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**HUST**  
YOUR TECHNICAL PARTNER

## HUST VIETNAM TECHNICAL EQUIPMENT JSC

**YOUR TECHNICAL PARTNER**

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**ABOUT US**

Company name : **HUST Vietnam Technical Equipment JSC**  
 Short name : **HUST Vietnam**  
 Reg address : **No.75, Mai Anh Tuan Str., Group 58, Thanh Cong Ward, Ba Dinh Dist., Hanoi**  
 Hanoi office : **Floor 3+4, Z2-20 LePARC Commercial center, Yen So Ward, Hoang Mai Dist., Hanoi**  
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Formed from a group of high-tech enthusiasts in 2014, HUST Vietnam Technical Equipment JSC (HUST Vietnam) has a mission to be the Supplier of scientific, testing & measuring equipment, package solutions for production and product quality control in the fields of electricity - electronics, motor vehicles, energy, metallurgy, ...

Starting modestly in a small office in Linh Dam Urban Area, by the beginning of 2020 HUST Vietnam has grown strongly with a modern office of nearly 300m2 at two head of the economic city of Vietnam - Hanoi Capital and Ho Chi Minh City.

We are proud to see the products we offer are widely available on every smartphone to expensive cars. From traditional industries such as metallurgical mining to industries of the 4.0 industry era such as IoT devices and the renewable energy industry. The technical team of HUST Vietnam constantly researches and finds out the most advanced and suitable solutions for customers, currently, we are focusing on the following product lines:

- DELO Industrial Adhesives
- Environmental Test Chamber
- Universal testing machine
- Analytical Equipment
- Precision Measuring Machines
- Reliability Testing Machines
- Samples Preparing Machines,...

**QUALITY POLICY**

HUST Vietnam aims to be the leading company in the field of providing solutions and technology equipment. Our commitment:

1. Only trading in high-quality products
2. Provide turn-key solutions for customers from selection consultancy, equipment supply, technology transfer training, and after-sales services.
3. Responsible to the end for quality, resolving all complaints about quality and service.
4. Building sustainable relationships with suppliers and customers based on quality, reputation, and stability.
5. Always pioneering in bringing new high-quality products to the market.
6. Compliance with the laws of Vietnam and other countries the Company has business relations.
7. Regularly improving processes, quality management systems, and social responsibility, meeting market development requirements in each period.

This policy is widely disseminated to all employees in the company, customers, suppliers, and stakeholders.



## STRATEGIC PARTNER

HUST Vietnam is constantly looking for and signing long-term cooperation agreements with reputable partners in the world, manufacturers of high-tech chemicals, analytical equipment, reliability testing machines, precision measuring machines. Trust each other, cooperate for mutual benefits and bring the best value to end-customers are our operating motto.



## OUR CUSTOMERS

Customers in the electronics sector are key of HUST Vietnam and It can be said that most of the major electronics companies are using at least one product supplied by HUST.



### Automotive and aerospace



### Mechanical and metallurgical



### Testing Centers



**Salt Water Spray Tester:** is used for testing parts rust-proof ability that had been through surface treatment such as electroplating, coating, anodizing, etc.  
+ Standards: **JIS Z 2371, ASTM B 117, DIN 50021, KS D9502, ISO 9227,...**  
+ Salt spray: **NSS, AASS, CASS.**  
+ Model: **VT-ST 100/200/300/400**  
+ Manufacturer: **VISION TEC - Korea**

Specification				
Model	<b>VT-ST 100</b>	<b>VT-ST 200</b>	<b>VT-ST 300</b>	<b>VT-ST 400</b>
Dimension (mm)	600x450x450	900x600x600	800x800x600	1500x800x600
Spray volume	1.5 ± 0.5ml / 80cm <sup>2</sup> / h			
Material	Inner: PVC, PP		Outer: SUS304	
Power supply	220V 1 phase or 380V 3 phase 50/60Hz			
Other specification can be made to order				

**Salt Water Spray Tester**



**Thermal Shock Test Chamber**

**Thermal Shock Test Chamber** is used to subject the sample to severe shocks through the sudden and repeated passage from a high temperature to a low-temperature area.  
+ Model: **VT-TSC (100200)**  
+ Manufacturer: **VISION TEC - Korea**

Specification	
Model	<b>VT-TSC 100/200</b>
Type	2 zone or 3 zone
Basket dimension (mm)	300 x 300 x 300 or 500 x 500 x 500
Temperature range	-40°C ~ +120°C or -50°C ~ +150°C
Temp up/down time	-40°C ~ +120°C/5 min or -50°C ~ +150°C/ 5 min
Power supply	220V 1 phase or 380V 3 phase 50/60Hz
Other specification can be made to order	



**Temperature-Humidity Test Chamber**

**Temperature-Humidity Test Chambers** (also known as climatic or climate test chambers) simulate the effects that a range of temperature and humidity conditions have on a product or material, for example, telecommunications equipment or photovoltaic solar panels...  
+ Model: **VT-THC (100/200)**  
+ Manufacturer: **VISION TEC - Korea**

Specification			
Model	<b>VT-THC 100/200</b>		
Kiểu	<b>A</b>	<b>B</b>	<b>C</b>
Basket dimension (mm)	500 x 500 x 600	800 x 600 x 800	800 x 1000 x 1000
Temperature range	-20°C ~ +100°C or -40°C ~ +120°C (option -50°C ~ +150°C)		
Humidity range	30% ~ 98% RH or 20% ~ 98% RH		
Cooling type	Air cooled or Water cooled		
Power supply	220V 1 phase or 380V 3 phase 50/60Hz		
Other specification can be made to order			



**Cyclic Corrosion Test Chamber (CCT)**

**Cyclic Corrosion Test Chamber (CCT):** is designed to deliver the precise environmental test conditions demanded by modern industry. These tests are cyclic in nature, meaning that the test specimens are exposed to changing climates over time. Test specimens are placed in a test chamber and exposed to essentially four types of climates: temperature, humidity, salt spray, dry.  
+ Standards: **ASTM B117, ASTM Bg85, ISO 227, IEC60068-2-52, IEC61701-2, ISO7253**  
+ Model: **CCT (100/200)**  
+ Manufacturer: **VISION TEC - Hàn Quốc**

Specification		
Model	<b>CCT-100</b>	<b>CCT-200</b>
Testing condition	RT ~ 80°C & 30 ~ 98% RH	
Salt spray	NSS, AASS, CASS	
Spray volume	1.5 ± 0.5ml / 80cm <sup>2</sup> / h (in 24h)	
Dimension (WxDxH mm)	Inner: 900x600x600	1200x800x600
	Outer: 1900x1390x1770	2200x1600x1900
Material	In: SUS316 (Teflon coating)	
Power supply	AC 220V 3Ø 9KW	AC 220V 3Ø 15KW



**Walk-in Chamber**

**Walk-in Chamber:** is a climate test room that we can go inside to install the test products. The room can be exposed to different environments such as hot, cold, dry, and humid in a short or long time. Walk-in Chamber simulates the effects that a range of temperature and humidity conditions have on a product or material, for example, telecommunications equipment or photovoltaic solar panels that are exposed to outdoor temperature and humidity conditions. Walk-in chamber comes in a variety of sizes (from 8m<sup>3</sup> to 50m<sup>3</sup>)  
+ Model: **THC (20 / 30 / 40 / 50)**  
+ Manufacturer: **VISION TEC - Korea**



