SCIENTIFIC
TESTING
DEVICES

VECTOR

SCIENTIFIC TESTING DEVICES

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About Us

VECTOR is the leading manufacturer and supplier of testing equipment for cement, iron and steel, defense industry and construction materials in Turkey and has become a globally recognized and reliable company.

VECTOR exports its products to more than 50 countries by serving through its authorized distributors and representatives.

Between 1999-2002, VECTOR was the official distributor of INSTRON in Turkey.

We manufacture all of our products in-house, starting from the design stage, from the software to the manufacturing.

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VECTOR offers solutions suitable for your special designs. We work with you to research and develop new products, methods, processes and procedures, software activities based on new and original designs.

In many countries around the world, we produce not only robust and high quality products, but also digital, smart and life-enhancing solutions for our customers.

Our research and development department includes product design and software activities by designing new systems and applications, as well as technology-oriented and technical activities that provide scientific and technological development in the field.

Vector technical service department provides after-sales products installation and training services to our customers all over the world with its experienced technical personnel.

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VECTOR

Electromechanical Tensile – Compression – Bending Tester

Tesla Series

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Electromechanical Tensile – Compression – Bending Tester

Tesla Series

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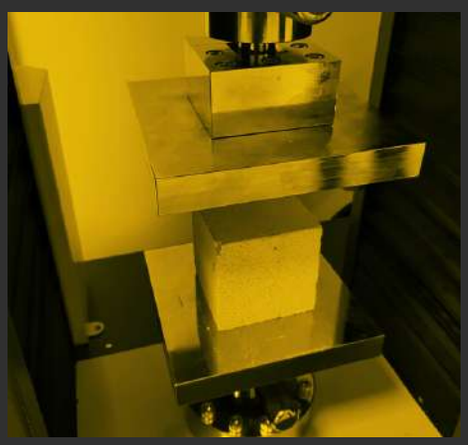

Standards: ISO 7500-1, ASTM E4, DIN 51221. AFNOR A03-501, TS EN ISO 6892-1, TS 1398-1 EN ISO 527-1, TS EN ISO 178: 2010.

TESLA series devices; It can be programmed according to the desired test type, test speed, sample sizes and test conditions and these definitions are saved in setup so that they can be used when desired.

Electromechanical test set-up that allows the experiments to be carried out in the direction of TENSILE - COMPRESSION - BENDING to determine the life and strength estimates of polymer, composite, metal and materials etc.

TESLA series devices are controlled by the computer, the load and deformation values are produced as readable.

With TESLA series devices can perform many tests in accordance with world standards by using the relevant jaws and apparatus.

The sensitivity of all load cells of our systems is Class 0.5 and it has ± 0.5% load sensitivity according to ISO 7500-1 standard. All load cells in our system are suitable for tensile and compression tests.

TESLA series devices are servo motor driven and software controlled via a computer. The device includes body, electronic and control unit.

The movement speed range of the crosshead is in the range of 0.001 mm / minute to 1000 mm / minute. These speed values can be adjusted during the test and are uninterrupted. The load measurement accuracy of our devices is 0.5% (Class 0. 5) in the range of 1/1 to 1 / 1.000 of the load cell capacity. With TESLA series devices can perform elongation cycles with tensile, compression loads and force cycle. In addition, time-dependent elongation and load can be read on the system.

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Electromechanical Tensile – Compression – Bending Tester

Tesla Series

Power Unit

All operations of the data collection and control system can be controlled from the computer. Two additional analogue channels in the system can be connected to different sensors such as load cells, pressure or displacement transducers. One TTL displacement transducer input is also reserved for body displacement measurement.

The power unit is connected to the computer via Ethernet for advanced experiments, data collection and reporting. By connecting LVDT or extensometer to the samples, Elasticity module, Poisson Ratio and compressibility parameters can be easily and accurately determined. All test parameters and sensor calibration values of the last experiment are automatically stored in the controller.

Device Hardware

- 2 extra analogue channels
- Integrated amplifiers for sensor output and signal amplification.
- 1000Hz control and 1/65000 resolution for each channel.
- RS-232 or Ethernet input for computer connection.
- Can make displacement loads.

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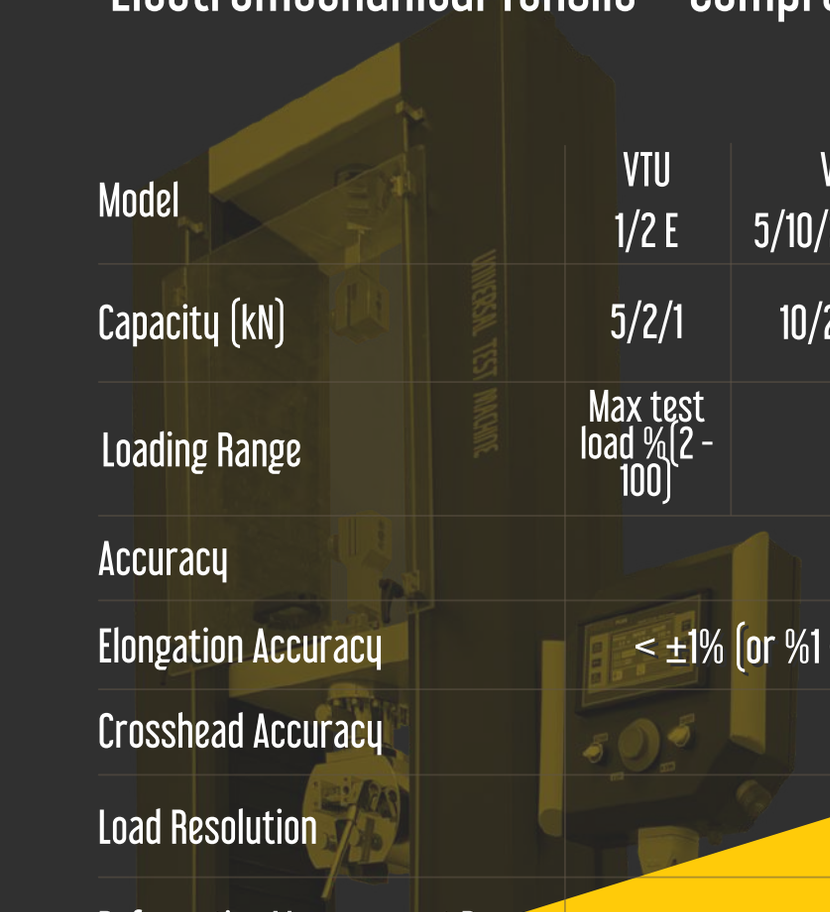
Electromechanical Tensile – Compression – Bending Tester

