



SCANNING ELECTRON MICROSCOPY  
IMAGING SYSTEMS  
TIME LAPSE  
ICSI STATIONS  
CLINICAL LASERS  
STERILIZATION  
INCUBATORS  
LIQUID & MEDIA HANDLING



## LIFE SCIENCES, IVF & GENETICS SUPPLIES

CHOICE OF EXCELLENCE

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CHOICE OF EXCELLENCE

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# ABOUT TAAWON GROUP

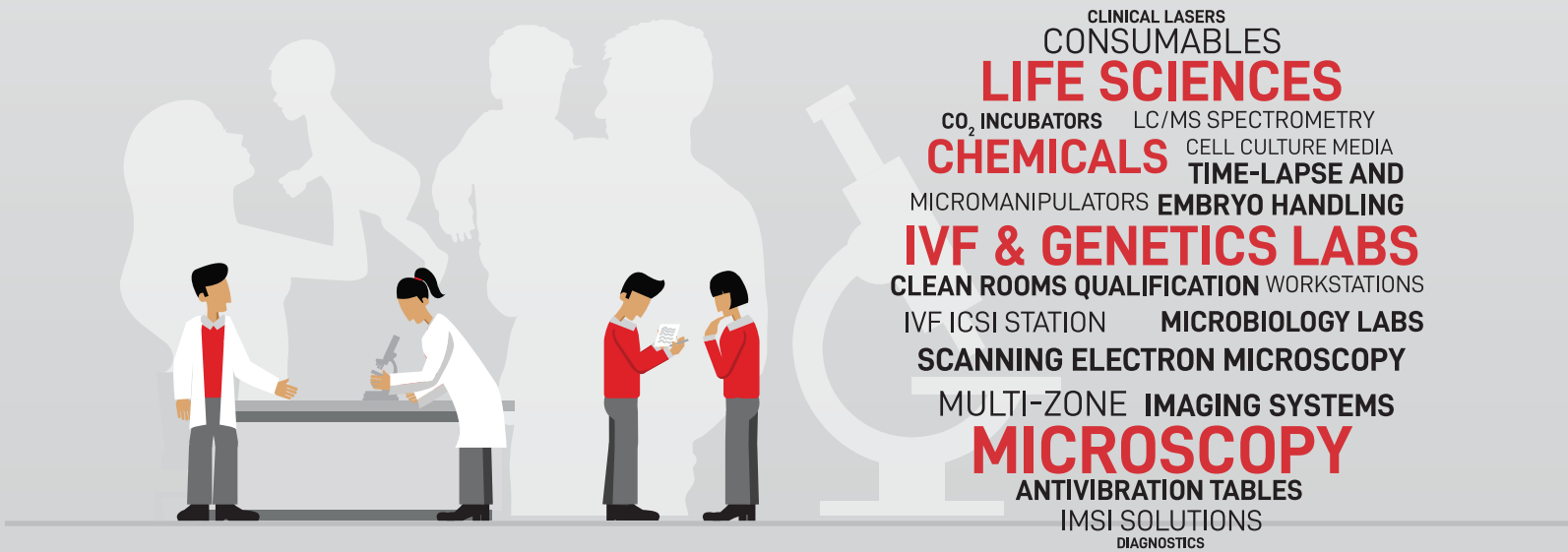
## TAAWON GROUP

Taawon Group is specialized in the supplies of excellence level of high quality, compatible and best value laboratory and industrial equipment, disposables & chemical products in different market segments such as pharmaceuticals and bio-pharmaceuticals, food & beverage, chemicals & petrochemicals, oil & gas, academic institutions & reseatch centers, IVF & geneticas labs, hospitals & medical labs, environmental & testing labs and last but not least forensics labs.

Taawon Group was established in 2008 where the headquarter is based in Jordan and the group has expanded its activities internationally to reach Saudi Arabia (Diamond Spectrum), United Arab Emirates (Altayf Althahabi) and Poland (Parameter EU). This was a result of the emerged need for a local supplier of laboratory supplies has arised and increased.

We are focused at customers needs and we place their expectations at the central of our plans and actions. We understand the similarities and differences of markerts worldwide thats why we actively and continuously seek out improvements to the local and global markets.

We understand customers interests and deep concerns which we support to meet their goals with conviction. We embrace our work by adopting a target-focused, process-oriented and solution-driven approach besides facilitating cooperation among employees and customers. We value our customers by listening carefully, playing an active role and offering critical analysis as well as addressing conflicts dealing with them sensibly.