Specification				
Model	<b>THC-20</b>	<b>THC-30</b>	<b>THC-40</b>	<b>THC-50</b>
Temp & Humid range	-40°C ~ +80°C & 30% ~ 95% RH			
Temp & Humid Accurate	±1.0°C & ±3.0% RH			
Dimension (WxDxH mm)	Inner: 2000x2000x2000	3000x3000x2000	4000x4000x2000	5000x5000x2000
	Outer: 2200x2700x2600	3200x3700x2600	4200x4700x2600	5200x5700x2600
Material	In: SUS304		Out: Urethane Panel	
Power supply	380V 3Ø 50Kw(80A)	380V 3Ø 90Kw(135A)	380V 3Ø 166Kw (250A)	380V 3Ø 225Kw(350A)
Other specification can be made to order				

**Drying oven**

**Drying oven:** are heated chambers used for a variety of industrial applications, including chemical processing, food production, and even in the electronics industry.  
+ Model: **VT-DO (100/200/400)**  
+ Manufacturer: **VISION TEC - Korea**



Specification			
Model	<b>VT-DO 100</b>	<b>VT-DO 200</b>	<b>VT-DO 400</b>
Dimension (mm)	800x800x600 (1 room)	800x800x1350 (1 room)	2240x1800x2200 (2 room)
Temp. range	RT ~ 250°C (option RT ~ 350°C)		
Power supply	220V 1 phase or 380V 3 phase 50/60Hz		
Other specification can be made to order			

**Dust Tester Chamber:** is designed to test a wide range of materials including films, textiles, leather, printing, paints, ink, automotive parts, aviation industries, cell phone, electronic parts and components and etc. in testing the materials dustproof capability and functionalities.

Negative pressure: Differential pressure 2kpa  
+ Test Applicable: **IEC 60529, JIS D0207, CNS 7139**  
+ Test Conditions: **IP5X, IP6X, F1, F2, F3**  
+ Model: **TMJ-9723F/C**  
+ Manufacturer: **T-Machine - Taiwan**

Specification	
Dimension (mm)	900 x 900 x 900 or 1000 x 1000 x 1000
Dust Concentration	100 mg/m <sup>3</sup> , 3000 mg/m <sup>3</sup> , 5000 mg/m <sup>3</sup> ...
Max Air Flow	1~10 m/s
Power supply	220 V 1Φ, 50/60Hz
Other specification can be made to order	

### Dust Tester Chamber



**Water test chamber:** is produced according to IP code protection class. It can be produced from IP X 1 ~ IP X 9K combination or according to the customer's product feature level. The scope of testing includes everything from electronic motors, defense industries, vehicle industries, outdoor lighting,...

+ Test Applicable: **IEC 60529, ISO 9865, JIS D 0203, DIN40050...**  
+ Test Conditions: **IP X1, X2, X3, X4, X5, X6~X9, X4K, X6K, X9K**  
+ Model: **TMJ-9710C**  
+ Manufacturer: **T-Machine - Taiwan**

Specification	
Dimension (mm)	1300 x 1200 x 1860
Bán kính ống đảo động (IPX3, IPX4) (mm)	200 ~ 1000
Platform Rotating Speed (RPM)	0~17 (Adjustable)
Power supply	220V 1Φ or 380V 3Φ, 50/60Hz
Other specification can be made to order	

### Water Test Chamber



**Low-Pressure Chamber:** is often used to test cars in the high-altitude environment conditions and to test computers, electronic components, and packaging that may require air transportation.

+ Model: **TMJ-9714**  
+ Manufacturer: **T-Machine - Taiwan**

Specification	
Dimension (mm)	500 x 500 x 500
Temperature range	-40°C ~ +100°C
Altitude Range	Atmospheric Pressure ~100000 ft
Pressure Range	1030 mbar ~ 27 mbar
Power supply	380V 3Φ, 50/60Hz
Other specification can be made to order	

### Low-Pressure Chamber



**Car Lamp Condensation Tester:** The right area is the back of the lighting fixture (engine room). This area tests high and low-temperature cycles and constant temperature and humidity. The left area is the lens mounting surface (outside vehicle components). This area tests cold water, rainfall, constant temperature and humidity, wind speed, and light. Both the left and right areas can be operated separately in temperature and humidity conditions.

+ Model: **TMJ-9812**  
+ Manufacturer: **T-Machine - Taiwan**

Specification	
Dimension (mm)	1000 x 1000 x 1000
Temperature range	-40°C ~ +150°C
Humidity range	10% ~ 98% RH
Lighting System (Left Area)	Spectral Range: 280~3000 nm, Irradiation Intensity: 800 ~ 1200 W/m <sup>2</sup>
Water Flow Control	Water Flow: 1.8~39.2 L/min
Power supply	380V 3Φ, 50/60Hz
Other specification can be made to order	

### Car Lamp Condensation Tester



**UV BOX:** simulates the effects of sunlight with ultraviolet rays using UV fluorescent lamps and also reproduces dew and rain using moisture condensation and water spray

+ Standards: **ASTM D4329, D4587, D4799, D5208, G154, G151 ISO 4892-3, 11507, 11895, 11997-2 EN 927-6, 1297, 12224, 13523-10, 1898, pr 1062-4 SAE J2020**  
+ UV fluorescent lamps **UVA-340** and **UVB-313**  
+ Manufacturer: **CO.FO.ME.GRA. - Italia**

Specification	
Dimension (mm)	1300 x 700 x 1500
Irradiance	min 0.35 W/m <sup>2</sup> (UVA, UVB) max 1.55 W/m <sup>2</sup> (UVA) - 1.23 W/m <sup>2</sup> (UVB)
Power supply	230 Vac ±10%, 50/60 Hz

### UV BOX



**SOLAR BOX** offers constant measurement and control of irradiance during every test, compensating for lamp and UV filter ageing via a closed-loop irradiance narrow-band sensor control system.

+ Testing for industries: **Rubber, plastic, printing ink, textiles, automobiles, motorbikes, plating, pharmaceuticals, adhesives, packaging ...**  
+ Manufacturer: **CO.FO.ME.GRA. - Italia**

Specification		
SOLARBOX MODEL	<b>1500</b>	<b>3000</b>
Lamp capacity (W)	1500	2500
Dimension (WxD mm)	280 x 200	420 x 200
Irradiance	250 - 1100 W/m <sup>2</sup> (290 - 800 nm)	
Power supply	230 Vac ±10%, 50/60 Hz	

### SOLAR BOX



**HAST (Highly Accelerated Stress Test):** pressurized humidity test systems, offer a fast and cost-effective alternative to conventional Damp-Heat 85/85 temperature and humidity testing for plastic encapsulated integrated circuits and other microelectronic devices. Technology leaders in the semiconductor industry have calculated that HAST testing is 10-40 times faster than conventional testing methods. This highly accelerated testing leads to faster characterization, evaluation, and qualification of increasingly complex microelectronic products.

All our HAST systems are ASME rated to 4 ATM's allowing high-temperature testing at 85% relative humidity. The maximum temperature at 85%RH is 150°C. Many characterization processes require high-temperature HAST testing which can be achieved.