Tesla Series



Model	VTU 1/2 E	VTU 5/10/20/30 E	VTU 50 E	VTU 100 E	VTU 200 E	VTU 300 E	VTU 500/600 E
Capacity (kN)	5/2/1	10/20/30	50	100	200	300	500/600
Loading Range	Max test load %(2 - 100)	Max test load%(1 - 100)					
Accuracy	Within ≤ ±%0.5 value						
Elongation Accuracy	< ±1% (or %1 - %100 of the total scale of the extonsemeter)						
Crosshead Accuracy	0.001 mm						
Load Resolution	1/300000 at max load						
Deformation Measurement Range	%2 - %100 FN (Elongation)						
High Speed Control Mode	0.005 – %5 FN/S						
Adjustable Speed	0.001 mm/min– 500 mm/ min						0.005 mm/min 250 mm/min
Max Test Specimen Length(mm)	200	400	600	600	600	600	600
Max Test Specimen Widht (mm)	200	450	450	450	450	450	650
Dimensions (mm) (WxDxH)	350x400x 1100	610x480x 1285	945x 654x 2250	1100x 750x 2250	1100x 770x 2250	1100x 777x 2500	1150x770x2800
Weight (kg)	100	250	700	1100	1460	1650	2800
Power (kW)	0.4	0.75	1.5		3	7.5	

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Electromechanical Tensile – Compression – Bending Tester

Tesla Series

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Electromechanical Tensile – Compression – Bending Tester

Tesla Series

Data Collection & Software

The Automatic Compression, Tensile and bending Tester is controlled by a free PC software. This software provides the ability to collect and manage data during compression, tensile and bending experiments. Advanced functions for database management make it easy to navigate all stored data. The test results report contains all descriptive information. Therefore, test parameters can be set and detailed information about customer information, test type, sample type, user information and test can also be printed as test report and graph.

The software allows the entry of sample size, height, diameter and measurement length and the user can then command START. The calculated section of the samples informs the user about the density of the material before the test. The software continuously refreshes the load, voltage and elongation percentages until breakage occurs. When the experiment is finished, the pour point is calculated and appears on the screen. Each report contains groups of 24 samples in which 14 different sections are entered. The report contains all the standard limits and easily checks whether the sample is acceptable. These limits can automatically determine the strengths and amounts of L0 (original gauge length), LL1, Le (extensometer gauge length), Lt (total length of test piece) , Lu(final gauge length after fracture), ΔLm (extension at maximum force), S0 (original cross-sectional area of the parallel length), Su (minimum cross-sectional area after fracture), Z (maximum change in cross-sectional area), A (percentage elongation after fracture), %Agt (percentage total extension at maximum force), At (percentage total extension at fracture) , Fm (maximum force), Emodul, ReH (upper yield), ReL(lower yield) , Rm (tensile strength), Rp0.2 (%0.2 proof stress)

Test results, graphs and properties of 24 different samples can be saved in a folder. Old test folders can be reviewed and easily edited. Graphical data on the screen is refreshed at the same time during the experiment Load values can be viewed as a repeating high-resolution graph every 100 milliseconds. The 24 different sample curves in the graph can be seen in the same report. The user can access previously completed test data and create new reports with the same structure and features

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Hydraulic Tensile Testing Machine

Tesla Series

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Hydraulic Tensile Testing Machine

Tesla Series

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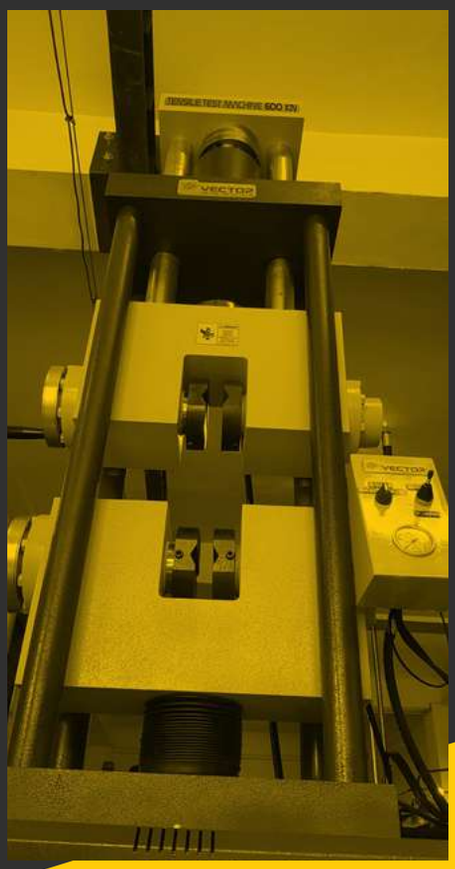

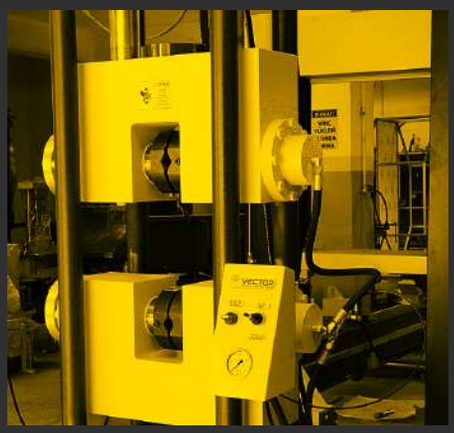

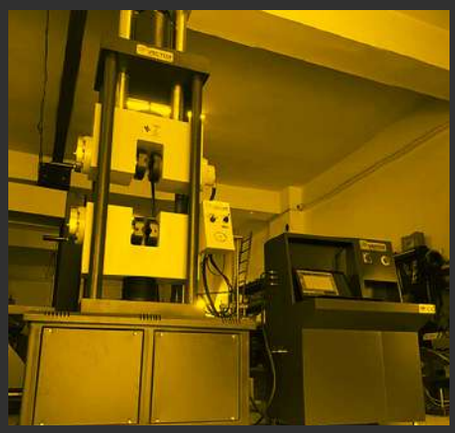

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Electromechanical test set-up that allows the experiments to be carried out in the direction of TENSILE - COMPRESSION - BENDING to determine the life and strength estimates of polymer, composite, metal and materials etc.

