Trokat Test Group

Non Destructive Testing
Metrology
Material Testing
Elemental Analysis
Processing
Condition Based Maintenance

Croatia - Bosnia and Herzegovina - Bulgaria - Serbia - Slovenia – North Macedonia - Montenegro
Expertise includes end-to-end solutions. Standard or customized state-of-the-art heat processing equipment and technologies to leading companies in the following industries: automotive, aerospace, electronics, tooling, medical, recycling, energy including nuclear, wind, oil, gas, and solar and production of steel, titanium, and aluminum. Dynamic and efficient heating systems with precise temperature control, excellent temperature distribution in the working space, efficient and uniform cooling, compact and modular design. Annealing, solution heat treatment, brazing, sintering, gas and oil hardening (HPGQ), FineCarb® and PreNitLPC carburizing (LPC), nitriding and other special technological processes.
Professional, rigid and reliable remote visual inspection systems for the industry: Borescopes; videoscopes; UV and LED illumination systems

APPLICATION FIELDS:
Automotive, Power generation, Aviation and Aerospace, Pipeline engineering, Foundry, Homeland Security

Consumables and devices for Penetrant testing; Magnetic particle testing; UV sources; Leak testing; Weld inspection; Calibration blocks; Visual inspection sprays; Temperature indication

APPLICATION FIELDS:
Aircraft industry, Automobile industry Engineering, Ship building, Nuclear industry, Metallurgy, Electrical engineering, Foundry, Welding
RADIOGRAPHY TESTING

SYSTEMS:
- Portable and mobile X-ray systems
- Scanners for Computer Radiography
- X-Ray and Computer Tomography systems
- Computer Tomography
- Wide range of CT softwares for analyzing, testing and measuring
- Portable systems for field and security inspection

SERVICES:
- Upgrade of existing cabinets
- Upgrade of X-ray cabinets with Computer Tomography
REMOTE VIDEO INSPECTION
ROBOTS AND SCANNERS

- Magnetic crawlers — one unique solution for high definition remote visual inspection across a broad range of applications.

- Heavier-duty and more Specialized Systems on demand, including long and ultra long-range and vertical crawlers used for unscheduled assessments, confined space tooling, hazardous interventions, emergency inspections and more.

- Miniature pipe inspection robotic crawlers with a variety of configurations that can tackle almost any confined space inspection application.

- Tilt and zoom cameras delivering true high definition video with advanced imaging options.
ULTRASONIC TESTING

- Precision and corrosion thickness gauges
- Phased Array and Conventional Ultrasonic Inspection instruments, scanners and robots
- Ultrasound transducers
- Guided Waves Corrosion Inspection Systems - conventional screening technology with the added feature of focusing sound energy into specific regions of pipes to measure the distribution of corrosion around the circumference at a specific distance.

Technologies:
- Long Range UT (LRUT) / Guided Wave
- Phased Array Ultrasound Technique (PAUT)
- Total Focusing Method (TFM)
- Internal Rotary Inspection System (IRIS)
EDDY CURRENT TESTING

- Inspection instruments, robots and scanners, software analysis

Applications:
- Twisted Tube Heat Exchanger Inspection
- Detecting and inspection of Surface Cracking
- Detecting and inspection of Corrosion

Technologies:
- Eddy Current Testing
- Eddy Current Array
- Tangential Eddy Current Array
- Remote-Field Testing
- Near-Field Testing
- Near-Field Array
- Magnetic Flux Leakage
- Internal Rotating Inspection System ultrasonic testing
Complete range of high quality machines for metallography – a wide range of instruments, accessories, consumables, complete laboratories and tailor-made special-purpose solutions. Thanks to the most advanced engineering technologies the cut-off machines, mounting presses, grinders, polishers/electrolytic etchers provide maximum reliability and flexibility.

Fully automated standard Hardness testing machines (Brinell, Vickers, Knoop and Rockwell norms) designed according the latest innovations and technologies. Test load range from 1 gf up to 3000 kgf. Custom-made test in-line systems with professional door-to-door project management. Portable Hardness Testers are available for testing of samples with big dimensions.

Complete range of electro-mechanical materials testing machines suitable for tensile, compression, flexure, bending, cycle, constant load and many others according to International Standards or customer procedures. Benchtop and floor model with testing capacity up to 2000 kN.
The instruments are based on the technology of Focus - Variation and combine the functionalities of a surface roughness measurement device and a form measurement system.

ADVANTAGES:
- Form and roughness in one system
- Full form measurement
- Large scan areas
- High resolution
- Large measurement point density
- Large working distance

APPLICATIONS:
- Automotive
- Aerospace
- Medical & Pharmacy
- Tool Industry
- Additive Manufacturing
- and many more...
Digital Microscopes and Measurement Systems with magnification up to 250x for manual visual inspection. These powerful image processing and control engine that delivers superb full HD live video image quality at 60 frames per second are solution in a broad range of quality control, testing, rework, assembly, visual inspection and documentation tasks.