+ Standards: **IEC 60068-2-66, JESD22-A102E, JESD22-A110E,...**  
+ Manufacturer: **TRIO-TECH - USA**

Specification			
Model	<b>HAST-1000X</b>	<b>HAST-6000X</b>	<b>HAST-9000X</b>
Temp range	50°C ~ 150°C		
Humi range	50% ~ 100% RH		
Max Pressure	2.1bar / 30.5psi / 2.1kg/cm <sup>2</sup>	56PSIG / 4KG / cm <sup>3</sup> G	
Test Chamber Dimensions	Ø445 x 615mm	Ø600 x 600mm	Ø812 x 1270mm
Power supply	240V, 1phase 30A	240V, 1phase 40A	240V, 1phase 60A

### HAST (Highly Accelerated Stress Test)



**CO.FO.ME.GRA.**

**T-MACHINE**  
Technology Co., Ltd.

**TRIO-TECH**  
INTERNATIONAL

**Optical emission spectrometer (OES)**

Manufacturer: **G.N.R - Italia**

**Applications:**

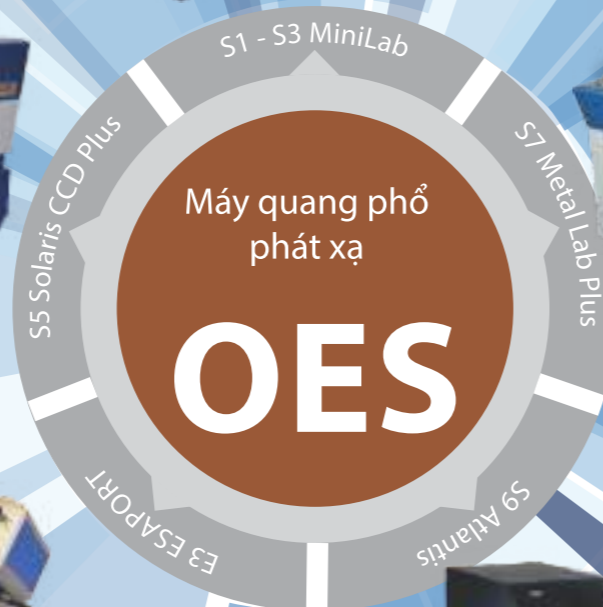
- ✓ Chemical composition analysis of alloys in 10 bases: Fe, Cu, Al, Zn, Ni, Sn, Co, Ti, Pb, Mg
- ✓ Analyzing N in Low alloy steel & Stainless steel.
- ✓ Analyzing Na, Li in Aluminum alloy.
- ✓ Analyzing O in Copper alloy.
- ✓ Used in metallurgy, materials research, ...

Specification		
Model	S1 MiniLab 150	S3 MiniLab 300
Wavelength	170 - 460 nm	130 - 700 nm
Detector	Max 4 CMOS	Max 8 CMOS
Focal length	150 mm	300 mm
Analytical capabilities	10 bases	10 base, N in Steel & Na, Li in Al alloy
Optical chamber	Argon purged 99,999%	
Dimension (WxDxH)	500 x 590 x 310 mm	530 x 830 x 460 mm
Weight	35 kg	70 kg

Specification		
Model	S5 SCP	S7 MLP
Wavelength	130 - 900 nm	
Detector	Max 16 CMOS	
Focal length	500 mm	
Analytical capabilities	10 base, very low content of N in Steel & Na, Li in Al alloy. Very low LOD	
Optical chamber	Vacuum	
Mobile arm option	No	Yes
Dimension (WxDxH)	360 x 600 x 620 mm	930 x 940 x 1010 mm
Weight	100kg	160kg

Specification	
Model	E3 ESAPORT
Wavelength	170 - 460 nm
Detector	Max 4 CMOS
Focal length	150 mm
Analytical capabilities	5 bases: Fe, Cu, Al, Ni, Ti
Optical chamber	Argon purged 99,999%
Dimension (WxDxH)	600 x 290 x 510 mm
Weight	23 kg

Specification	
Model	S9 Atlantis
Wavelength	120 - 800 nm
Detector	PMT or CMOS or combine both kind of these detectors (HYBRID)
Focal length	750 mm
Analytical capabilities	10 bases, grant the highest sensibility for trace elements analysis such as N, O, P, B
Optical chamber	Vacuum with turbo-molecular pump
Dimension (WxDxH)	600 x 1300 x 1200 mm
Weight	250 kg



**X-Ray Diffractometer (XRD)**

Manufacturer: **G.N.R - Italia**

**Applications:**

- ✓ Routine Crystalline phase identification and quantification.
- ✓ Crystallite size - lattice strain and crystallinity calculation.
  - ✓ Polymorph screening and crystal structure analysis.
- ✓ Residual Stress and Retained Austenite Quantification.
- ✓ Thin Films, Depth Profiling, and non-ambient analysis.
- ✓ Phase Transition monitoring, texture, and preferred orientations.

**Benchtop X-Ray Diffractometer EUROPE**

Goniometer	Theta - Theta
Measuring circle radius	160 mm
Scanning angular range	- 5° < 2-Theta < + 160°
Angular accuracy / Angular resolution	Better ±0,02° / < 0,04°
Max out put of Power/Voltage/Current	600W/40kV/15mA
X-ray tube	Glass (or Ceramic); Anode Cu or Co, Fe, Cr, Mo, W, Ag
Focus	0.4x8 mm FF (Fine Focus)
Detector	Scintillation counter/Dectris 1D multi strip/ Silicon Drift Detectors (SDD)
Dimension (WxDxH); Weight	600 x 500 x 750 mm, 130 kg



**High Resolution Laboratory X-Ray Diffractometer EXPLORE**

Goniometer	Theta - Theta
Measuring circle radius	From 400 to 600 mm
Scanning angular range/Smallest stepsize	- 110° < 2-Theta < + 168°/0.0001°
Angular accuracy	Better ±0,01°
Max out put of Power/Voltage/Current	4kW/60kV/80mA
X-ray tube	Glass (or Ceramic); Anode Cu or Co, Fe, Cr, Mo, W, Ag
Focus	0.4x12 mm LFF (Long Fine Focus)
Detector	Scintillation counter/Dectris 1D multi strip/ Silicon Drift Detectors (SDD)
Dimension (WxDxH); Weight	1427 x 1080 x 1976 mm, 605 kg



Model	AreX	StressX
Application	Quantitative determination of retained austenite content in heat-treated steels according to ASTM E 975-03 Standard	Detection of Residual Stress according to EN UNI 15305 and ASTM 915 Standard
Max out put of Power/Voltage/Current	3kW/60kV/80mA	300W/30kV/10mA
X-ray tube	Glass Mo anode	Ceramic Cr anode
Focus	0.4 x 8 mm FF	
Collimator	1 mm	0,5; 1; 2 mm
Scanning angular / Accuracy	22° < 2Theta < 44° / ± 0.001°	10° or 22° / ± 0.001°
Sample holder	110 mm x 150 mm	
Detector	Microstrip solid state	
Dimension (WxDxH)	658 x 1059 x 762 mm	



### Benchtop X-ray fluorescence analyzer

+ Manufacturer: **Elvatech - Ukraine**

#### Application:

- ✓ Alloy analysis, Positive Material Identification
- ✓ Analyzing hazardous substances according to standard RoHS, ELV, WEEE
- ✓ Mining and Exploration, Cement, Soil and sediment, Clays and Oxide, ...