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TESLA series devices are servo motor driven and software controlled via a computer. The device includes body, electronic and control unit.

The movement speed range of the crosshead is in the range of 0.001 mm / minute to 1000 mm / minute. These speed values can be adjusted during the test and are uninterrupted. The load measurement accuracy of our devices is 0.5% (Class 0. 5) in the range of 1/1 to 1 / 1.000 of the load cell capacity. With TESLA series devices can perform elongation cycles with tensile, compression loads and force cycle. In addition, time-dependent elongation and load can be read on the system.

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Hydraulic Tensile Testing Machine

Tesla Series

Model	VTH 10/20/30 H	VTH 50 H	VTH 100 H	VTH 200 H	VTH 300 H	VTH 500/600 H	VTH 1000/2000 H
Capacity (kN)	10/20/30	50	100	200	300	500/600	1000/2000
Loading Range	Max test load%(1 - 100)						
Accuracy	Within ≤ ±%0.5 value						
Elongation Accuracy	< ±1% (or %1 - %100 of the total scale of the extonsemeter)						
Crosshead Accuracy	0.001 mm						
Load Resolution	1/65000 at max load						
Deformation Measurement Range	%1 - %100 FN (Elongation)						
High Speed Control Mode	0.5 – %5 FN/H						
Adjustable Speed	0.5 mm/ min – 70 mm/ min					1 mm/ min 50 mm/ min	
Max Test Specimen Length(mm)	400	600	600	600	600	700	700
Max Test Specimen Widht (mm)	450	450	450	450	600	650	750
Dimensions (mm) (WxDxH)	680x525x1800	945x654x1800	900x 750x 2000	1050x77 0x2200	1150x 770x 2700	1150x 770x 2700	1280x950x3300
Weight (kg)	250	700	700	1100	1460	1650	2800
Power (kW)	0.75	1.5			3	7.5	

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Hydraulic Tensile Testing Machine

Tesla Series

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Power Unit

All operations of the data collection and control system can be controlled from the computer. Two additional analogue channels in the system can be connected to different sensors such as load cells, pressure or displacement transducers. One TTL displacement transducer input is also reserved for body displacement measurement.

The power unit is connected to the computer via Ethernet for advanced experiments, data collection and reporting. By connecting LVDT or extensometer to the samples, Elasticity module, Poisson Ratio and compressibility parameters can be easily and accurately determined. All test parameters and sensor calibration values of the last experiment are automatically stored in the controller.

Device Hardware

- 2 extra analogue channels
- Integrated amplifiers for sensor output and signal amplification.
- 1000Hz control and 1/65000 resolution for each channel.
- RS-232 or Ethernet input for computer connection.
- Can make displacement loads.

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VECTOR

Charpy & Izod

Newton Serisi

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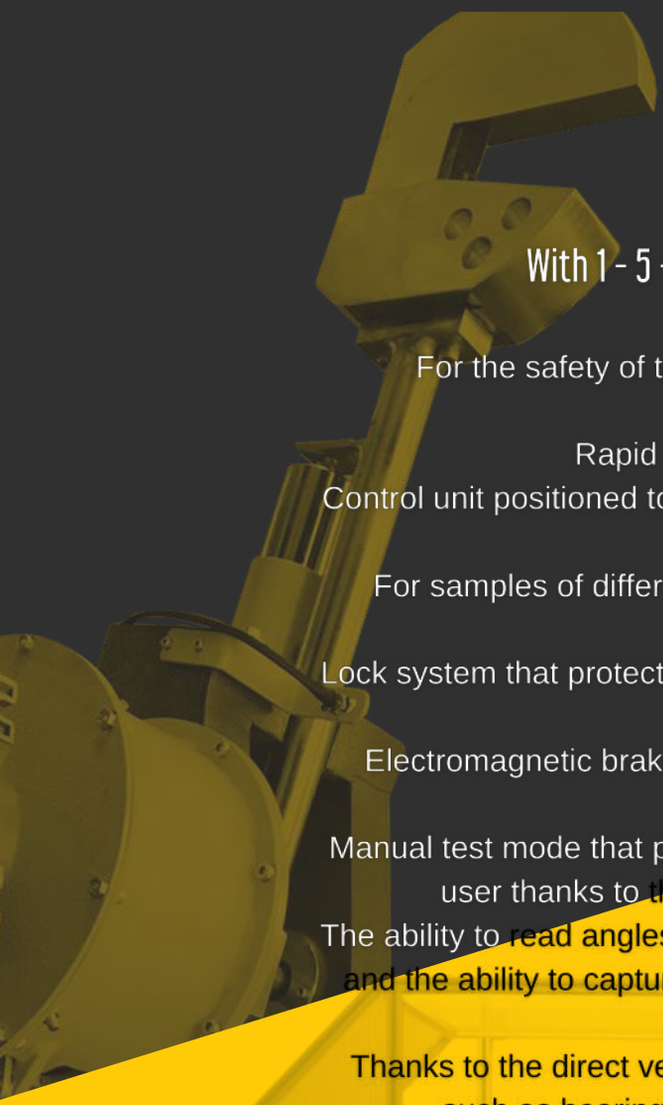
VECTOR 52

Charpy & Izod

Newton Serisi



Technical Specification

With 1 - 5 - 25 - 50 - 150 - 300 - 450 - 600 - 800 Joule capacity options.

For the safety of the user, the raising of the hammer with the motor drive and automatic return at the end of the experiment.

Rapid reaction electromagnetic brake / clutch control mechanism.

Control unit positioned to facilitate application The distance between the supports is 40 mm 150 degree rise angle.

For samples of different sizes; adjustable lower bracket Hand security button for hammer.