3D Digital Video Microscope Systems for magnification up to 7,000x with unique features as: All-in-one System; Patented Zoom Lenses with High Depth of Field and High-Resolution, which can be used as fixed and handheld; 360 Degree Rotary Head Observation; Variety of Adapters for numerous Applications; easy for use powerful software for 2D and 3D measurements

Compact and Powerful Tabletop SEM - Magnification up to 100,000x. Advanced Features as: SE and/or BSE Detector - Multi-Vacuum Mode; EDS System, Cooling Stage, Low Vacuum Control; up to 5-axis Strokes - XY,R,Z and T; Easy to use software; Very fast sample change: vacuum in less than 2 minutes; Picture resolution: up to 5MPixels
ANALYTICAL INSTRUMENTS

Optical Emission Spectrometers (OES) and Rotating Disc Electrode Optical Emission Spectrometers (RDE-OES) for the measurement of elemental composition of metal alloys and the analysis of contaminants, additives and wear metals in oils and lubricants, coolants and hydraulic liquids.

RETAINED AUSTENITE AND RESIDUAL STRESS

X-Ray Diffractometers (XRD) and X-Ray Fluorescence Spectrometers (XRF) for the study of material structure and elemental composition for both academic and industrial applications. X-Ray Diffraction (XRD) is a non-destructive safety technique for the qualitative and quantitative analysis of the crystalline materials, in form of powder or solid.

HANDHELD SPECTROMETRY

Durable, field-tested, portable instruments to identify any compound, any mineral, any element. LIBS: Handheld optical emission spectroscopy used to measure elemental concentrations in a material. X-ray fluorescence (XRF) is a non-destructive analytical method used to determine elemental concentrations in various materials.
CONDITION BASED MAINTENANCE

Leak Detection
- Save up to 35% energy costs of compressed air systems

Tightness Testing
- Detection of leaks & seal failures on windows, doors, cabinets, vehicles & containers

Bearing Monitoring & Lubrication
- Early warning of bearing failure & lubrication

Steam Trap & Valve Inspection
- Efficient and easy inspection of steam traps and valves

Detection of Partial Discharges
- Early detection of electrical partial discharges and increasing operational reliability
CONDITION MONITORING SYSTEM

Applicable to 3-phase AC fixed and variable speed motors and generators

Measures the current and voltage signals from electrical supply to the motor to identify existing and developing faults on electric motors and their driven equipment, specifically:

a) Mechanical Faults – e.g. unbalance, misalignment, roller bearings

b) Electrical Faults – e.g. loose windings, short circuits

c) Process Faults – e.g. cavitation, plugged filters and screens

-Provides clear information for fault detection, diagnostics, time to failure and corrective actions, with MCM software used to view the data
GAS DETECTORS

A wide range of made in Japan portable and fixed indicator units offering reliance and safety to various fields, including:

- Gas detection and indicator alarm system for continuous monitoring
- Portable/personal gas monitor
- Portable gas leak checker
- Entrusted experiment for measurement of leaked gas diffusion
- Toxic gas monitor/indicator alarm unit
- Oxygen monitor alarm system management
- Portable combination gas monitor
- Optical gas indicator gas detection tube
- Auto-emission analyzer
- Surface analyzer (Photoelectron spectrometer)
- Gas indicator for medical use
- Portable salinity analyzer 'SALCON'
OUR PARTNERS:
ABOUT US

One idea for the union of the knowledge, the industry and the quality – an idea that was turned into reality!

OUR STORY

Everything started in 2010 in Zagreb. The idea was to create a trade company, but not like the standard ones. We wanted to create something different, something that is not present on the market – a symbiosis between the manufacturers of the industrial equipment, the manufacturers of the products and us – no, we are not the sellers. We are the consultants finding the optimal solutions for the customer’s needs.

THE KNOWLEDGE AND THE TEAM

During the years we have participated in many trainings in order to get familiar with the latest technologies and innovations. We have participated in different conferences, scientific forums and exhibitions for industrial equipment. We have organized many seminars and demonstrations for innovative products. And we still keep going like this – we are constantly studying the latest innovations and needs of the market!

TTG TODAY

TTG today consists of 6 local companies situated in Zagreb (Croatia), Brežice (Slovenia), Sofia (Bulgaria), Belgrade (Serbia), Sarajevo (Bosnia and Hercegovina) and Skopje (North Macedonia) – our activates spread over the whole Balkan area and more. Our team consists of more than 25 professionals coming from different fields – material science, metallurgical, chemistry, automatization, mechatronics, construction and electronics engineers, marketing and sales specialists.

A symbiosis of consulting, sales and inspection services! That’s us!
And if somebody asks why we are doing all this the answer is very simple: BECAUSE QUALITY MATTERS!

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