ\text{C}$) and humidity (60 %-98 %) conditions. A recirculating water system and insulated stainless-steel construction minimize energy use and water consumption, while independent drawers permit grouping of samples without cross-contamination. Available in single-door (VTR 1025S) and double-door (VTR 1025D) configurations, it suits both compact laboratory benches and high-capacity testing facilities.



EN 196-1; EN 459-2; EN 1015-11; EN 13454-2; EN 12390-1; ASTM C157;
ASTM C511

VTR-1025

CEMENT CURING CABINET

Calibrated to meet EN 196-1, EN 1015-11 and EN 12390-1 curing protocols, the cabinet's sprinkler-controlled humidity (95 %-saturation) and heating/cooling system ensure specimens are conditioned per international requirements. CE-compliant safety interlocks and transparent viewing windows support full regulatory adherence. The chamber incorporates an energy-efficient water-recirculation system that returns sprinkler runoff to the main tank, significantly reducing consumption and operational costs. Storage is provided by six independent drawers—configurable as up to three single-door or six double-door modules—each with 4 mm slot spacing to maintain sample separation and ensure uniform airflow. An automatic fan system homogenizes conditioned air across all compartments, delivering consistent environmental conditions throughout the unit.

- Real-time monitoring of interior and ambient temperature/humidity via high-precision sensors
- Retrospective reporting, historical data viewing and direct printing of graphs and tables
- Customizable set-points and alarm thresholds, with optional remote monitoring integration

Key Advantages

- **Consistent Results:** Uniform conditions yield highly repeatable specimen performance.
- **Scalable Capacity:** Single-door model for smaller labs; double-door model (up to 960 prism molds) for high-throughput environments.
- **Enhanced Productivity:** Independent drawers allow simultaneous curing of diverse mixes.
- **Comprehensive Data Management:** Advanced software streamlines compliance reporting.
- **Safety & Compliance:** CE-rated construction, electrical interlocks and viewing windows ensure safe operation.
- **Sustainable Operation:** Insulation and water recirculation lower energy and resource usage.

Technical Specification

Parameter	VTR 1025S (Single-Door)	VTR 1025D (Double-Door)	ASTM VTR 1025U (Double-Door)
Number of Drawers	Up to 3 independent drawers	Up to 6 independent drawers	Up to 8 independent drawers
Capacity	Holds up to 495 prism molds & 12 steel molds	Holds up to 990 prism molds & 24 steel molds	Holds up to 1040 prism molds & 24 steel molds
Temperature Control Range	20 ± 0.5 °C		23 ± 0.5 °C
Temperature Uniformity	± 1 °C		± 1 °C
Humidity Control Range	93% ± 3 Relative Humidity		95% ± 3 Relative Humidity
Humidity Maintenance	95 %-saturation		98 %-saturation
Heating/Cooling System	Recirculating water tank		Recirculating water tank
Sensors	6 × high-precision T&H sensors		8 × high-precision T&H sensors
Control System	Computer-controlled software		
Data Monitoring	Real-time display & logging		
Construction Material	AISI 304 stainless steel		
Viewing Window	Tempered glass		
Power Supply	220 V AC, 50 Hz		



XRF PELLET PRESS

Accurate, Optimal and Fast Sample Preparation

The Vector XRF Pellet Press VTR-1027 is a fully automatic hydraulic press designed to produce precision pellets for XRF, FTIR and other spectroscopic analyses. Available in 8 T, 15 T, 25 T and 40 T maximum-load versions, it features an intuitive touchscreen with programmable load cycles and a maintain-load function that compensates for sample settling. Hardened stainless-steel components and mirror-polished platens ensure durable, contamination-free pressing in high-throughput laboratories.



VTR-1027

XRF PELLET PRESS

The VTR-1027's maintain-load function continuously tops up hydraulic pressure to a user-set point for durations, guaranteeing uniform pellet density. Its high-contrast touchscreen allows real-time editing of ramp rates, dwell times and release profiles. Fully compatible with dies, heated platens and film makers, the press adapts to a wide range of analytical workflows while its hardened stainless-steel construction resists wear and simplifies cleaning.

- Store up to 6 custom load programs
- Real-time monitoring of load, time and cycle status
- Maintain-load control for consistent pellet consolidation
- Step-by-step on-screen prompts and error diagnostics

Key Advantages

- **Customizable Load Cycles:** Six user-programmable recipes ensure repeatable compaction.
- **Precision Pressure Control:** Up to 400 kN with on-the-fly adjustments via touchscreen.
- **Maintain-Load Function:** Automatically compensates for material settling over time.
- **Versatile Die Compatibility:** Supports 5 mm-40 mm dies, heated platens and film makers.
- **Durable Construction:** Hardened stainless-steel ram and platens for long service life.
- **Rapid Cycle Times:** Complete pellet pressing in under two minutes.

Technical Specification

Parameter	Specification
Model	VTR-1027
Maximum Pressure Options	10-15-20-25-40 Tons
Pressure Range	Up to 400 kN
Programmable Load Cycles	Up to 6 programs
Maintain-Load Duration	5 secs to ∞
Pressing Cycle Time	< 2 minutes
Load Display Units	Tonnes; kgf; kN
Touchscreen Display	High-contrast LED touchscreen
Safety Features	Safety interlock; automatic pump shut-off valve
Operating Voltage	220 V AC, 50 Hz
Pressing Surface	Mirror-polished stainless steel
Component Material	Hardened stainless steel
Dimensions (W × D × H)	770 x 550 x 1300 mm
Net Weight	300 kg



CEMENT PRESS

Next-Generation Precision in Compression and Flexural Testing

Available in single-chamber (VTR 1026S) and dual-chamber (VTR 1026D) formats, Vector's automatic tester provides fully automatic compression and flexure strength analysis of cement, mortar, concrete prisms, cubes, cylinders and beams. A precision four-column load frame and closed-loop hydraulic system ensure Class 1 accuracy over a wide force range, while an intuitive HMI or PC-based Vector Press Software manages test sequences, data logging and real-time graphing of load vs. time or stress vs. time. Engineered for CE-compliant safety and laboratory productivity, it meets all major international test standards.



EN 196-1 • EN 459-2 • EN 1015-11 • EN 13454-2 • EN 13892-2 • ASTM C109 • C348 • C349 • BS 4550-3.4 • DIN EN 7500-1 • ASTM E74

VTR-1026D

CEMENT PRESS

Designed to satisfy EN 196-1, ASTM C109 and related standards for cement and mortar testing, the machine's free-fall needle weights, platen dimensions and load-rate controls adhere strictly to EN, ASTM and BS protocols. Load measurement is Class 1 per DIN EN 7500-1 and Class A per ASTM E74, with software-controlled alerts for overload or door-open conditions.