Lock system that protects the user by preventing the hammer from falling free when the doors are open.

Electromagnetic brake / clutch control mechanism that stops hammer movement when the door is opened.

Manual test mode that provides fast and continuous testing and more control to the user thanks to the automatic test mode sensitive to the safety cabinet door.

The ability to read angles in any position of the hammer with high precision encoder and the ability to capture the peak angle value with full accuracy during the raising movement of the hammer.

Thanks to the direct verification menu, it is possible to observe mechanical losses such as bearing and air resistance, even if it is small (0.5%) and to perform periodic.

Main Accessories

Pendulum (capacity must be specified)

Sample centering table (V)

Security cabinet (half closed)

Optional Accessories

Aluminum alloy full enclosed security cabinet

ASTM E23 striking edge (R8mm)

Anvils and pendulums required for Charpy, Izod and tensile impact testing

Temperature chamber for impact samples

Notching device for impact samples

Freezer for impact samples

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Jaw Crusher

Full Automatic Touch-Screen

The device is used to break hard, medium hard, bauxite, samot, ore, stone, sand, quartz, limestone, marble, slag, coke, coal, uranium ore, ferro alloys, mud, silicate, cement clinker and similar fast-drying inorganic materials. . It is in the range of 1 mm to 90 mm. Jaw size is 100 x 250 mm and jaw is special alloy Manganese steel. The jaws have the feature of breaking at the bottom and bouncing at the top. Jaw opening is adjustable up to 1 mm.

Capacity: 150 - 300 kg / hour.
The size of the feeding chamber: 100mm x 100 mm
It is possible to test samples up to 90 mm. Jaws are hard and wear resistant Manganese cast steel.

Laboratory type jaw crusher is produced to obtain small particle size samples required in test standards. It breaks hard, medium hard, bauxite, samot, ore, stone, sand, quartz, limestone, marble, slag, coke, coal, uranium ore, ferro alloys, mud, silicate, cement clinker and similar fast-drying inorganic materials.

Jaw is produced from special alloy manganese steel. It is resistant to impacts and abrasions.

Technical Specifications

- Jaw Size: 100x250 mm
- Test Samples Size : 1 - 90 mm
- Capacity: 300 kg/ hour
- Feeding Chamber Size: 100x100 mm,

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Vibro Mill 54

Full Automatic Touch-Screen

Special soundproofed safety cabin. It is used in the grinding process of fragile materials and minerals such as basalt, bauxite, concrete, chrome, vanadium, dolomite, ferromanganese, ferrovanadium, granite, coal, quartz, silicate, limestone, slag.

The device is designed to break products with a size of 12-15 mm. The final size of the final product is 10-20 microns. The device is for working with grinding sets in volumes of 100, 250, 500 ml.

The device cover is equipped with air shock absorbers and thanks to the protective switch system, the device automatically stops when the front cover is opened for any reason.

Technical Specifications

- The system is designed to break products with a size of 12-15 mm.
- The final size of the product milled in the system can be reduced to the range of 10-20 microns.
- The device is for working with grinding sets of 250 ml volumes.
- The system can be started by setting the desired time and revolution values on the touch screen.
- Easy-to-use options can be created by entering the desired working times and cycle amounts into the 10 set options on the touch screen.
- The cover of the system is air shock absorber.
- Thanks to the protective switch system on the cover of the system, the device automatically stops when the front cover is opened for any reason.
- The grinding cell of the system is compressed with the air cushion at the top, which ensures that the cell stays in place during the grinding process and that the cell can be disassembled and installed more easily.
- The device works with 220 V 50 Hz.

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55 VECTOR

Ball Mill

Soundproofed Safety Cabinet

Laboratory type ball mill is produced to obtain small particle size samples required in test standards. It breaks hard, medium hard and bauxite, samot, ore, stone, sand, quartz, limestone, marble, slag, coke, coal, uranium ore, ferro alloys, mud, silicate, cement clinker and similar fast-drying inorganic materials.

Grinding fineness and grinding time vary according to the amount of sample placed in the drum by the user. Although the grinding time varies according to the sample type and the desired fineness, it can take up to 3 hours.

The device operates at 70 revolutions per minute as standard and this value is constant. Optionally, it can be produced with speed adjustment.

The grinding cell is 33 cm in diameter. The device can shrink the material down to a thickness of 200 microns. The standard speed of the machine is 70 revs / minute and this value is fixed. The drum assembly is designed as a closed system, taking into account human safety and has sound insulation.

When the digital sensor door is opened, the device stops automatically. System; When it reaches the entered time value, it automatically stops and ends the grinding process. Electrostatic oven painted and resistant to abrasion.

Technical Specifications

- Dimensions: 120x50x84 cm
- Radius of Drum: 33 cm
- Height of Drum: 33 cm
- Final Size of Product: 200 microns
- Speed: 70 rev/min
- Power: 380V / 50Hz

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VECTOR 56

Air Jet Alphine

Full Automic Computer Controlled

New Type Screening rubber (o-ring) allows testing without the need for a ring. Automatic vacuum screening systems are used for precise grain size control of materials from 14µm to 4mm.

It is reliable, fast, convenient, modern and ergonomically designed. Suitable for particle size analysis of all types of dry materials. Thanks to the excellent dispersion feature of the air jet in the analyzer, analyzes up to 14 microns can be made.

The vacuum flow can be adjusted manually on the vacuum unit. Alphine sieves with a diameter of 200 mm are used. Samples weighing from 0.3 to 400 grams can be analyzed easily and quickly. Fully automatic directly computer controlled, time setting and working pressure (psi) can be selected at desired times and after the selected time, the device automatically stops.

Alphine Sieves

Haver & Boecker

Screens with metal mesh or perforated metal sheet, 200 mm | 8" | 300mm | 12" | 400 mm pulley diameters are available in different mesh openings to meet all application and standard requirements. Collection containers and lids are stainless steel.

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Automatic Blaine

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

The air permeability method (Blaine) is measured by comparison with a standard quartz sand sample with a certain gr/cm² value.

It is possible to save an unlimited number of test results via the computer program. Thanks to the automatic calculation of the Porosity value of the device, it can give more precise results than the standard requires.