Model	ElvaX Basic	ElvaX Plus	ElvaX Pro
X-ray generator	40 kV, 200 uA, 4 W	50 kV, 200 uA, 5 W	60 kV, 1000 uA, 12 W
Primary filter	Fixed	Auto 5-position changer	
Collimator	Fixed	Fixed	Auto 5-position changer
Detector	Pin-diode or SDD	Large area Fast SDD	Extra large area Fast SDD
Elemental range	Cl - U (S-U)	Na - U	Na - U (O - U)
CCD camera	Yes	Yes	Yes
Sample changer	No	Auto 16-position (option)	Auto 16-position changer
Helium purge	No	Yes	Yes

**Specification**

### XRF analyzers for specialized applications

+ Manufacturer: **Elvatech - Ukraine**



Model	ElvaX RoHS	ElvaX Jewelry Lab	ElvaX S Lab
Applications	Analyzing hazardous substances according to standard RoHS, ELV, WEEE: Cd, Pb, Hg, Cr, Br	High-accuracy analysis of jewelry and precious metals (Au, Ag, Pt, ...)	Analysis of Sulfur in Oil from 2 ppm to 5% according to ASTM D4294 and ISO 8754
X-ray generator	50 kV, 200 uA, 5 W	40 kV, 200 uA, 4 W	40 kV, 200 uA, 4W
Primary filter	Auto 5-position changer	Auto 5-position changer	Single
Collimator	Auto 5-position changer	Auto 5-position changer	Single
Detector	Fast SDD or Pin-Diode	Fast SDD or Pin-Diode	Fast SDD
Elemental range	Cl - U	Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Hf, W, Ta, Re, Pb, Ag, Sn, Bi, Au, Pt, Pd, & Sb	Mg - Mo
CCD camera	Yes	Yes	No
Li-ion Battery	Yes	Yes	No

**Specification**

## Elvatech

### Handheld X-ray fluorescence spectrometer

+ Manufacturer: **Elvatech - Ukraine**

#### Applications:

- ✓ Positive Material Identification, alloy analysis. Up to 25 elements: Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Hf, W, Ta, Re, Pb, Ag, Sn, Bi, Au, Pt, Pd, & Sb
- ✓ Scrap sorting
- ✓ Analyzing hazardous substances according to standard RoHS, ELV, WEEE
- ✓ Coating thickness analysis
- ✓ Mining and Exploration, Soil and sediment, Clays and Oxide, ...



Model	ProSpector 2LE	ProSpector 3
X-ray generator	Up to 40kV	Up to 50kV
Primary filter	Automatic 5-position changer	Automatic 8-position changer
Collimator	Single	Automatic 2-position changer
Detector	SDD or Fast SDD	Extra large area Fast SDD with graphene window
Elemental range	Mg -U	Mg - U (Na - U)
CCD camera	Yes	Yes
Bluetooth, Wifi, GPS	Option	Yes

**Specification**

## MicroP Co., Ltd.

(주)마이크로파



Model	XRF-2020H	XRF-2020N	XRF-2020PCB
X-ray generator	50 kV, 1000 mA		
Primary filter	5 positions: Cu, Ni, Ta, Ti, Al		
Collimator	0.1, 0.2, 0.3, 0.4, 0.1x0.3mm		
Detector	Proportional Counter (Pin Diode, SDD, Fast SDD, SDD50mm2)		
XYZ Stage	200x180x120mm	200x150x250mm	200x190x25mm
Sample weight	Max 5kg	Max 20kg	Max 3kg

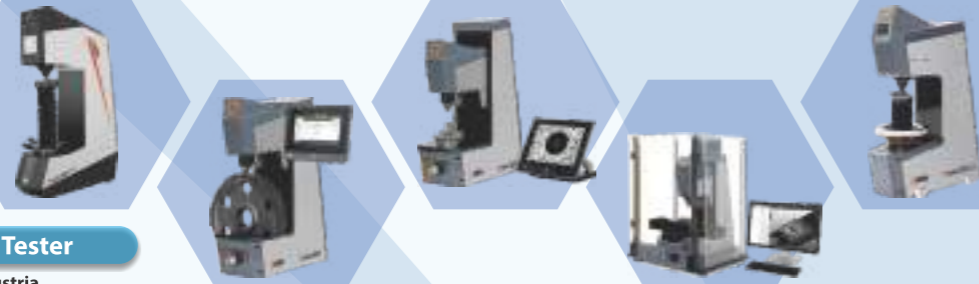
**Specification**

### XRF for coating thickness analysis

+ Manufacturer: **MicroP - Korea**

#### Applications:

- ✓ Coating thickness analysis for 1 layer or multi-layer: NiP/Al base; Cu/NiP/Al base; Ag/Cu/NiP/Al base; Ag/Cu/Al base; NiP/Fe base; Ag/Cu/Fe base; Ag/Cu base; NiP/Cu base, ...
- ✓ Ultra-thin Tri-Layer Au/Pd/Ni/Cu & Au-Ag/Pd/Ni/Cu on PCB
- ✓ Coating thickness analysis on the screws



### Rockwell Hardness Tester

Manufacturer: **ATM Qness GmbH - Austria**

Model	Qness 150 CS ECO	Qness 150 R	Qness 150 M	Qness 150 A/A+	Qness 150 RCS
Test force range		1 - 250 kg (9.81 - 2450 N)			150 kg (1471.5 N)
Height adjustment	Manual / Spindle		V max 6 mm/s		Manual / Spindle
Test height/ Throat depth	250mm/157mm	260 mm/180mm		180mm/180mm	
Test anvil / Cross slide	Ø 100 mm	250 x 260 mm	Manual cross slide 250 x 260mm	Motorized 170 x 250 mm	Ø 100 mm
Max. work piece weight		100 kg		50 kg	100 kg
Standards	Rockwell: <b>DIN EN ISO 6508, ASTM E-18</b>				

### Universal Macro Hardness Tester

Manufacturer: **ATM Qness GmbH - Austria**



Model	QNESS 250 / 750 / 3000 CS/C EVO	QNESS 250 / 750 / 3000 M EVO	QNESS 250 / 750 / 3000 E EVO
Test force range		1kg -250kg/ 0.3kg – 750kg/ 0.3kg – 3000kg	
Height adjustment	Manual / Spindle	Manual / Handwheel	Electrical / Asynchron motor
Test height/ Throat depth	175 mm/220mm	510 mm/320mm	
Test anvil / Cross slide	Ø 100 mm	584 x 450 mm	
Standards	Brinell: <b>DIN EN ISO 6506, ASTM E-10</b> ; Vickers: <b>DIN EN ISO 6507, ASTM E-384, ASTM E92</b> ; Rockwell: <b>DIN EN ISO 6508, ASTM E-18</b> ; Knoop: <b>DIN EN ISO 4545, ASTM E-92, ASTM E-384</b> ; Plastics: <b>DIN EN ISO 6507, ASTM E-92, ASTM E-384, DIN EN ISO 2039</b>		