The system's rigid four-column frame is tensioned without play to minimize deflection under load. Its dual-stage hydraulic pump delivers rapid piston approach and automatic return, supporting force-controlled tests from 50 N/sec in flexure up to 2.4 kN/sec in compression. Solid-material hydraulic cylinders and a transparent polycarbonate safety door with an inductive interlock provide both durability and operator protection. Advanced break detection—featuring adjustable sensitivity and an optional position-measuring system—ensures early failure identification for precise, reliable testing.

Vector Press Software and onboard HMI offer:

- Automated test execution with closed-loop control
- Real-time "Load vs. Time" graphs
- Unlimited result database and calibration traceability
- PDF report generation with operator/company/logo fields
- USB export in PDF/CSV formats and multi-language support

Key Advantages

- **Flexible Throughput:** Choose single or dual chambers to match lab demand.
- **Precision Control:** Class 1 load accuracy, adjustable rate control and position measuring.
- **Safety-First Design:** CE-compliant interlocks, emergency stop and door sensors.
- **Complete Test Coverage:** Supports prisms, cubes (50 mm-200 mm), cylinders and beams (up to 750 mm).
- **Ease of Use:** Touch-screen interface, automated sequences and preloaded standards library.

Technical Specification

Parameter	VTR 1026S (Single)	VTR 1026D (Dual)
Number of Chambers	1	2
Frame Type	Four-column, tensioned	Four-column, tensioned
Load Rate Control	2.4 kN/sec (compression)	50 N/sec (flexure) to 2.4 kN/sec (compression)
Measurement Accuracy	Class 1 (DIN EN 7500-1); Class A (ASTM E74)	Class 1 (DIN EN 7500-1); Class A (ASTM E74)
Hydraulic Pressure Range	Up to 250 bar	Up to 250 bar
Piston Diameter (Comp./Flex.)	160 mm	160 mm / 60 mm
Maximum Ram Travel	60 mm	60 mm / 120 mm
Test Specimen Types	Prisms, cubes, cylinders, beams	
Safety Features	Polycarbonate door; interlocks; overload valves; e-stop	
Control Interface	7" HMI touch screen; PC software	
Power Supply	220 V AC, 50 Hz	

SIEVING & SYSTEMS



Particle-size analysis & sample preparation

Precise particle-size data sit at the heart of virtually every quality-control protocol, from cement fineness and pharmaceutical dissolution rates to powder-coating performance and aggregate gradation. Vector's Sieving Systems portfolio brings together four complementary technologies—electromagnetic sieve shakers, air-jet sieves, ultrasonic water-baths for sieve cleaning, and a full library of stainless-steel test sieves—to create one cohesive workflow for reliable size classification across laboratories and pilot plants worldwide.

Why Choose Vector Sieving Systems?

Because every gram—and every micron—matters. By combining motion science, airflow dynamics and ultrasonic cleaning in one harmonised product family, Vector ensures that your particle-size measurements are fast, repeatable and audit-ready. Partner with us to streamline sample throughput, extend sieve longevity and unlock clearer insights into material performance.

From Sub-5 Micron Powders to Reference-Grade Classification One Integrated System

Whether you are verifying a mortar mix or tracking sub-10 μm process dust, Vector offers the right motion and media:

- Electronic Sieve Shakers generate a calibrated three-dimensional throwing action that yields sharp cut-points in dry or wet conditions. Digital control of amplitude, acceleration and interval guarantees reproducibility even with challenging, high-density samples.
- Air-Jet Sieves apply a programmable vacuum and slotted-nozzle dispersion to separate fine, electrostatic or fragile powders down to 5 μm , eliminating blinding without mechanical agitation.
- Ultrasonic Water Baths restore clogged meshes in minutes by cavitation cleaning—extending sieve life and preventing cross-contamination between batches.
- Vector Test Sieves are available in 8 in / 200 mm, 300 mm, 400 mm and 450 mm diameters, manufactured from precision-etched stainless cloth (ISO 3310 / ASTM E11), with openings from 5 μm to 125 mm.
- With interchangeable accessories and unified control logic, laboratories can switch seamlessly between bulk screening, reference grading and ultrafine verification without juggling incompatible devices.

Key Industries & Typical Tasks

Sector	Critical Sieving Task
Cement & Construction	Blaine fineness checks, sand grading, clinker powder control
Mining & Geology	Exploration core grinding, assay pulp preparation, tailings characterization
Pharmaceuticals	Granule uniformity, API particle-size verification, inhaler powder testing
Food & Agriculture	Flour classification, grain impurity removal, spice standardization
Chemicals & Polymers	Catalyst sizing, polymer-powder QC, pigment dispersion analysis

Quality, Safety & Sustainability

All Vector sieving devices comply with CE directives, ISO 8655 ergonomic guidelines and local electrical codes. Powder-coated or stainless housings resist corrosive atmospheres, while noise levels remain below 60 dB for operator comfort. Energy-optimised electromagnets, efficient side-channel blowers and recirculating ultrasonic baths reduce utility costs and environmental impact.

Service & Lifecycle Support

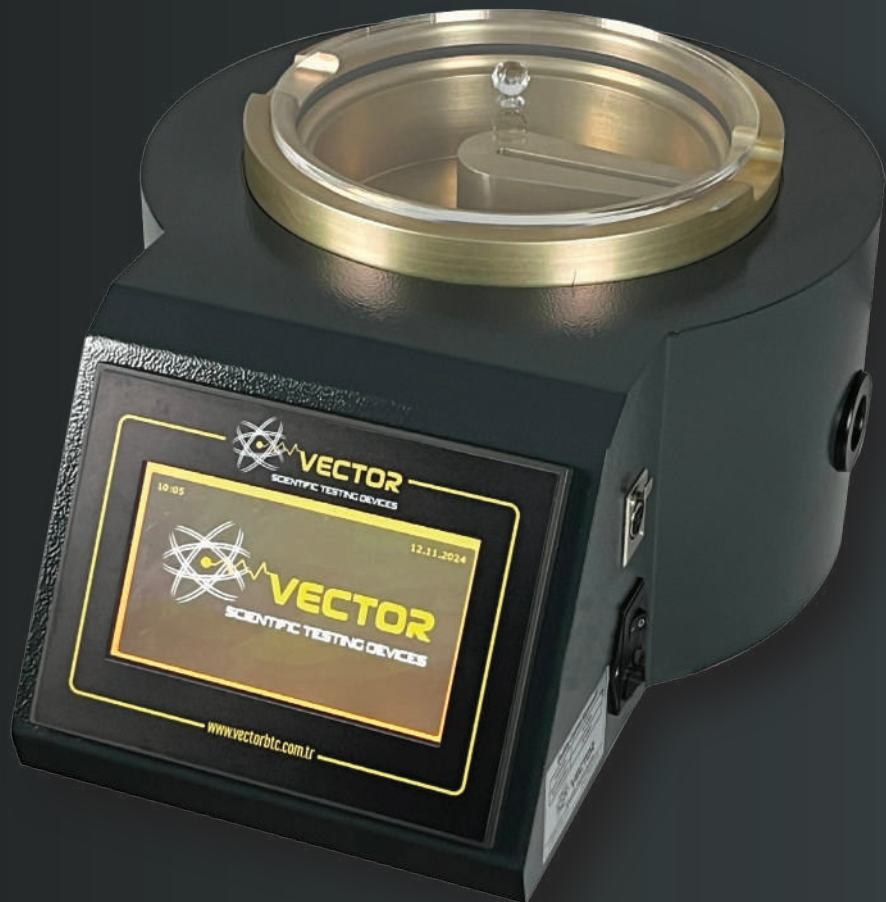
A global distributor network backed by Vector's remote-diagnostics platform guarantees rapid spare-parts supply and expert assistance. Annual sieve re-certification, calibration kits and preventive-maintenance contracts keep your data defensible year after year.