When the required values are entered into the computer program, the sample amount to be placed in the cell is automatically displayed on the screen. The digital temperature sensor on the system automatically calculates the Blaine fluid viscosity value.

Blaine Accessories

Calibration Sand

In packs of 100 gr.
2800 cm2/gr 4000 cm2/gr 5000 cm2/gr 6000 cm2/gr

Bulk Compression Stand

Used to prepare the Blaine test cell for testing. The sample placed in the Blaine cell is compressed evenly before testing. Changes that may occur during manual binding are eliminated by this system. It has 1-3 Bar Automatic Compression capability.

Blaine Filter

125 mm, 40,6 mm, 40,8 mm

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VECTOR 58

Cement Mortar Mixer

Full Automatic Sand Filtration System

The device has an electronic control unit. It is designed with 2 cycles as 140 and 285 RPM and complies with CEM / ISO standards.

The mixing bowl is made of stainless steel and has a capacity of 5 liters.

The mixing paddle is made of stainless steel material and is wear-resistant.

The mixing paddle rotates around its own axis and around the mixing chamber to ensure the best mixing of the cement mortar.

The electronic control unit automatically adjusts the start and stop of the device at high and low speeds (TS 24 and EN 196-1 Cement mortar preparation method). The system has a digital stopwatch.

Standards

TS EN 196-1, 196-3, 413-2, 456-2, 480-1, 1015-2
ASTM C187, C305
AASHTO T129, T131, T162

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VECTOR

Automatic Vicat

Single, 6 and 12

It is used to obtain Vicat results of different types of cements specified in the EN 197-1 standard faster. While it can perform all tests simultaneously, it also allows testing of different samples at different times.

The test procedure ends the test by performing a total of 44 penetrations at equal intervals on the surface from the outer area to the center of the Vicat ring.

At the end of each penetration, the depths of the penetration pinholes are shown in the PC program and the 44 penetration points on the template turn red in order. Penetration step times can be optionally changed between 0.5 and 999 minutes.

- Penetration precision: 0.001 mm
- Ability to save unlimited test results.
- Laptop and VECTOR-VICATRON Test Software.
- It can test in dry environment or water pool.
- According to the user's request, additional features can be added to the program.

Standards

EN 13279-2 (GYPSUM), EN 480-2, EN 196-3
ASTM C187, ASTM C191
DIN 1168, DIN 1196
NF P15-414, NF P15-431
AASHTO T131

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VECTOR 60

Cement Flow Table

With Manual and Automatic Options

Manuel

It is used to determine the consistency of cement, lime and mortar. The drip rate is adjusted by the user by turning the handwheel manually. The spreading table is supplied with a bronze spreading mold and a Ø40x200 mm bronze mallet weighing 250 gr. In the EN model, the 300 mm diameter table, a truncated cone with a basic diameter of 100 mm, the 70 mm diameter top face is made of stainless steel, and the 60 mm high die is made of bronze. In the ASTM model, the 100 mm base diameter, 70 mm top face diameter and 50 mm height table with 254 mm diameter are made of truncated cone shaped bronze.

Automatic

In motorized models, mechanical fittings and motor speed reducer are used to ensure that the flow table is within the number and time frame according to the standard. The device stops automatically when the number of drops reaches the number shown on the revolution counter. In the EN version of the flow table, the 300 mm diameter table is made of a truncated cone with a basic diameter of 100 mm, the 70 mm diameter top face is made of stainless steel, and the 60 mm high die is made of brass. In the ASTM model, the 100 mm base diameter, 70 mm top face diameter and 50 mm height table with 254 mm diameter are made of truncated cone shaped brass.

Standards

ASTM C230

TS EN 459-2, 1015-3

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61 VECTOR

Joilting Table

Isolation Cabinet Steel Tale

The Jolting Table is used to compress cement mold samples according to the RILEM - CEM method. The device is set to make 60 strokes per minute, it automatically stops when the stroke process is completed. The stroke process is provided in accordance with the standards by free fall from a height of 15 mm.

The device has a digital control unit. It can be programmed via the control unit. The control unit is placed above the isolation cabinet.

Supplied with a protective cover for protection and sound insulation in accordance with CE directives. The insulation cabinet is made of MDF material and its inner surface is covered with a special sound insulation material. It has a hinged lid system for placing the samples.

It is supplied with the shaking device platform so that the shaking device can be leveled on the platform. The platform is made of wear-resistant electrostatic painted strength steel material.

Standards

TS EN 196-1, 196-3, 413-2, 456-2, 480-1, 1015-2
ASTM C187, C305
AASHTO T129, T131, T162

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VECTOR

Prism Molds 62

Cement Shrinkage Mold

The two-hole steel mold is easily disassembled and easy to clean. The mold is made of ground steel and the assembly of the mold is very practical.

Dimensions: 25 x 25 x 250 mm with TSE 24 and EN 196-1 tolerance 25x25x285mm | 50 x 50 x 200mm. Mold Thickness: 10 mm

Three Section Cement Prism Mold

The three-hole steel mold is built in parts to easily disassemble and clean the cement prisms. Special chrome nickel plating has been applied for rust protection. The mold is made of ground steel and the assembly of the mold is very practical. The size is 40 x 40 x 160 mm with TSE 24 and EN 196-1 tolerance.

It will be given as a sealing test. The inner surface of the mold shall be at least 200 HV VICKERS hardness. Thick weight will be between 10100 GR - 10500 GR.
Mold Thickness: 10 mm

Three Section Cement Cube Mold

The three-section steel mold is built in parts for easy removal and cleaning of cement cubes. The mold is made of ground steel and the assembly of the mold is very practical. The size is 50 x 50 x 50 mm with TSE 24 and EN 196-1 tolerance. Mold Thickness: 10 mm

Spreader - Scraper Gauge

It complies with EN 166-1 Standard.