### Micro Vicker Hardness Tester

Manufacturer: **ATM Qness GmbH - Austria**



Model	Qness 60 M EVO	Qness 60A/A+ EVO	Qness 10/30/60 CHD Master	Qness 10/30/60 CHD Master+
Test force range	0.25 g - 62.5 kg (0.00245 - 613.1 N)		50g - 10kg/ 100g - 31,25kg/ 200g - 62.5kg	
Tools	turret 8 position (motorized Tool Changer)		turret 6 position (motorized Tool Changer)	
Test head control	Dynamic, Hand wheel	Dynamic, 3-Axis-Joystick automated (CAS Technik)	Dynamic, control on software	
Test height/ Throat depth	145 mm/170mm		145 mm/160mm	
Test anvil / Cross slide	Ø 100 mm / 135 x 135 mm		150 x 120 mm	
Max. work piece weight	50 kg			

### Metallurgical Microscope

Type	Inverted
Eyepieces	10X (2 pcs)
Objective	MF5X, MF10X, MF20X, MF40X
Camera connection	C-mount
Illumination	Vonfram lamp 8V, 15W
Software	Standard (included)
Stage	100x100 mm (original)
Other features	Light colour filter
Options	Eyepieces 100X, CCD Camera

### Universal Testing Machine

A wide range of electromechanical materials testing machines suitable for bi-directional tests: tensile, compression, flexure, bending, cycle, constant load, and many others according to International Standards or customer's procedures.



#### QUASAR SERIES

SINGLE COLUMN BENCHTOP Low - Force Testing	DUAL COLUMN BENCHTOP Mid - Force Testing	DUAL COLUMN FLOOR High - Force Testing
Max. Capacity: 2.5KN	Max. Capacity: 100KN	Max. Capacity: 2000KN
Small size, high performances	Multi-purpose	Tough, Heavy-duty frames

#### Application:

Metal

Plastic, Rubber & Others



### Pendulum impact testing machine

- ✓ Method: IZOD & CHARPY
- ✓ Connection & control by PC
- ✓ Conform to international standard: ISO, ASTM, EN
- ✓ Applications range: Plastic, rubber, composites,...
- ✓ Options: Notch machine (sample preparation)



### Melt flow indexer (MFI)

- ✓ Method: MFR và MVR
- ✓ Specimen cutting method: Manual / Auto
- ✓ Applications: Plastic, composite,...
- ✓ Standard: ASTM D 1238, ISO 11333



**ATM**  
QUALITY ASSURED

**GALDABINI**  
1890

**Union**



### Electrodynamics Shaker Systems

Sentek Dynamics develops and markets a wide range of vibration test equipment, environmental test chambers, and instruments for control, data recording, and analysis



Standard: MIL-STD-810, MIL-STD 167, ASTM D999-01, ASTM D3580-95 (2010), ASTM D4728-06, ISO 2247:2000, ISO 8318:2000, ISO 9022-10:1998, ISO 9022-15:1998, ISO 9022-19:1994, IEC 60068-2-64, EIA-RS-186, JIS C 0040:1999, MIL-STD-202, MIL-STD-750, NAVMAT P-9492, RTCA DO-160 Section 8

				
<b>LOW - FORCE</b> From 1 to 10kN	<b>MID - FORCE</b> From 15 to 65kN Air cooled	<b>HIGH &amp; EXTRA FORCE</b> From 65 to 400kN Air / Water cooled	<b>THREE AXIS</b> From 10 to 60kN Air / Water cooled	<b>COMBINE SYSTEM</b> From 22 to 400kN Air / Water cooled
Sine, Random, Classic shock				

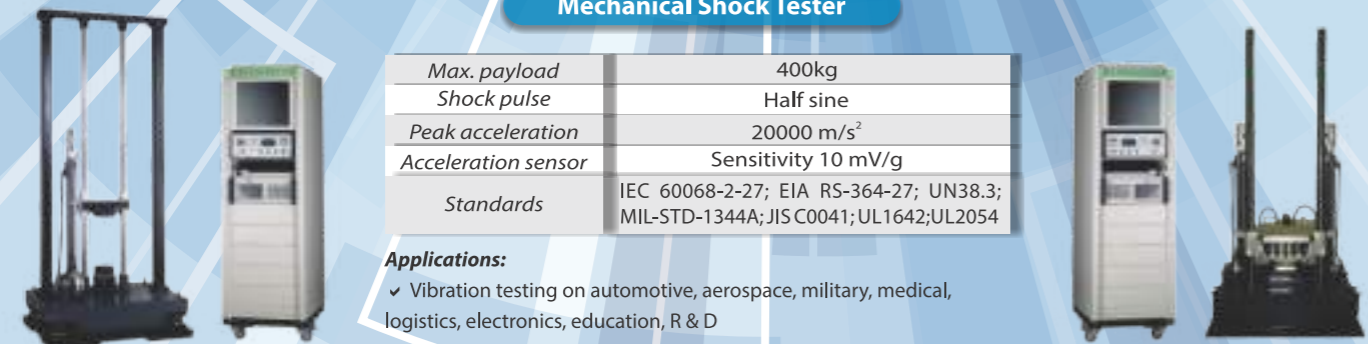
**Applications:**

- ✓ Automotive
- ✓ Electronics component assembly, PC
- ✓ Military electronics system
- ✓ Aerospace
- ✓ Packing
- ✓ Synthetic stress general

### Mechanical Shock Tester

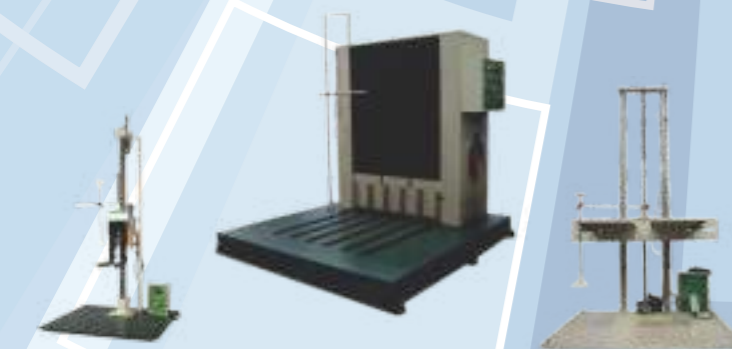
Max. payload	400kg
Shock pulse	Half sine
Peak acceleration	20000 m/s <sup>2</sup>
Acceleration sensor	Sensitivity 10 mV/g
Standards	IEC 60068-2-27; EIA RS-364-27; UN38.3; MIL-STD-1344A; JIS C0041; UL1642; UL2054

**Applications:**  
✓ Vibration testing on automotive, aerospace, military, medical, logistics, electronics, education, R & D



### Drop Tester

Model	Many kind of model for each applications
Test height	2000 mm
Max. payload	up to 300kg
Specimen Clamp	Mechanical / Pneumatics
Standards	ASTM D5276, ISTA, ISO 7065
Common application	Packing & logistics



### Abrasion Testing Equipment

Manufacturer: SALT - Korea

**Applications:**

- ✓ Resistance testing of painting, printed, coating on metal, plastic, rubber, wood, film



### Push Pull Testing Equipment

Manufacturer: DIGITECH - Japan

Max. capacity	2kN (200kgf)
Max. stroke	430 mm
Displacement resolution	0.01 mm
Load resolution	0.001N / 0.01N / 0.1 N
Test speed	0.1 ~ 500 mm / min
Interface	USB, RS232
Applications	Plastic, rubber, wire, textile,...