AIR JET SIEVE

Accurate Particle Separation from Microns to Millimeters

The Vector Air Jet Sieve VTR-1014 is a precision dry-sieving system engineered for particle-size analysis across industries from cement and plastics to pharmaceuticals, food and chemicals. It uses a slotted air-jet nozzle combined with an industrial vacuum (1000 - 6000 Pa) to disperse samples uniformly through a 200 mm mesh, separating particles from 5 μ m up to 4 mm. With batch capacities from 0.3 g to 100 g and silent, vacuum-sealed operation, it delivers reliable, repeatable results for quality-control and R&D applications.



VTR-1014

AIR JET SIEVE

A precision-machined slotted nozzle and Open Mesh Function reduce near-mesh residue and ensure consistent dispersion, while an automatic vacuum-regulation system maintains stable airflow throughout each test. The electrostatically painted, sound-damped enclosure prevents sample contamination and minimizes noise, and high-grade materials guarantee durability under continuous use.

Fully CE-certified and manufactured under an ISO 9001 quality-management system, the VTR-1014 features calibrated vacuum controls, certified electrical safety components and traceable calibration procedures to meet stringent laboratory-testing regulations.

An intuitive 7-inch touch-screen interface allows digital adjustment of nozzle speed, test duration and vacuum level. Users can store custom test profiles, monitor process parameters in real time, and export results via USB in standard data formats for seamless integration with LIMS systems.

Key Advantages

- **Extensive Measuring Range:** Enables precise analysis from 5 µm to 4 mm for diverse materials.
- **Integrated Digital Control:** Touch-screen setup, profile storage and USB export streamline workflows.
- **Silent, Contamination-Free Operation:** Vacuum-sealed, sound-damped design with open-mesh functionality ensures clean, low-noise testing.

Technical Specification

Parameter	Value
Measuring Range	5 µm to 4 mm
Sieving Method	Air-jet dispersion via slotted nozzle
Batch Capacity	0.3 g to 100 g
Operation Time	Digitally adjustable via touch screen
Vacuum Range	1 000 to 6 000 Pa
Sieve Diameter	200 mm Ø (adaptors available)
Control Panel	7-inch color touch screen
Data Interface	USB port for data transfer
Power Supply	220 V / 50-60 Hz
Dimensions (W × H × D)	500 × 450 × 250 mm
Net Weight	35 kg



SIEVE SHAKER

Optimized Vibratory Action for Consistent Sieving Performance

The Vector Analytical Sieve Shaker VTR-1041 delivers fast, precise particle-size separation for both dry and wet samples in R&D, quality-control and production-monitoring labs. Its high-efficiency electromagnetic drive generates a three-dimensional throwing motion that maximizes sample-to-sieve contact, keeps apertures clear of clogging, and separates up to 13 size fractions in a single run. Designed to handle heavy or challenging materials from cement and aggregates to pharmaceutical powders and geological samples The VTR-1041 combines robust construction with user-friendly operation to ensure reproducible, accurate sieving results every time.



VTR-1041

ANALYTICAL SIEVE SHAKER

A maintenance-free design featuring non-corrodible, non-metallic springs eliminates routine spring replacement and downtime. The vertical movement mechanism stabilizes the sieve stack, reducing wear and ensuring uniform vibration transmission. Quick-release clamping devices securely hold sieves without over-tightening, and a robust steel frame supports heavy loads without distortion. These innovations combine to extend service life and maintain peak performance under continuous industrial use.

The Vector Analytical Sieve Shaker incorporates precision-engineered components and rigorous assembly controls. Its electromagnetic drive and digital control electronics are built to meet international safety and performance benchmarks, while high-tolerance manufacturing ensures conformance to laboratory-testing standards for sieving accuracy.

Key Advantages

- **High Throughput:** Separate up to 13 size fractions in one operation for maximum productivity.
- **Versatile Application:** Supports both dry and wet sieving across industries—construction, pharmaceuticals, food, mining and chemicals.
- **Precision Motion:** Three-dimensional throwing action ensures thorough sample distribution and aperture clearing.
- **User-Friendly Operation:** Quick-release clamps and presets simplify workflow.
- **Quiet & Safe:** Sound-damped enclosure and safety interlocks deliver a comfortable, secure lab environment.

Technical Specification

Parameter	Value
Application	3D Dry and wet sieving
Drive Type	High-efficiency electromagnetic
Motion	Three-dimensional throwing motion
Sieve Compatibility	200 mm and 300 mm diameters
Maximum Fractions	Up to 8 in a single operation
Process Parameters	Digital adjustment of time, amplitude, acceleration, interval
Timer	Programmable up to 60 minutes
Sample Handling	Capable of heavy or damp samples
Safety Features	Emergency stop; protective interlock on front cover; soundproof cabin
Clamping Device	Quick-release, non-over-tightening design
Maintenance	Maintenance-free, non-metallic spring system
Construction	Reinforced steel frame; corrosion-resistant finishes
Power Supply	220 V / 50 Hz



SIEVE SETS

Sieve Test Set Ø 200 mm

VECTOR Sieves are designed to meet the highest standards in particle size analysis across industries such as construction, mining, agriculture, pharmaceuticals, and materials research. Manufactured with premium materials and strict quality control, our sieves offer exceptional durability, measurement accuracy, and repeatability. Manufactured from high-quality stainless steel, the sieves offer long-lasting durability and are easy to clean, ensuring practical and efficient use over time.



VTR-3012

VECTOR SIEVE SETS



Collector Pan: Designed to collect the finest fraction during the sieving process. Its robust construction ensures long-lasting performance under repeated use.

Protective Metal Lid: Prevents dust dispersion during testing and protects the sieves during storage and transport. Also facilitates safe stacking.