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63 VECTOR

Cement Moisture-Curing Cabinet

Full Automatic Computer Controlled 960 Prism Molds 24 Steel Molds

The humidity cabin with pool system is a conditioning system developed to perform both prism curing pools and the operations of the humidity panel together. The humidity cabin with the pool system performs all these processes as a single electronic and automatic device and saves all the information coming from the sensors to the computer as a graphical image. The height of the unit is approximately 210 cm, the depth is 150 cm, and the length is 260 cm. The system has 960 prisms and 24 steel molds. The device has double doors. The instrument cabinet and its components are made entirely of stainless steel. There are slots with 4 mm intervals to place the prism in the drawers. In this case, the condition that the prisms specified in the standard should be closer than 5 mm is met. There are 6 drawers inside the device for placing the prism.

Each drawer is independent of each other to group samples with individual characteristics. There is a rested water tank inside the device. The system has the heating and cooling system controlled by the electronic control unit and the temperature inside the cabin is kept at ± 1 at 20 degrees.

The sprinkler component in the system has a structure that can control the relative humidity in the range of 60% to 98%.

There is a high precision temperature sensor in the sprinkler system tank and this sensor sends the instantaneous temperature changes to the computer software. The water returning from the sprinkler is sent to the main tank for reuse, preventing excess water consumption. There is a sensor on the device that measures the humidity and temperature of the room where the device is located, and an electronic control system that reads them digitally and sends them to the computer. There is an electronic system in the system that measures the humidity / temperature values in the cabinet and drawer and sends the read values to the computer. You can print the reports and graphics saved by the software or save this information to memory. The air in the device is homogenized by the automatic fan system. Curing water can be renewed with a practical system.

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VECTOR 64

Climatic Chamber

120 Lt, 250Lt, 400Lt, 600Lt

VTR Test Cabinets are produced to simulate real climatic conditions by controlling temperature, humidity, day and night light cycles. The temperature and humidity control range of VTR Test Cabinets allows many tests to be performed in different industries. In addition, stability, artificial aging, storage and shelf life tests can also be done easily. The perfect design of the device enables VTR series devices to be used in many industries.

In order to ensure maximum durability and reliability, the most accurate materials are used in the interior and exterior construction. The cell is made of stainless steel and the outer body is made of epoxy painted galvanized steel so that it will not be affected by high humidity.

Lamps of sufficient power, protected by heat and moisture resistant glass inside the door, provide daylight to the samples. The glass metal door allows the samples to be observed without affecting the humidity and temperature values working inside the cell. Considering the cold and hot test temperatures, insulation is of great importance for the efficiency of the product. The insulation of the VTR Test Cabinet devices is provided by injected high-density polyurethane.

Technical Specifications

- Dimensions: 90x60x195, 50x60x195
- Electrostatic Epoxy Powder Paint
- Locked Door System
- Cabinet Ventilation Panels
- Sealed Gasket System
- Optional Acrylic Glass Door
- Sealed Rail System

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65 VECTOR

Cement Compression Testing Device

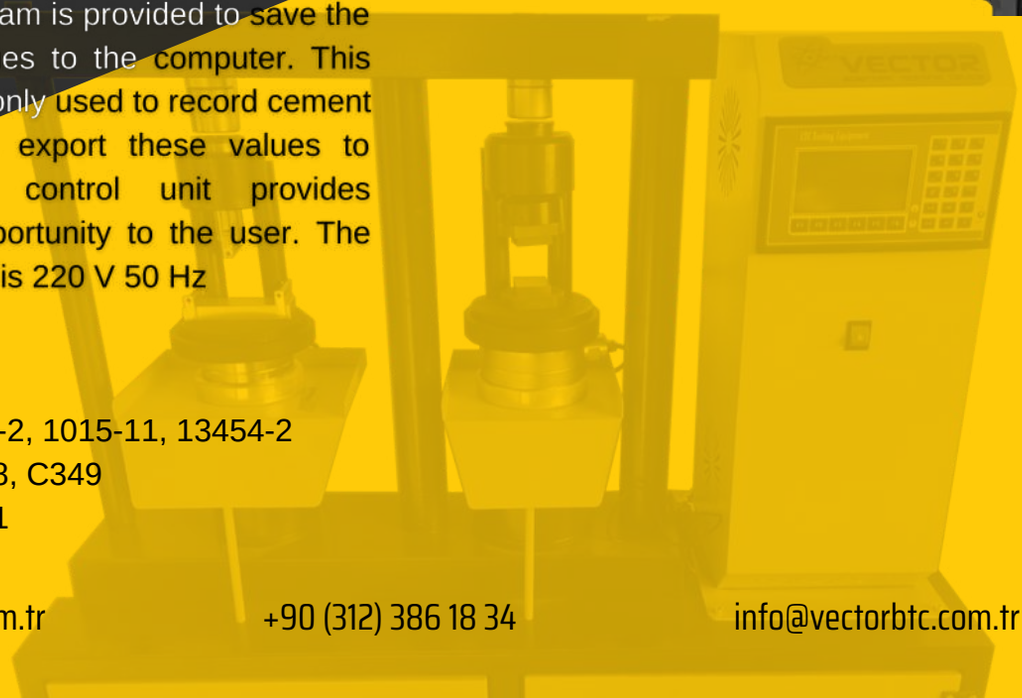
Full Automatic 20/200 kN

The device has a fully automatic digitally controlled speed regulation system (servo hydraulic system). The device automatically adjusts the desired crushing speed in EN 196 and ASTM standards. The device can be set to crushing speeds of EN 196 2400±200 N/sec and ASTM speed 900-1800 N/sec.

The device has a touch screen with an easy-to-use English interface. Device settings can be easily entered from the touch screen and easy and clear calibration can be made thanks to the calibration menu.

The test process on the device is started with a single button. All necessary values such as speed, Fmax, N/mm² can be monitored instantly on the device screen. 1 crushing head is supplied with the device.

The device has an RS 232 serial port output and can be connected to a computer from here. A computer is provided with the device in a configuration suitable for the current technology. A free computer program is provided to save the cement crushing values to the computer. This recording program is only used to record cement crushing values and export these values to Excel. Desk type control unit provides ergonomic usage opportunity to the user. The device supply voltage is 220 V 50 Hz



Standards

TS EN 196-1, 459-2, 1015-11, 13454-2
ASTM C109, C348, C349
BS 3892-1, 4551-1

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VECTOR 66

Pellet Press

Full Automatic Tablet Press Touch-Screen Controlled

The hydraulic tablet press with touch control screen is suitable for producing pellet samples for XRF, IR and other analytical techniques.