### Coordinate Measuring Machine



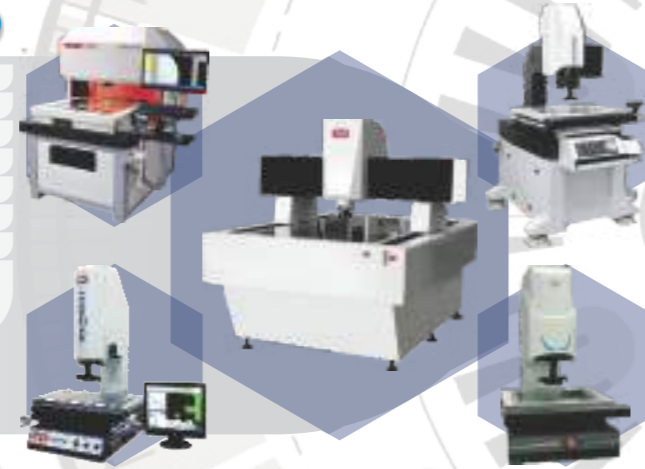
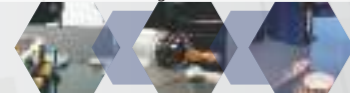
Type	Manual / CNC
Range (Min)	X/Y/Z: 200 / 300 / 200 mm
Range (Max)	X/Y/Z: 1525 / 3050 / 1015mm
Resolution	0.05 μm
Repeatability	1.27 μm
Probe options	Camera, laser scanning head
Size	Benchtop / Floor
Applications	Manufacturing industry, casting processing, stamping molds



**HELMEL**

### 2D / 3D Video Measuring Machine

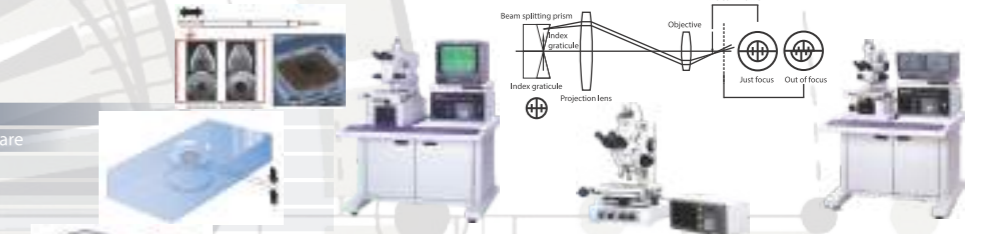
Type	Manual / CNC
Smallest size	X/Y: 150 / 100 mm
Biggest size	X/Y: 1250 / 2000 mm
Resolution	0.5 μm
Accuracy	1.5 + 5L/1000 μm
Options	Touch probe, laser probe
Size	Benchtop / Floor
Applications	Precision engineering on plastics, metal, rubber, or other electronics components at the difficult area for measuring very small objects. Metal sheets or solar panels manufacturing



### Microscope

Manufacturer: **UNION - Japan**

- Depth, height measurement on small parts
- Options: CCD Camera, Monitor, 2D measuring software
- Objectives: 3x, 5x, 10x, 20x, 40x, 50x, 100x
- Operation: Manual / Auto
- Resolution (Z axis): 0.1 μm
- Method: Non-contact



### Applications

- # Electronics: PCB, IC
- # Semi-conduction: Silicone slice, Electro-conductive frame
- # Others: Beverage, Aluminum sheet, Magnetic tape, film, Mylar

### 2D High Speed Measuring Machine (Instant)



- Thousands measurements per few seconds
- FOV: Max. 280 x 200 mm
- Accuracy: 5 μm
- Auto Focus
- Depth of field: 20 mm
- CCD Camera: 2M pixel
- Comparison & Classification features (NG/OK)
- Applications: Instantly measurement of small gears contour dimensions of spring, thread, and shaft workpieces. Sub-components, hardware industry, plastic,...

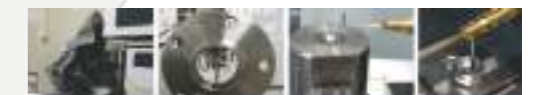


### Profile Projector

- Type: Vertical / Horizontal
- Size: Benchtop / Floor
- Max. Range: 400 x 300 mm
- Magnification: 10X, 20X, 50X, 100X
- Display resolution: 0.0005 mm (0.5 μm)
- Accuracy: 3.0 + L/75, L: measuring length (mm)
- Image displayed: reverse / erect
- Option: Objectives, Rotate table, center rotation support,...
- Applications: Complicated profiles such as press components, gears, cams, treads, tools, dies, turned components,...



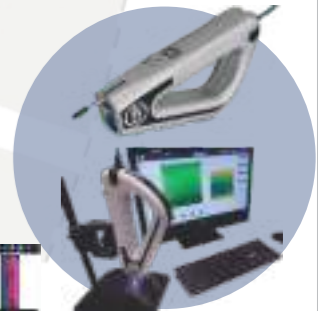
### Contour & Roughness Measuring Machine



- Standard: ISO 5436
- Contour, roughness or both
- Error Z (Contour): ±(1.5+2H/100) μm
- Error X axis (Contour): ±(0.8+2L/100) μm
- Resolution (Roughness): 0.001 μm (±20 μm)

### Surface Defect Gauge

<b>4D TECHNOLOGY - USA</b>	
FOV (Maximum)	15 x 15 mm
Resolution	2.5 μm
Repeatability	0.15 μm
Image display	2D, 3D
Calculated Parameter	min/maximum height, pit depths & min area of a feature,...
Options	Chamfer & fillet measuring program



### Cut-off Machines

Manufacturer: **QATM - Germany**

✓ The size and geometry of a workpiece often require sectioning into smaller pieces for examination. QATM cut-off machines are perfect for this task because successful sample preparation begins with accurate, low-deformation sectioning.

✓ QATM sample cutting machine is used to cut metal samples for microstructure research, measure hardness, or cut mineral samples, composite materials.



Model	Benchtop	Floor-standing
Connection power	9.5 kVA	50 kVA
Speed	800-3400 rpm	1000-2800 rpm
Cutting wheel	Up to Ø 356 mm/14"	Up to Ø 800 mm
Max. cutting capacity	Ø 135 mm	Ø 135 mm

### Hot Mounting Presses

Manufacturer: **QATM - Germany**

✓ Hot mounting presses are fully hydraulic with water cooling for optimum sample mounting. Mould cylinders are available in a variety of sizes for round and rectangular mounts. Double mounts are made by adding a spacer in the cylinder.

✓ QATM hot mounting presses feature innovative closure systems, which guarantee easy opening and closing of the mould assembly time after time.