Key Advantages

- Durable, corrosion-resistant stainless steel construction
- Broad range of sieve sizes for precise classification
- Easy-to-clean surfaces for practical, repeated use
- Optimized design for safe handling, transport, and storage

Application Areas

- Aggregate and Soil Testing
- Cement and Powder Materials
- Food and Agriculture
- Pharmaceutical & Chemicals

Component	Detail
Diameter Options	200 mm, 300 mm, 450 mm, 8", 12"
Frame Materials	Stainless Steel / Brass
Mesh Materials	Stainless Steel Wire / Phosphor Bronze
Aperture Range	20 µm to 125 mm
Frame Depth	Full Height / Half Height
Markings	Mesh Size, Standard, Material, Lot Number

GENERAL LABROTORY EQUIPMENT

A collage of laboratory equipment. At the top, a stethoscope rests on a laptop keyboard. Below it, two large yellow chemical storage containers with red caps are visible. To the right, a microscope is shown. In the foreground, there are several glass flasks and beakers, some containing yellow liquid, and a pair of forceps. The image is divided by a diagonal yellow line.

Environmental Conditioning, Thermal Processing & Safety Utilities for Modern Laboratories

Vector's General Laboratory Equipment range provides the foundational instruments that keep day-to-day research, quality control and pilot production running smoothly. From controlled-climate testing to high-temperature calcination, from reagent distillation to clean-air workspaces, each piece is engineered for reliability, energy efficiency and seamless integration with your existing workflows. Together they form a cohesive backbone that frees scientists and technicians to focus on results rather than infrastructure.

Conditioning & Stability

Climatic Chamber Precise temperature-humidity cycling is essential for stability studies, accelerated ageing and material-response research. Vector chambers offer programmable control from -10 °C to +60 °C and 10 % to 98 % RH, with daylight-grade lighting for photos-tability protocols—all logged on a touch-screen interface that stores up to 999 user profiles.

Dry Air Sterilizer For glassware, metal tools or powder samples that cannot tolerate moisture, the PID-controlled dry oven delivers uniform heat from ambient +5 °C to 250 °C. Fan-assisted circulation, memory retention after power loss and an independent safety thermostat protect both load and operator.

Thermal Processing & Ashing

A Muffle Furnace Routine loss-on-ignition, ashing or heat-treatment tasks are handled by a fibre-insulated furnace with continuous operating temperatures up to 1 300 °C (options to 1 700 °C). Programmable PID control (up to ten steps) and rapid heat-up minimise cycle time, while ceramic chambers and chimney exhaust keep the laboratory clean.

Hot Plate When controlled surface heating is required—be it for evaporation, digestion or reagent prep—the Teflon-coated cast-iron plate offers homogeneous temperatures from +10 °C to 300 °C. Choose analog or digital thermostat versions; both feature powder-coated steel casings and reflector insulation to keep benchtops cool.

Laboratory Utilities

Fume Hood: Vector fume hoods combine a motorised sash, low-noise polypropylene fan and chemical-resistant worktop (compact laminate, stainless or ceramic) to give researchers a quiet, compliant space for volatile or corrosive procedures. Optional gas, vacuum and water utilities are panel-mounted for single-hand operation; airflow alarms ensure continuous protection.

Water Distiller: High-purity water at 2.3 µS/cm is produced by stainless-steel stills in capacities from 4 L/h to 24 L/h. Designed for low inlet pressure, each unit includes over-temperature and low-water cut-outs and can be bench- or wall-mounted to suit space constraints.

Precision Scales: Every preparation and analysis step depends on accurate mass. Vector supplies analytical and top-loading balances with readability down to 0.1 mg, automatic internal calibration ensuring measurements are traceable

Turning Measurements into Decisions

Unified Control Philosophy Touch-screen menus, data-export formats and alarm logic follow the same design language across the range, so staff move effortlessly from chamber to furnace to hood. **Documented Performance** Each unit ships with a factory dossier: temperature-uniformity maps, stability plots, airflow velocity certificates or balance calibration curves—ready for audits on day one. **Built-In Efficiency** High-density insulation, variable-speed fans and energy-optimised heaters keep operating costs low and lab climates stable. **Service Without Surprises** Local spare parts, remote diagnostics and preventive-maintenance packages are delivered by the engineers who designed the hardware, ensuring minimal downtime and predictable life cycle costs.



CLIMATIC CHAMBER

Accurate Control of Temperature, Humidity and Light for Reliable Testing

The Vector Environmental Test Chamber VTR1034 provides precise simulation of real-world climatic conditions—controlling temperature (-20°C ila $+70^{\circ}\text{C}$), humidity (10 %-98 % RH) and light cycles (up to 10 000 lux). Available in 120 L, 250 L, 400 L and 600 L capacities, its stainless-steel interior and epoxy-painted galvanized-steel exterior withstand high humidity. Injected polyurethane insulation and sealed gaskets maintain thermal stability, while interior lamps behind moisture-resistant glass deliver reproducible daylight illumination.



VTR-1034

ENVIRONMENTAL TEST CHAMBER

Engineered for general environmental-test requirements, the VTR 1034's sealed construction, door lock system and cabinet ventilation panels support stable operation under the rigorous demands of R&D and quality-control protocols.

High-density injected polyurethane insulation minimizes heat exchange, reducing energy use and ensuring uniform chamber conditions. The programmable control unit stores ramp-soak profiles with 0.1 °C and 1 % RH resolution, while the sealed rail door system and optional acrylic-glass door provide smooth, leak-free operation.

Key Advantages

- **Multi-Parameter Control:** Independently regulate temperature, humidity and lighting.
- **Robust Insulation:** Polyurethane injection and sealed gaskets ensure stable test conditions.
- **High Visibility:** Interior lamps behind heat- and moisture-resistant glass allow monitoring without disturbance.
- **Flexible Capacity:** Four chamber sizes (120-600 L) to match throughput needs.
- **Customizable Configurations:** Bespoke temperature, humidity and lighting options available in consultation with Vector.

Technical Specification

Parameter	VTR 1034-120	VTR 1034-250	VTR 1034-400	VTR 1034-600
Useful Volume	120 L	250 L	400 L	600 L
Humidity-Free Temperature Range	-20 °C - +70 °C			
Moist Temperature Range (with humidity)	+10 °C - +60 °C			
Temp. Adjustment & Reading Resolution	0.1 °C			
Humidity Adjustment & Reading Resolution	98 % - 1% RH			
Maximum Light Intensity	10 000 lux			
Program Digits	10			
Shelves (std / max)	3 / 7	4 / 10	4 / 12	4 / 12
Internal Construction	Stainless steel			
Internal Dimensions (mm) (W × D × H)	410 × 430 × 760	450 × 550 × 900	650 × 640 × 101	740 × 700 × 1150
External Dimensions (mm) (W × D × H)	730 × 790 × 1560	780 × 850 × 1810	870 × 970 × 183	960 × 1030 × 1970
Power Supply	220 V / 50 Hz			



MUFFLE FURNACE

Versatile, Precise and Programmable High-Temperature Processing

The Vector Muffle Furnace Series VTR 13-011 offers robust, general-purpose high-temperature processing for laboratories and production facilities. Available with internal volumes of 5 L, 7 L, 10 L or 20 L and continuous operating temperatures up to 1700 °C, these furnaces suit applications from ashing and heat-treatment to sintering and burnout across cement, ceramics, metallurgy, food analysis, dentistry and mining industriesç



VTR-13-011

MUFFLE FURNACE SERIES

While specific certification details are not listed, the VTR 13-011's programmable PID control and fully insulated ceramic-fiber chamber meet the precision and safety expectations of ISO and ASTM furnace-use protocols.