It can be adjusted to different pressures up to 400 kN in the desired time interval and ensures the preparation of a completely smooth pellet sample. The typical pressing cycle is less than two minutes. Fully automatic, programmable system. It has security lock and automatic pump shut-off valve.

Technical Specifications

- The hydraulic unit of the system can be set to the desired time and load values and started via the touch screen.
- Easy-to-use options can be created by entering the desired waiting times and load amounts into the 10 set options on the touch screen.
- After the sample is filled into the sample ring inside the load cell of the system, it is started on the screen.
- After the system reaches the determined load value, the desired waiting time is activated and when the time expires, the loading piston automatically goes down.
- It is suitable for producing pellet samples for XRF, IR and other analytical techniques.
- The typical pressing cycle is less than two minutes.
- There is a safety lock and an automatic pump shut-off safety valve.
- The device works with 220 V 50 Hz.

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67 VECTOR

Manuel Vicat

EN 196-3, 480-2 | ASTM C187, C191 | AASHTO T129, T131

It is used to determine the setting and consistency time of cement. It determines the starting-finish and consistency of cement in accordance with EN 196-3 standard.

The movable arm is used in a fixed holder mounted on the arm plate. Suitable for connecting different types of ends. (Start needle, End needle, Test stick).

Place the necessary additional weights on top. Adjustable ruler is used to set zero with zero adjustment. 0 - 50 mm scale Vicat Apparatus is supplied as a complex set, 70-60 x 40 mm glass plate, Vicat Needle Set, Glass Thermometer / 0 °C - 50 °C, 10 mm diameter, Vicat Mold / in accordance with EN Standard.

Manuel Blaine

TS EN 196-6, ASTM C204, AASHTO T153

It is used to determine the grain fineness of powder-sized materials such as Portland cement, lime, etc. as a specific surface.

Blaine Air Permeability Device is supplied with: U manometer tube, Manometer fluid, 250 ml Test stand, Rubber ball.

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VECTOR

Le Chatelier Water Bath

6 Lt, 15 Lt, 30 Lt, 48 Lt

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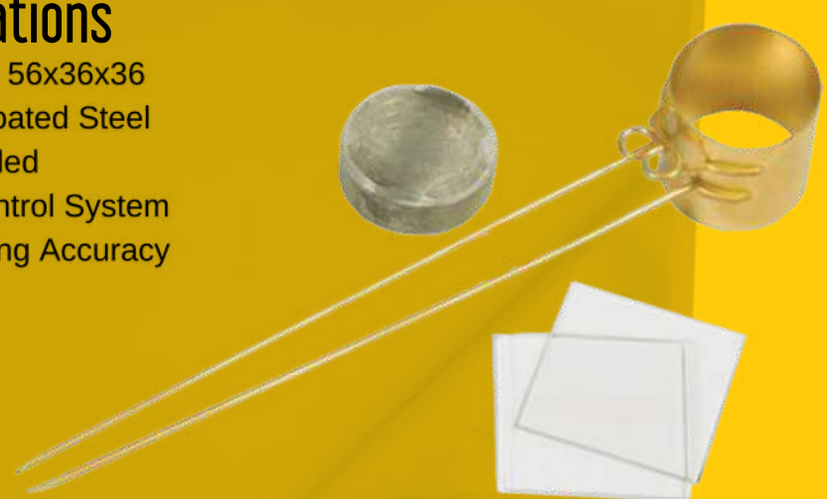
VTR Series water bath provide excellent temperature sensitivity and distribution compared to devices in this class, with programmable microprocessor control systems hidden under their simple exterior designs and triple insulation.

The devices have a digital display to monitor time and temperature settings. The water in the tank can be easily drained with an easy-to-use drain hose.

VTR Series Water Bath designed for use in many general and special applications in microbiology, research and industrial laboratories. It provides the best liquid temperature control for homogeneous heat distribution and constant temperature.

Technical Specifications

- Dimensions: 58x68x40, 56x36x36
- Electrostatic Powder Coated Steel
- Microprocessor Controlled
- 0.1 °C Temperature Control System
- 0.2 Temperature Reading Accuracy



Le Chatelier Mold

Le Chatelier molds used with Le Chatelier Water Bath to measure the expansion volume change of fly ash and lime used in cement, concrete.

Made of chrome plated brass material. The glass plate is supplied by the weight of the experiment.

EN

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69 VECTOR

Muffle Furnace

4 - 7 - 12 -24 - 36 Lt

Vector Muffle Furnaces are used in metalworking, ceramics, food, jewellery, etc. They are general purpose tools used in many industries. It is designed for cement, lime, gypsum, mining, etc. industries and has been specially developed for laboratory tests.

Many experiments and processes performed in the laboratory require extremely high temperatures. For this reason, high temperature muffle furnaces are an important part of the laboratory. It provides the necessary conditions for ashing, quality control, melting, preheating and heat treatment processes.

Technical Specifications

- Capacity: 4 - 7 - 12 - 24 - 36 Lt
- Maximum Operating Temperatures: 1100 - 1200 - 1300 - 1600 - 1700 °C

Etuv Oven

Sterilizer

The Laboratory Oven is equipped with a microprocessor-controlled digital unit to meet the needs of the actual temperature values at the desired set temperatures.

Easily cleaned electrostatic painted outer body, complex stainless steel inner chamber.

Oven shelves made of stainless steel can be easily installed and the height of the shelves can be adjusted.

- Operating temperature value: 300 °C
- Sensor reading resolution: 0.1 °C
- Special production is made in desired sizes.
- 50 - 120 - 250 - 750 - 1000 liters.

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VECTOR 70

Hot Plate

40x40 CM

The hot plate, which is a basic laboratory device, is offered by our company in two different sizes to the laboratories of textile, medicine, food, medicine, chemistry and similar sectors.

The devices are used in laboratories to heat or boil liquids in containers at different temperatures from +10 °C to 300 °C. The temperature control of the device is performed with an analog thermostat or optionally with a digital thermostat.