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## MICROSCOPY, IMAGING & NANOTECHNOLOGY SYSTEMS



## MISCROSCOPY & OPTICAL INSTRUMENTATION

Providing Microscope Solutions which are focused on serving clients in research, biotech/pharma, clinical laboratory and education with the world leaders' microscope-based imaging systems manufacturers.

MISCROSCOPY & OPTICAL INSTRUMENTATION

MISCROSCOPES

Super-Resolution Microscopes

Super-resolution microscopes provide unprecedented resolution and insights into the molecular landscape.

- N-SIM S microscopes deliver twice the resolution of traditional diffraction limited microscopes.
- N-SIM E are streamlined structured illumination super-resolution system for the individual lab.
- N-STORM microscopes deliver ten-times the resolution of standard light microscopes.
- STEDYCON, the compact scanner for stimulated emission depletion (STED) imaging in 2 channels for <40nm lateral resolution.



Multiphoton Microscopes

Nikon's multiphoton systems combine high-definition, high-speed resonant scanning capability with specialized optics and flexible staging configurations

- A1 MP+ / A1R MP+ Multiphoton for high speed, high resolution and high sensitivity multiphoton excitation and confocal fluorescence imaging
- AX R MP that clearly visualizes minute structures deep within living organisms.



Confocal Mcroscopes

Featuring ultra-high pixel density, improved sensitivity, speed and a large 25mm field of view.

- AX / AX R with unparalleled resolution, speed, sensitivity and field of view, with AI-based tools for simplifying acquisition and analysis.
- A1 HD25 / A1R HD25 featuring the world's largest 25mm field of view for high-throughput, high-resolution imaging.
- CSU Series that is ideal for live cell or organism applications.
- Crest X-Light Series, the Optimal microscope for live cell imaging and sectioning of large specimens



Inverted Microscopes

Nikon's inverted microscopes ensure the highest imaging results for every experiment.

- ECLIPSE Ti2 Series featuring a groundbreaking 25mm field of view
- ECLIPSE Ts2R; configurable with a wide variety of observation methods.
- ECLIPSE Ts2; ideal for the tissue culture lab
- ECLIPSE Ti-2U IVF for performing precision manipulation procedures such as ICSI





MISCROSCOPY & OPTICAL INSTRUMENTATION

MISCROSCOPES

Upright Microscopes

upright microscope guarantee superb images over the entire magnification range.

- ECLIPSE Ni-E; Upright microscope system offering superior optical performance, multi-mode expandability, and advanced motorization capabilities.
- ECLIPSE Ni-U; Highly versatile upright microscope combining system expandability and superior optical performance in an easy-to-use system.
- ECLIPSE Ci Series; Ergonomic upright microscopes with eco-illumination for clinical and laboratory applications.
- ECLIPSE FN1; Upright microscope with a fixed stage and focusing nosepiece dedicated to electrophysiological research.
- ECLIPSE Si; ECLIPSE Si brings comfort and precision to your operation with cutting-edge hardware and software solutions.
- ECLIPSE Ei; The ECLIPSE Ei educational microscope offers unique digital and design solutions to ensure the smooth progress of science and technology.



Cell Screening

Incubator-style imaging systems that elevate live cell imaging to a new level of environmental control

- BioStation CT; allows users to manage and observe multiple live cell imaging studies locally or by remote operation
- BioStudio-T; Compact live-cell imaging microscope designed for cell manufacturing facilities. Fits inside most incubators
- BioStudio-mini; offering easy-to-operate, time-lapse imaging of cultured cells. Waterproof and chemical resistant, it can be installed in incubators and biological safety cabinets.
- Nikon BioImaging Lab; offering contract research services for cell-based assays.
- Image Analysis Software; The software can automatically identify cells and analyze images. It also offers customized services according to user needs.
- BioPipeline Live; Environmentally-controlled stable long-term imaging and analysis of multiple samples in a range of imaging modalities.



MISCROSCOPY & OPTICAL INSTRUMENTATION

MISCROSCOPES

High Content Imaging

Acquire high content data with robotic sample handling and flexible optics and detection options for all types of specimens.

- BioPipeline Live; Environmentally-controlled stable long-term imaging and analysis of multiple samples in a range of imaging modalities.
- BioPipeline Plate; Automated robotic handling of multiple samples for large volume imaging and analysis.
- BioPipeline Slide; Image, catalog, and analyze hundreds of slides per session in brightfield or epifluorescence.