Each furnace features vacuum-formed fiber boards and fire-brick insulation for optimal thermal efficiency and energy savings. A programmable PID microprocessor control unit allows up to 5 programs of 5 steps—or 10 programs of 10 steps—enabling complex temperature profiles. The illuminated touch-LCD provides real-time temperature feedback, date/time stamping and power-failure recovery to safeguard your process.

- Programmable heating profiles (5 × 5 or 10 × 10 step programs)
-
- Real-time display of setpoint vs. actual temperature
-
- Automatic restart and fault-alarm logging after power interruptions

Key Advantages

- **Wide Temperature Range:** Selectable 1100 °C, 1200 °C or up to 1600 °C continuous operation (models vary).
- **Precise Control:** PID control with ± 1 °C stability and programmable soak times.
- **User-Friendly Interface:** Touch-LCD with intuitive menu, date/time record and program recall.
- **Rapid Ramp Rates:** Enhanced heating speed through optimized element placement.
- **Safety & Durability:** Stainless-steel exterior, chimney for fume extraction and built-in fault-protection routines.

Technical Specification

Model	Internal Volume	Temp. Range	Power	Chamber Size (mm)	External Dimensions (mm)
VTR 13-011-5	5 L	Up to 1100 °C / 1200 °C / 1600 °C	2 000 W	150 × 230 × 150	440 × 490 × 550
VTR 13-011-7	7 L	Up to 1100 °C / 1200 °C / 1600 °C	3 000 W	170 × 230 × 175	465 × 490 × 575
VTR 13-011-10	10 L	Up to 1100 °C / 1200 °C / 1600 °C	3 000 W	200 × 270 × 185	490 × 510 × 600
VTR 13-011-20	20 L	Up to 1100 °C / 1200 °C / 1600 °C	3 500 W	280 × 320 × 230	540 × 540 × 680



DRY AIR STERILIZER

Reliable, Uniform Drying and Sterilization at Controlled Temperatures

The Vector Dry Air Sterilizer VTR 13-012 delivers precise temperature control, from ambient + 5 °C up to 250 °C with ± 1 °C sensitivity and ± 2 °C uniformity between 100 °C and 160 °C. A programmable PID microprocessor and fan-circulation system ensure homogeneous heat distribution for sterilization, drying, heat-treatment and long-term stability testing in research and industrial labs.)



VTR-13-012

ETUV FURNACE

Equipped with a gas-amplitude safety thermostat (50 °C-300 °C) and CE-compliant electrical design, the VTR 13-012 adheres to international laboratory equipment safety requirements.

A robust stainless-steel chamber and shelves resist chemicals and simplify cleaning, while adjustable shelving (2 – 6 levels) accommodates diverse loads. The microprocessor PID controller retains user settings through power outages, and an integrated timer begins counting once the set temperature is reached. Ensuring uninterrupted cycles and precise dwell times.

- Digital control panel with 0.1 °C resolution
- Programmable timer
- Power-failure memory retention of set parameters

Key Advantages

- **Wide Capacity Range:** Standard models at 30 L, 55 L and 120 L; custom up to 1 000 L.
- **Precise Temperature Control:** PID-regulated, fan-assisted circulation for ± 1 °C accuracy.
- **Seamless Operation:** Memory retention during outages prevents cycle interruption.
- **Flexible Shelving:** Two standard shelves with expansion up to six levels.
- **Durable Construction:** AISI 304 interior and electrostatic-painted exterior resist corrosion.

Technical Specification

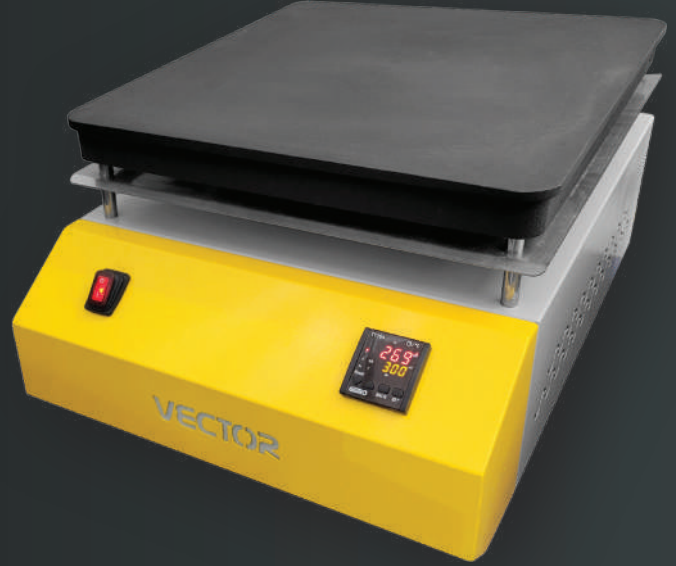
Parameter	VTR 13-012-30	VTR 13-012-55	VTR 13-012-120
Nominal Volume	30 L	55 L	120 L
Temperature Range	Ambient 5 °C – 250 °C		
Temperature Sensitivity	± 1 °C		
Temperature Uniformity	± 2 °C (100 – 160 °C)		
Timer	1 min – 99.9 h; indefinite		
Shelves (std / max)	2 / 4	2 / 6	2 / 6
Installed Power	1 500 W		1 750 W
Power-Failure Memory	Yes		
Construction	Stainless-steel interior; powder-coated steel exterior		
Power Supply	230 V / 50 Hz		
External Dimensions (W × D × H)	470 × 470 × 600 mm	550 × 610 × 710 mm	650 × 700 × 820 mm
Internal Dimensions (W × D × H)	320 × 320 × 320 mm	380 × 380 × 380 mm	500 × 480 × 500 mm

HOT PLATE



Reliable, Uniform Heating for Demanding Lab Workflows

Laboratuvar kapasitenizi yüksek kaliteli Hot Plate'imizle geliştirin. Sıvıların hassas bir şekilde ısıtılması ve kaynatılması için tasarlanmış bu temel cihaz, tekstil, tıp, gıda, ilaç ve kimya gibi birçok sektörde kullanılmaktadır. İki farklı boyutta sunulan bu hot plate, güvenilir ve tutarlı sıcaklık kontrolü sağlayan laboratuvarlar için vazgeçilmez bir araçtır. Hot Plate, +10 °C ile 300 °C arasında doğru ısıtma sunarak, geniş bir laboratuvar uygulaması yelpazesine hitap eder. Sıcaklık kontrolü, analog bir termostatla yapılır ve daha yüksek hassasiyet için dijital termostat seçeneği de mevcuttur. Bu esneklik, belirli süreçleriniz için gereken kesin sıcaklığı korumamızı sağlar.