Model	Qpress 40 (OPAL 410)	Qpress 50 (OPAL X - press)	Qpress 70 (OPAL 480)
Mold assembly	Ø 25.2 - 40 mm (6 different sizes)		Ø 50 mm / Ø 60 mm / Ø 70 mm rectangle 30 x 60 mm / rectangle 40 x 60 mm
Pressure mode	Fully hydraulic		
Thermostate range	20 - 200°C		
Power supply	AC 220V 1 phase		

### Grinder & Polisher Machine

Manufacturer: **QATM - Germany**

✓ Grinding and polishing is the final stage in the sample preparation process and consists of several steps. Each step uses a finer abrasive than the previous one, the ultimate goal being to produce a deformation-free, scratch-free, and highly reflective sample surface. The sample may need to be examined, either etched or unetched, to reveal the microstructure of the material. It frequently happens that contrasts in the material are only visible after a successful etching step.



**Vibratory Polisher QPOL VIBRO**

This preparation method is especially suited for further characterizations like EBSD (electron backscatter diffraction), nano indentation using AFM (atomic force microscopy) or micro hardness testing.

Polishing bowl: Ø308mm  
Vibration frequency: 60-120Hz

**Electrolytic Polisher & Etcher QETCH Series**

Electropolishing is commonly used to prepare thin metal samples for transmission electron microscopy and atom probe tomography because the process does not mechanically deform surface layers like mechanical polishing does.

Connection power: 2KVA  
Max. voltage: 90 VDC  
Max. current: 14A

**Automatic Grinder & Polisher QPOL A series**

Suitable for microstructure research, hardness measurement applications.

Wheels: Ø 200 / Ø 250 / Ø 300 mm  
Speed: 30 - 600 rpm  
No. of samples: 5 samples Ø 40 mm

**Manual Grinder & Polisher Qpol M series**

Suitable for microstructure research, hardness measurement applications.

Wheels: Ø 200 / Ø 250 / Ø 300 mm  
Speed: 30 - 600 rpm



DS 1100	DS 300/2	HK 200	Model
2800 rpm	1500 rpm	2280 rpm	Speed
Belt 100 x 10 cm	2 Discs Ø 300 mm	Disc Ø 205 mm	Grinding paper



EQJ100	EQR-200	EQM-402	Model
230 rpm	700 - 1500 rpm	5 - 100 %	Speed
Equal or less than 50mm	Equal or less than 15mm	Equal or less than 1.5mm	Initial grain size
Adjustable to 1 mm	Equal or less than 50µm	Equal or less than 10µm	Final grain size
1100 W	1500 W	150W	Engine power
3 phase 380V	1 phase 220V	1 phase 220V	Power supply



EQP-1	EQP-100	EQP-200	Model
Manual	Semiautomatic	Semiautomatic	Pressure
20 tons	40 / 50 tons	40 / 50 tons	Max. pressure
Ø32 or Ø40 mm	Ø40 mm	Ø32 mm or Ø40 mm (or on request)	Diameter of the pellet
	750W	750W	Engine power
	1 phase 220V	1 phase 220V	Power supply



F1	F2	Model
1500W		Max. consumption
130 ÷ 160KHz		Work frequency
400°C ÷ 1200°C		Temperature control
50 independent editable programs	50 independent editable programs	Programs

### Sample Preparation Machines for OES

Manufacturer: **G.N.R. - Italia**

**Applications:**

✓ Prepare samples in advance for metal composition analysis by optical emission spectrometer.



### Crushing Machine

Manufacturer: **Equilab - Spain**

**Applications:**

✓ Crush samples before analyzing in the XRF machine  
✓ Able to quickly and efficiently crush glass, earth, slag, metallic oxides, cements and construction materials, ferroalloys, ceramic materials, minerals, and stones.



### Pellet Press machine

Manufacturer: **Equilab - Spain**

**Applications:**

✓ The Equilab Pellet Press series have been specifically designed for preparing dust samples (pellets/tablets) for their analysis by XR. The preparation of pellets is a common technique that will allow us to manipulate and store the samples in an easy manner, and obtain analytical repeatable results. This technique consists of compressing the particles of the dust sample (by themselves or mixed with a binding agent) until obtaining a perfectly homogeneous pellet with a flat surface, mechanically robust and without cracks or dust.

### Electric Fluxer Machine

Manufacturer: **Equilab - Spain**

**Applications:**

✓ The Electric Fluxer machine has been especially designed to facilitate and speed up the preparation of glass disks for analysis by X-Ray, AA solutions, and for ICP analysis. The purpose is to produce, accurately and quickly, beads and dissolutions with classic fluxes (Borates), as well as to undertake high-quality oxidations of elements non oxidized, using peroxides. Its performance is highly efficient both at high and at low temperatures.

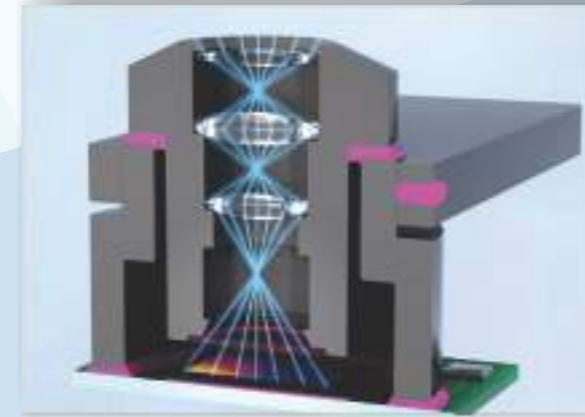
**DELO**



**UV Adhesive  
DELO PHOTOBOND**



**Electronic Adhesive  
DELO DUALBOND**



**Camera module bonding**



**Bonding of Big Speakers**

**Loud speaker bonding**



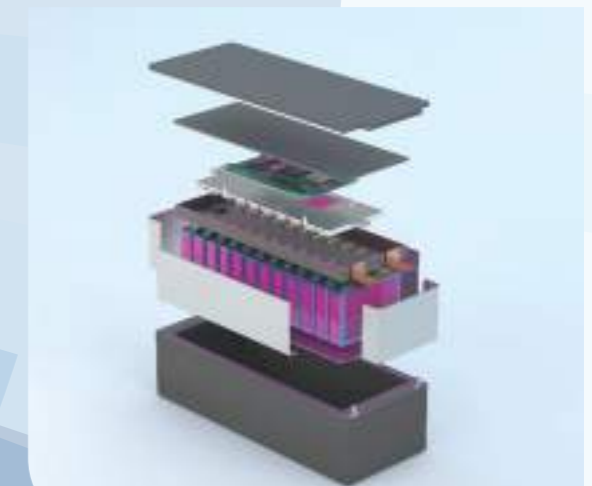
**High Temperature Resistance Adhesive  
DELO MONOPOX**



**High Strength Adhesive  
DELO DUOPOX**



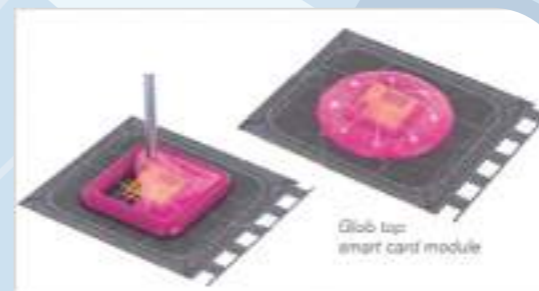
**E-motor bonding**



**Litium batteries in electric vehicle bonding**



**Dispensing gun  
DELO XPRESS**



**Smart card bonding**



**Lock threads, pipe connector bonding,...**



**Dispenser System  
DELO-DOT PN**



**Precision dispensing unit  
DELOMAT 101**



**Cured Adhesive UV Lamps**



**Smart card bonding**

**Premium Hardness Test Block**

Supplier: **QATM - Germany**

- ✓ Made in Germany; manufactured by the highest quality steel and aluminium.
- ✓ Large angular test surface compared with circular hardness test blocks.
- ✓ Including the DakkS calibration certificate.
- ✓ Including software.