The heating plate of the devices is made of Teflon coated cast iron plate that is resistant to heat treatment in order to ensure that the heat is faster and more homogeneous. In order to provide homogeneous heat in a short time, the resistances are inside the heater plate block. The reflector located under the resistances prevents the heat from passing to the lower section. The device provides convenience to the user with its four-foot contact and laboratory benchtop use.

Technical Specifications

- Dimensions: 40x40
- Teflon Coating on Cast Iron.
- Electrostatic Powder Coated Steel.
- Gas Expansion Thermostat.
- +10 °C / +300 °C Operating Range.
- 1 °C Temperature Reading Accuracy.

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VECTOR

Sand Bath

The sand bath used in laboratories can operate at different temperatures between 50 and 300 °C.

The temperature control of the device is carried out with an analog thermostat or optionally with a digital thermostat. The heating table of the device is made of aluminum with heat treatment power to make the heat faster and homogeneous.

In order to provide homogeneous heat in a short time, the resistances are inside the heater plate block. The reflector located under the heating elements prevents the heat from passing to the lower part.

The device is suitable for use on heating table, sand etc. Stainless steel tray for using materials.

The device provides convenience to the user with its four-foot contact and laboratory benchtop use.

Technical Specifications

- Dimensions: 40x40
- Analogue Thermostat
- Digital Thermostat
- +10 °C / + 350 °C Operating Temperature
- 5 °C Temperature Accuracy.
- Casting Sandblasting Board.
- Electrostatic Powder Coated Steel.

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VECTOR

Fume Hood 72

Fume hoods, which form the basis of modern laboratories, are used for performing sensitive tests, but can also be used for the removal of potentially dangerous aerosols.

Fume hoods are devices that have an evacuation system that can remove gases such as acid vapor, heat process aroma, which are formed during operation, and throw the harmful air in the working environment to the outside.

Technical Specifications

- Production in special sizes and different features.
- Panel-controlled gas, flammable gas and water fittings for use in the aspiration cabinet can be placed according to the user's request.
- Automatic opening and closing windshield.
- Material cabinet that can be used with the device.

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73 VECTOR

Water Distiller

4 - 7 - 12 -24 - 36 Lt

Water Distillers are widely used in many laboratories in different sectors, many workplaces and workshops that need distilled pure wtaer such as hospitals, dialysis centers, medical, chemistry and cosmetics.

All surfaces in contact with water and steam are made of stainless material. It is protected against empty boiling pot and water interruption. It provides high efficiency at low water pressure. Can be used on desktop or wall mounted.

Distilled water device is a water purification device used in laboratory applications to produce pure water. Distillation is one of the water purification methods and is carried out with a distilled water device. The general working principle of distilled water devices is based on boiling and condensing the water coming into the product with a certain flow rate, then distilling it into pure water.

Technical Specifications

- Dimensions: 36x36x57, 40x55x58
- Extreme Temperature Protection
- Electrostatic Powder Coated Steel
- 2.3 µU-cm water conductivity
- 3 kW, 6 kW, 9kW

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VECTOR 74

Chemical Storage Cabinet

ven if the chemicals and solvents in the laboratory are in closed containers, they release toxic gases over time. This has very harmful consequences for users. In terms of laboratory standards and occupational safety, such chemicals should be stored in special cabinets. It plays an important role in applications in chemicals and microbiological laboratories

Chemical risk can be reduced by minimizing the amount of chemicals used in applications. On the other hand, with the proper storage and use of stored chemicals, the chemical risk is greatly reduced.

Standard storage specifications require determination of combustion control, temperature, ventilation, segregation, and labeling. While storing harmful chemicals, it minimizes the risks of flammable, toxic or polluting the environment of each chemical. Chemical storage safety warehouses provide an effective solution for working with harmful chemicals in laboratories and workshops.

Technical Specifications

- Dimensions: 90x60x195, 50x60x195
- Electrostatic Epoxy Powder Paint
- Locked Door System
- Cabinet Ventilation Panels
- Sealed Gasket System
- Optional Acrylic Glass Door
- Sealed Rail System

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CERTIFICATES

- Certification Standard : ISO 9001:2015 Quality Management System
- TS EN ISO 14001:2015 Environmental Management System
- TS EN ISO 45001:2015 Occupational Health and Safety Management
- OHSAS 18001 - Occupational Health & Safety
- ISO/IEC 17025:2017 - General Requirements for the Competence of Testing and Calibration Laboratories / At the application stage
- ISO 10002:2014 Quality management - Customer Satisfaction Standard / At the application stage

- Product Description : Electromechanical Tensile-Compression-Bending Test Systems (1-500 Tons)
  Related Directives : 2006/42/EC Machinery Directive Regulations Annex VIII
  Related Standards : EN ISO 12100, EN ISO 13849-1, EN ISO 4413, EN 953+A1

- Product Description : Hydraulic Tensile Test Systems (1-300 Tons)
  Related Directives : 2006/42/EC Machinery Directive Regulations Annex VIII
  Related Standards : EN ISO 12100, EN ISO 13849-1, EN ISO 4413, EN 953+A1

- Product Description : Hydraulic Press (1-500 Tons)
  Related Directives : 2006/42/EC Machinery Directive Regulations Annex VIII
  Related Standards : EN ISO 12100, EN ISO 13849-1, EN ISO 4413, EN 953+A1

- Product Description : Charpy & Izod Impact (Pendulum) Device (20 Joule - 800 Joule)
  Related Directives : 2006/42/EC Machinery Directive Regulations Annex VIII
  Related Standards : EN ISO 12100, EN ISO 13849-1, EN ISO 4413, EN 953+A1

- Product Description : Virus Cleaning Cabinet
  Related Directives : 93/42/EU Medical Device Regulatiins
  2014/35/EU EMC Directive Regulations
  2014/30/EU LVD Regulations, 2006/42/EC Machinery Directive
  Related Standards : EN ISO 14791, EN 61010-1, EN 61010-2, EN 61326-1, EN 60204-1

VECTOR
SCIENTIFIC TESTING DEVICES

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Czech Republic	Holland	Latvia
Denmark	Ireland	Lithuania
Luxembourg	Slovakia	Uzbekistan
Hungary	Slovenia	Azerbaijan
Malta	Greece	India
Poland	Albania	England
Portugal	Russia	Mexican
Romania	Egypt	USA

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