VTR-10-013

SAND BATH

Laboratory sand baths are versatile, capable of operating within a wide temperature range, spanning from 50 to 300 °C. Temperature regulation is achieved through either an analog thermostat or, as an optional feature, a digital thermostat. The heating table of the device is crafted from aluminum, benefiting from a heat treatment process to enhance heating speed and ensure uniformity. To expedite the achievement of uniform heat distribution, heating elements are strategically positioned within the heating plate block.



VTR-13-014

HOT PLATE

Engineered to meet laboratory equipment safety expectations, the VTR 13-013 features an analog gas-expanded thermostat with optional digital control upgrade. Its over-temperature protection and heat-shielded base comply with general electrical-safety norms (e.g., EN 61010-1), ensuring safe operation in regulated lab settings.

At its core is a durable Teflon-coated cast iron surface that resists corrosion and promotes rapid thermal transfer. Internal resistive heating elements are encapsulated in a plate block for homogeneous temperature distribution, while an aluminized reflector beneath the block prevents heat migration to the chassis. A powder-coated steel exterior and four adjustable anti-vibration feet guarantee stability and longevity under continuous use.

Key Advantages

- **Wide Temperature Range:** +10 °C to 300 °C accommodates diverse protocols.
- **Uniform Heating:** Teflon-coated plate and embedded resistors ensure even temperature across the surface.
- **Control Flexibility:** Standard analog thermostat with optional digital upgrade for 0.1 °C resolution.
- **Robust Construction:** Powder-coated steel housing and corrosion-resistant heating plate.
- **Compact Footprint:** Two plate sizes (30 × 30 cm and 40 × 40 cm) fit varied lab spaces.
- **Enhanced Safety:** Heat reflector protects the unit base; stable feet prevent movement.

Technical Specification

Parameter	VTR 13-013-30	VTR 13-013-40
Plate Size	300 × 300 mm	400 × 400 mm
Temperature Range	+10 °C to 300 °C	
Optional Thermostat Upgrade	Digital (0.1 °C resolution)	
Heating Elements	Embedded resistors in plate block	
Plate Material	Teflon-coated cast iron	
Heat Shield	Aluminized reflector under plate	
Exterior Construction	Powder-coated steel	
Installed Power	2000 W	3000 W
Temperature Sensitivity	± 10 °C	
Stability Features	Four anti-vibration adjustable feet	
Power Supply	200 V / 50 Hz	
External Dimensions (W × D × H)	300 × 300 × 500 mm	400 × 400 × 600 mm



FUME HOOD

Automated Ventilation for Safe, Uninterrupted Laboratory Work

The Vector Fume Hood VTR 13-015 provides a sealed, ventilated enclosure that captures and safely exhausts hazardous aerosols, acid vapors and heat-generated fumes. A motorized sash allows precise user access and airflow control while a polypropylene-cased exhaust fan delivers 1 080-1 450 m³/h of containment airflow, ensuring a safe work zone for chemical, biological and heat-intensive procedures.



VTR-10-015

FUME HOOD

Designed to comply with CE laboratory-equipment directives, the VTR 13-015 features an interlocked motorized sash that prevents operation when open, and corrosion-resistant fittings for gas, flammable gas and water lines as specified by industry safety norms.

Constructed from durable materials, including anti-acid compact laminate or corrosion-resistant stainless-steel work surfaces and a sealed PP exhaust fan. The VTR 13-015 balances chemical resistance with low noise (< 60 dB) operation. In-cabinet fluorescent lighting remains unaffected by vapors, and ergonomic design optimizes user comfort during extended use.

Key Advantages

- **Powerful Extraction:** 1080-1450 m³/h airflow rates capture fumes rapidly.
- **Motorized Sash Control:** Automated glass positioning maintains optimal containment.
- **Chemical-Resistant Surfaces:** Choice of laminate, stainless steel, PP, ceramic or stoneware worktops.
- **Quiet Operation:** Noise levels below 60 dB ensure a comfortable environment.
- **Customizable Utilities:** Panel-controlled gas, flammable gas and water fittings available.
- **Enhanced Visibility:** Integrated fluorescent lighting provides clear, vapor-safe illumination.

Technical Specification

Parameter	VTR 13-015-90	VTR 13-015-120	VTR 13-015-150	VTR 13-015-180
Exhaust Flow Rate	1 080 m ³ /h	1 080 m ³ /h	1 250 m ³ /h	1 450 m ³ /h
Work Surface Options	Laminate; SS; PP; G LAB; Ceramic; Stoneware Ceramic			
Lighting	In-cabinet fluorescent lamp			
Noise Level	< 60 dB			
Sash Control	Motorized			
Fittings	Panel-controlled gas, flammable gas, water (optional)			
Construction Materials	Powder-coated steel exterior; acid-resistant components			
Power Supply	220 V / 50 Hz			
Cabin Size (W × D × H)	860 × 650 × 970 mm	1160 × 650 × 970 mm	1460 × 650 × 970 mm	1760 × 650 × 970 mm
Outer Dimensions (W × D × H)	900 × 750 × 2300 mm	1200 × 750 × 2300 mm	1500 × 750 × 2300 mm	1800 × 750 × 2300 mm



LE CHATELIER WATER BATH

Consistent Boiling Conditions for Reliable Expansion Measurements

The Vector Le Chatelier Water Bath VTR 13-020 delivers precise thermal control for Le Chatelier expansion testing and other temperature-sensitive laboratory applications. Its programmable microprocessor system maintains liquid temperature within $\pm 0.1^\circ\text{C}$ and displays readings accurate to $\pm 0.2^\circ\text{C}$, ensuring homogeneous heat distribution throughout the tank. A triple-insulated chamber minimizes heat loss, while an integrated drain hose and removable 12-mold rack simplify maintenance and sample handling.



EN 196-3, 450-1, 459-2; EN ISO 9597

VTR-13-020

LE CHATELIER WATER BATH

Designed to meet Le Chatelier test method requirements, the VTR 13-020 rapidly achieves boiling in approximately 30 minutes and employs an evaporation-compensation system to keep molds fully submerged. Safety features—including a low-water automatic shut-off—preserve test integrity and equipment protection in accordance with general laboratory equipment guidelines.

Featuring a robust electrostatic-powder-coated steel exterior and high-grade cold-drawn DKP or stainless-steel interior, the bath resists corrosion and chemical attack. Precision-engineered PT100 sensing and PID control maintain temperature uniformity of $\pm 0.1^\circ\text{C}$. The digital interface allows time programming from 1 minute to 99.9 hours, and memory retention safeguards settings through power interruptions.

- Programmable microprocessor control with on-screen time and temperature settings
- Memory backup of setpoints during power failures
- Real-time digital display of temperature and elapsed time

Key Advantages

- **Ultra-Fine Temperature Control:** $\pm 0.1^\circ\text{C}$ adjustment and $\pm 0.2^\circ\text{C}$ reading accuracy.
- **Evaporation Management:** Boil-point maintenance system prevents water loss during long tests.
- **High Capacity:** Holds up to 12 Le Chatelier molds in a supplied removable rack.
- **Easy Maintenance:** Integrated drain hose and smooth-walled interior ease cleaning.