**Vickers hardness test blocks according to DIN EN ISO 6507-3, ASTM E92**

HV0,01	200																
HV0,015	200	250															
HV0,02	200	250	300	350													
HV0,025	200	250	300	350	400	450											
HV0,05; HV0,1; HV0,2; HV0,3; HV0,5	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900		
HV1; HV2; HV3; HV5; HV10; HV20; HV30; HV50; HV100	80	110	130	170	200	250	300	350	400	450	500	550	600	650	700		

**Rockwell hardness test blocks according to DIN EN ISO 6508-3, ASTM E18**

HRA	31	42	53	55	59	60	62	63	65	68	70	73	76	78	81	83	84	85
HRB	40	65	85	90	95		100											
HRC						20	22	25	30	35	40	45	50	55	60	63	65	67
HRD						40		44	48	52	56	60	64	67	71	73	74	77
HRE	81	96																
HRG		32	58	66	74		83											
HRK	56	73	95	99														
HR15N						69		72	75	78	81	83	85	88	90	91	92	93
HR30N						41		46	50	55	59	64	68	73	77	80	82	83
HR45N						19		25	31	37	43	49	55	61	66	70	72	74
HR15T	73	82	88	90	91		93											
HR30T	43	60	73	76	80													
HR45T	12	38	58	63	68													

**Brinell hardness test blocks according to DIN EN ISO 6506-3, ASTM E10**

HBW 10 / 500	80																	
HBW 10 / 1000	80	110	130	170	200													
HBW 10 / 1500	80	110	130	170	200	250	300											
HBW 10 / 3000		110	130	170	200	250	300	350	400	450	500	550	600	650				
HBW 5 / 125	80																	
HBW 5 / 250	80	110	130	170	200													
HBW 5 / 125		110	130	170	200	250	300	350	400	450	500	550	600	650				

HBW 2,5 / 31,25	80																	
HBW 2,5 / 62,5	80	110	130	170	200													
HBW 2,5 / 187,5		110	130	170	200	250	300	350	400	450	500	550	600	650				
HBW 1 / 5	80																	
HBW 1 / 10	80	110	130	170	200													
HBW 1 / 30		110	130	170	200	250	300	350	400	450	500	550	600	650				

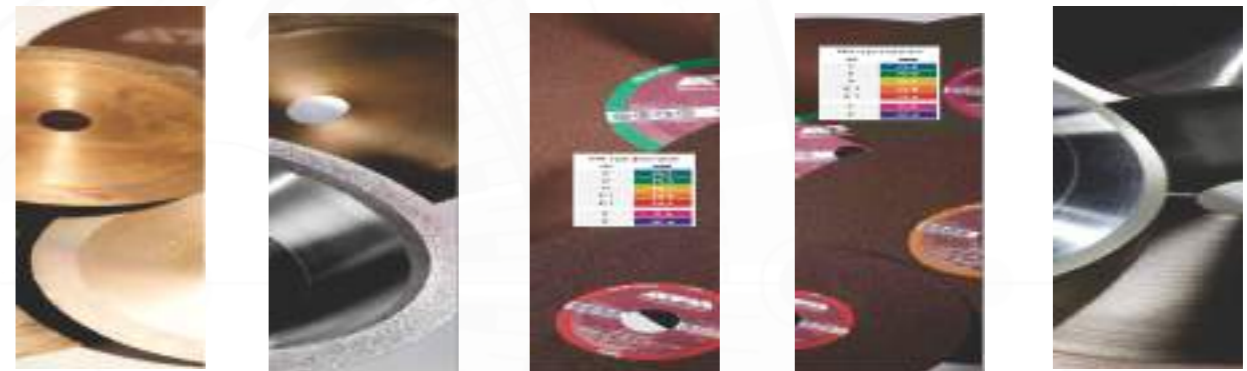


**Reference Materials**

Manufacturer: **ARCONIC - Mỹ; ARMI/MBH - Anh,...**

- Including CRM samples; SUS for alloys:
- ✓ Carbon steel & Low alloy steel
  - ✓ Stainless steel & High alloys steel
    - ✓ Tool steel
    - ✓ Cast Iron
  - ✓ Nickel alloys & Cobalt alloys
  - ✓ Copper Brass & Bronze alloys
    - ✓ Titanium alloys
    - ✓ Aluminum alloys
    - ✓ Magnesium alloys
      - ✓ Tin alloys
      - ✓ Zinc alloys
      - ✓ Lead alloys

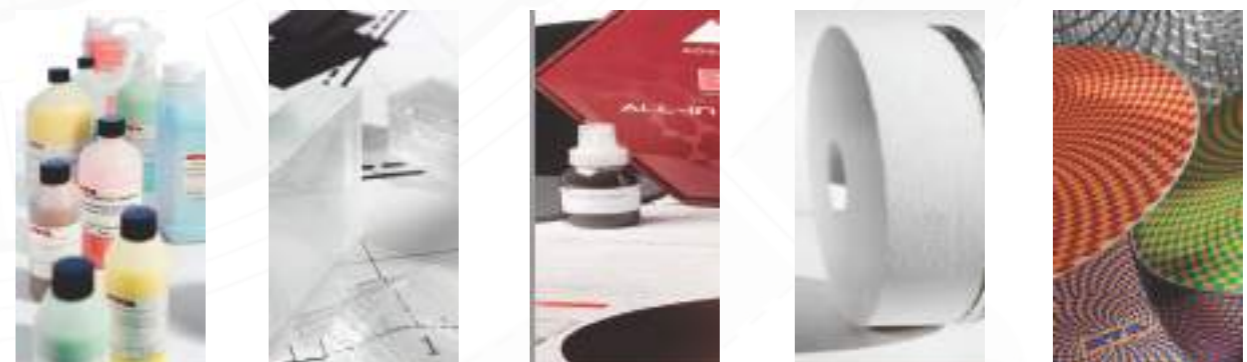
**Consumable parts for Cutting machines**



**Consumable parts for Mounting machines**



**Consumable parts for Grinding/Polishing machines**



**Equipment installation activities**

We are committed to responding quickly and fully to requests from customers to ensure delivery progress as well as product quality. Customer satisfaction is the driving force for us to bring the best services.



**Repair and maintenance activities**

In addition to providing equipment, we also provide professional equipment repair services from hardware to software for:

- ✓ Environmental chamber
- ✓ Analytical equipment
- ✓ Measuring machine
- ✓ Hardness tester,...



**Training activities**

As the exclusive trade representative of many manufacturers, we always have a close connection as well as improve our skills and capacity from professional training activities at the company and information exchange activities with experts from suppliers

*Training at G.N.R - Italia*

*Training at QATM - Austria*

*Training at Vision Tec - Korea*

*Work with experts from suppliers*