Technical Specification

Parameter	Specification
Nominal Volume	6 L • 15 L • 30 L • 48 L
Temperature Range	Ambient + 5°C to 99°C
Temperature Adjustment Sensitivity	0.1°C
Temperature Reading Accuracy	$\pm 0.2^\circ\text{C}$
Temperature Uniformity	$\pm 0.1^\circ\text{C}$
Control System	Programmable PID microprocessor
Timer Range	1 min to 99.9 hours
Internal Surface	Cold-drawn DKP sheet or stainless steel
Exterior Construction	Electrostatic powder-coated steel
Heater Power	900 W • 900 W • 1 500 W • 2 000 W
Supply Voltage	220 V AC, 50 Hz
Mold Capacity	Up to 12 Le Chatelier molds (sold separately)
Safety Features	Low-water automatic shut-off
Internal Dimensions (W × D × H)	300 × 150 × 200 mm 300 × 230 × 200 mm 500 × 300 × 200 mm 500 × 600 × 200 mm
External Dimensions (W × D × H)	360 × 210 × 360 mm 360 × 310 × 360 mm 560 × 360 × 360 mm 580 × 680 × 400 mm



WATER DISTILLER

Pure Water on Demand, Built to Last

The Vector Water Distiller VTR-13-017 delivers laboratory-grade distilled water with a conductivity of $2.3 \mu\text{S/cm}$. Constructed entirely from stainless steel, it resists corrosion and is simple to clean. Available in four capacity formats—4 L, 12 L, 24 L and 36 L—it operates efficiently even at low inlet pressure and can be desktop- or wall-mounted to suit any workspace. Its compact footprint ($36 \times 36 \times 57 \text{ cm}$ or $40 \times 55 \times 58 \text{ cm}$) makes it ideal for laboratories, hospitals and production facilities requiring high-purity.



VTR-13-017

WATER DISTILLER

Equipped with safety interlocks against dry-boil and water outages, the VTR-13-017 meets general electrical-safety norms for laboratory appliances (e.g., EN 61010-1) and delivers consistent purification via the distillation principle.

All wetted components are stainless steel, ensuring long service life and preventing contamination. A high-efficiency heating element vaporizes incoming water, and the condenser reliably returns pure steam to liquid form. Modular design allows swift replacement of heating modules and easy access for maintenance.

Key Advantages

- **High Purity Output:** Produces water at 2.3 $\mu\text{S}/\text{cm}$ conductivity, suitable for analytical and medical use.
- **Robust Construction:** Stainless-steel chamber and condenser resist corrosion and simplify cleaning.
- **Flexible Installation:** Desktop or wall-mountable for optimal lab space utilization.
- **Safety-First Design:** Automatic shutdown on low-water or dry-boil conditions.
- **Compact Footprint:** Small external dimensions across four capacity options.
- **Scalable Capacities:** Models from 4 L to 36 L to match varying usage demands.

Technical Specification

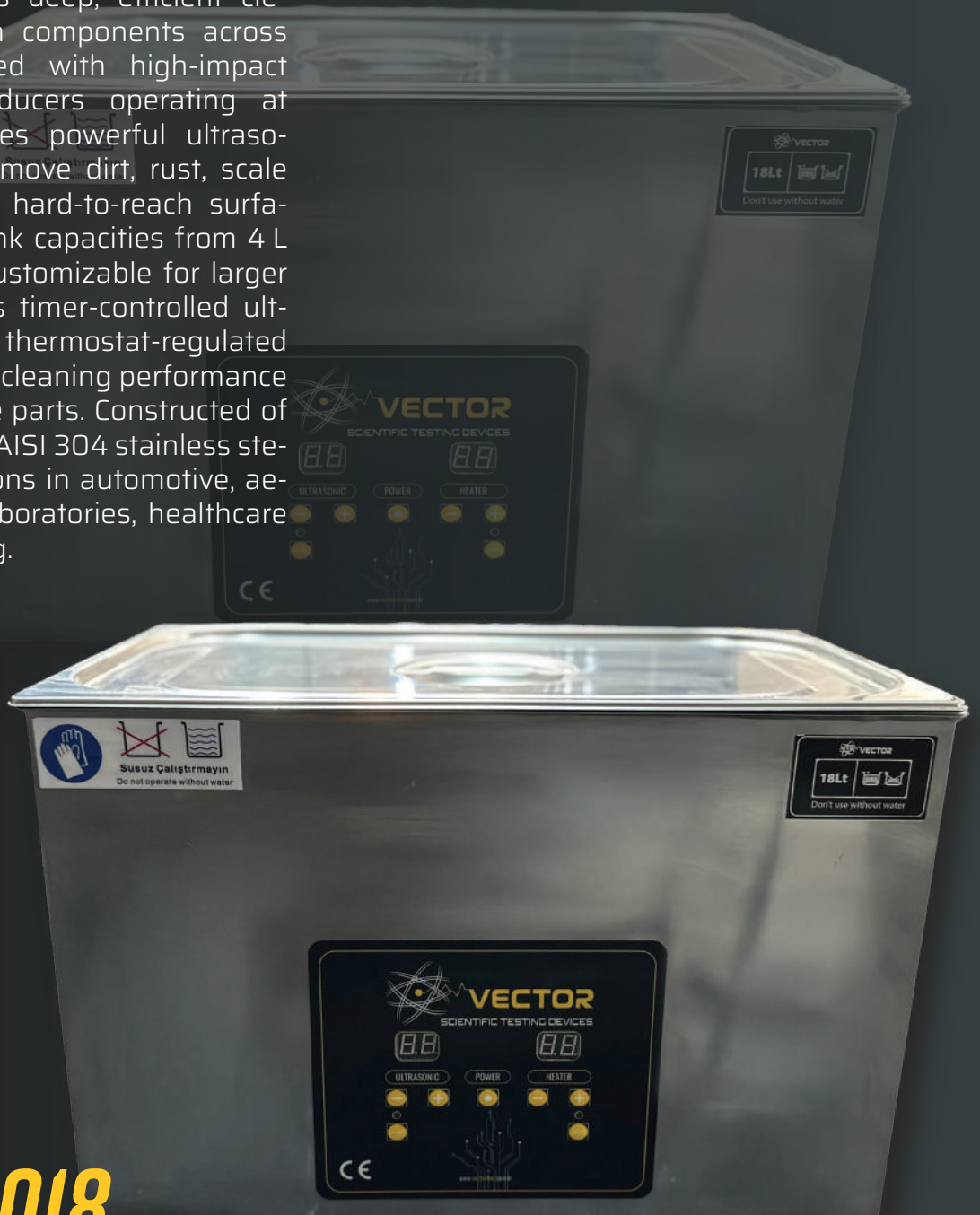
Model	Capacity	Heater Power	Supply Voltage	Dimensions (W × D × H)	Water Conductivity
VTR 13-017-4	4 L	6 kW	220 V / 50 Hz	360 × 360 × 570 mm	2.3 $\mu\text{S}/\text{cm}$
VTR 13-017-12	12 L	6 kW	220 V / 50 Hz	360 × 360 × 570 mm	2.3 $\mu\text{S}/\text{cm}$
VTR 13-017-24	24 L	9 kW	380 V / 50 Hz	400 × 550 × 580 mm	2.3 $\mu\text{S}/\text{cm}$
VTR 13-017-36	36 L	9 kW	380 V / 50 Hz	400 × 550 × 580 mm	2.3 $\mu\text{S}/\text{cm}$



ULTRASONIC WATER BATH

Precision Cleaning Powered by Ultrasonic Innovation

The Vector Ultrasonic Water Bath VTR13-018 delivers deep, efficient cleaning for precision components across industries. Equipped with high-impact piezoelectric transducers operating at 28 kHz, it generates powerful ultrasonic cavitation to remove dirt, rust, scale and residues from hard-to-reach surfaces. Available in tank capacities from 4 L to 28 L and fully customizable for larger volumes it features timer-controlled ultrasonic cycles and thermostat-regulated heating to optimize cleaning performance and protect delicate parts. Constructed of corrosion-resistant AISI 304 stainless steel, it suits applications in automotive, aerospace, jewelry, laboratories, healthcare and food processing.



VTR-13-018

ULTRASONIC WATER BATH

Every VTR 13-018 unit combines a rugged stainless-steel tank (EN 1.4301/AISI 304) with precision-matched piezoelectric crystal transducers to deliver uniform acoustic energy. A digital or analog control panel lets operators tailor ultrasonic power (150 W-550 W) and heating (350 W-1 000 W) to specific cleaning tasks. Modular tank designs allow easy scaling from bench-top to production-line models, while reinforced construction and high-efficiency heating elements ensure consistent performance under continuous operation.

Built with AISI 304 stainless-steel enclosures and CE-rated electrical components, the VTR 13-018 meets general industrial and laboratory equipment safety requirements. Its thermostat and timer controls adhere to recognized reliability and performance guidelines for ultrasonic cleaning systems.

An intuitive control interface available in analog-dial formats permits precise setting of cleaning duration and temperature. Programmable cycle presets and real-time monitoring simplify repetitive workflows and reduce operator error.

Key Advantages

- **Customizable Tank Volumes:** Standard 4 L-28 L models, with larger options available to suit production platforms.
- **Effective Ultrasonic Power:** High-impact transducers deliver 150 W-550 W of cavitation energy at 28 kHz.
- **Integrated Heating & Timing:** Thermostat-controlled heaters (350 W-1 000 W) and timer control optimize cleaning cycles.
- **Durable Construction:** AISI 304 stainless-steel tank and body resist corrosion and wear.
- **Versatile Applications:** Cleans engine parts, textiles, lab glassware, jewelry, dental tools and food-industry equipment.

Technical Specification

Model	Tank Volume	Ultrasonic Power	Heater Power	Total Power	External Dimensions (W × D × H) mm	Boiler Dimensions (L × W × H) mm	Frequency
VTR 13-018-4	4 L	150 W	350 W	500 W	250 × 150 × 250	240 × 135 × 150	28 kHz
VTR 13-018-6	6 L	200 W	350 W	550 W	310 × 160 × 300	300 × 150 × 150	28 kHz
VTR 13-018-10	10 L	300 W	700 W	1 000 W	310 × 255 × 350	290 × 240 × 150	28 kHz
VTR 13-018-12	12 L	300 W	700 W	1 000 W	310 × 255 × 400	290 × 240 × 200	28 kHz
VTR 13-018-18	18 L	300 W	700 W	1 000 W	340 × 315 × 400	330 × 300 × 200	28 kHz
VTR 13-018-28	28 L	550 W	1 000 W	1 550 W	515 × 310 × 420	500 × 300 × 200	28 kHz



CEMENT PRISM MOLDS

Standard-Compliant Specimens, Reliable Test Results

Cement prism moulds are essential equipment used in flexural and compressive strength tests to determine the mechanical performance of cement. Produced in accordance with EN 196-1 and similar international standards, these moulds ensure repeatable and reliable results under laboratory conditions.



CEMENT SHRINKAGE MOLD

Cement shrinkage molds are standard laboratory equipment used to measure dimensional changes that occur during the setting process of cement paste and mortar samples. The product is manufactured in accordance with national and international standards (TS EN 12617-4, ASTM C151, ASTM C157, ISO 1920, etc.). The molds are typically prism-shaped and made of stainless steel. Surface smoothness, corner sharpness, and dimensional accuracy are carefully ensured to enhance the reliability of test results.

VTR-1028



TREE GANG MOULD

The three-gang steel mold is designed for effortless disassembly and cleaning, as it is produced in individual pieces. To safeguard against rust, a specialized chrome nickel plating has been applied to the mold's surface. The mold dimensions are 40 x 40 x 160 mm, adhering to TSE 24 and EN 196-1 tolerances. All molds undergo rigorous leakage testing to ensure quality and reliability. The inner surface of the mold boasts a minimum hardness of 200 HV Vickers. The mold's weight falls within the range of 10,100 grams to 10,500 grams. The dividing parts of the mold have a thickness of 10 mm.

VTR-1029

CEMENT PRISM MOLDS

In addition to strength testing, prism moulds play a critical role in evaluating cement reactivity, the effect of additives, and various quality control processes. With easy-to-clean surfaces and standardized dimensions, they are widely used in both academic laboratories and industrial quality control units.

Key Advantages

- **EN 196-1 Compliant:*** Precisely manufactured to meet international testing standards.
- **High Dimensional Accuracy:** Enables the production of accurate and homogeneous prism specimens.
- **Double and Triple-Gang Models:** Allow multiple specimens to be cast at once.
- **Durable Construction:** Robust cast iron or stainless steel material for long-term use.
- **Easy Demoulding and Cleaning:** Smooth internal surfaces enable practical demoulding and effortless cleaning.



TREE GANG CUBE MOULD

The three-gang steel cube mold is ingeniously designed for effortless disassembly and cleaning, making it ideal for cement cube applications. This mold is manufactured in individual pieces, allowing for practical assembly and maintenance. Crafted from durable chrome-nickel steel, it ensures long-lasting performance. The mold adheres to precise dimensions of 50 x 50 x 50 mm, in accordance with TSE 24 and EN 196-1 tolerances. Its mold thickness measures 10 mm, contributing to its robust construction and reliability.



SPREADER - SCRAPER GAUGE

This tool is utilized for the even spreading and smoothing of liquid or semi-liquid materials. It conforms to the EN 166-1 Standard, ensuring its suitability for the intended applications.

VTR-1030

VTR-1032

153 VECTOR

SCIENTIFIC TESTING DEVICES