Slide Scanning

Slide Scanning systems for research use only for quickly converting pathology slides into high-resolution, high-quality digital slides.

- OS-15-N; Small foot-print, low-cost slide-scanning solution with unparalleled image quality and resolution.
- BioPipeline Slide; Image, catalog, and analyze hundreds of slides per session in brightfield or epifluorescence.



Polarizing Microscopes

Polarizing microscopes are used to observe the birefringent properties of anisotropic specimens by monitoring image contrast or color changes

- ECLIPSE LV100N POL; Suitable for a wide range of imaging applications.
- ECLIPSE LV100ND POL/DS; Ideal for asbestos identification and analysis.
- ECLIPSE Ci POL; Compact polarizing microscope featuring superb optical performance and ease-of-use.
- ECLIPSE E200 POL; A cost-efficient polarizing microscope incorporating industry-acclaimed CFI60 optics.



Photostimulation & TIRF

Illumination modules for adding photo-stimulation (conversion/activation), FRAP, and TIRF capability to Nikon imaging systems.

- Ti-2LAPP; Modular illumination devices from photo-stimulation to multi-angle TIRF, that can be mixed and matched for ultimate flexibility and expandability in imaging applications.



MISCROSCOPY & OPTICAL INSTRUMENTATION

SEE MORE THAN BEFORE WITH INVERTED MICROSCOPES

Stereomicroscopes

Each SMZ stereomicroscope features industry-leading optics, large zoom ranges, and wide fields of view for bridging macro- to micro-imaging.

- SMZ25 / SMZ18; Capture stunning images and time-lapse data with incredible detail and field of view.
- SMZ1270 / SMZ1270i; Impressive 12.7:1 zoom ratio, high resolution optics, and superior ergonomics.
- SMZ800N; Affordable model with 8:1 zoom ratio, streamlined operation and robust performance.
- SMZ745 / SMZ745T; Stereomicroscope with 7.5:1 zoom ratio with trinocular head option for digital imaging.
- SMZ445 / SMZ460; Compact, lightweight and cost effective stereomicroscopes featuring Porro prism optics.



Cameras

Nikon has a diverse camera and controller lineup, enabling researchers to configure a microscope imaging system that's ideal for their specimens and applications.

- Digital Sight 10; High resolution of 6K and switching color and monochrome capture with a single camera.
- Digital Sight -2.0 ;1000megapixel color camera offering Full-HD images, fast live display and simple measurement.
- DS-Fi-5.9 ;3megapixel color camera offering low-noise, high-resolution imaging, fast live display.
- DS-Qi-16.25 ;2megapixel, high-definition monochrome microscope camera delivering high-sensitivity, low-noise images.



Software

NIS-Elements combines powerful image acquisition, analysis, visualization and data sharing tools. With fully customizable user interfaces and software modules, NIS-Elements can serve as a simple interface for photo-documentation or power complex, conditional workflows with automated imaging and analysis routines.

NIS-Elements: Flexible software platform for controlling Nikon microscopes and 3rd-party components, with powerful custom programming tools for image acquisition and analysis.



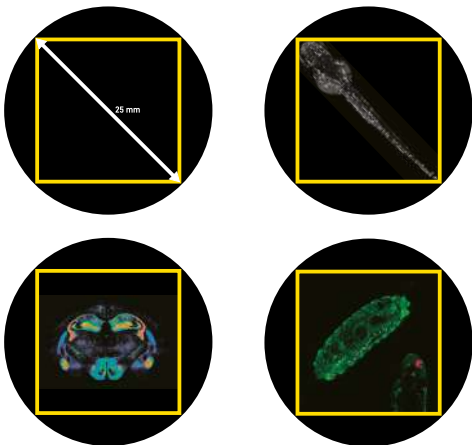
MISCROSCOPY & OPTICAL INSTRUMENTATION

GO BEYOND STANDARD CONFOCAL IMAGING

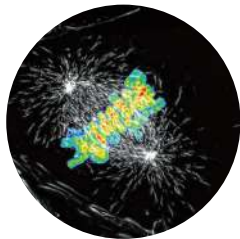
With the largest field-of-view on both inverted and upright microscope stands available (25 mm diagonal), more specimens fit in one FOV with more objective lens choices than ever before.

Using lower magnifications with longer working distances and high numerical apertures enables more flexible specimen preparations to be used, while the large FOV allows simultaneous high resolution in one image. Collect more data in every image, and at faster rates.

The AX/AX R has a 25 mm diagonal FOV, much larger than other confocal instruments.

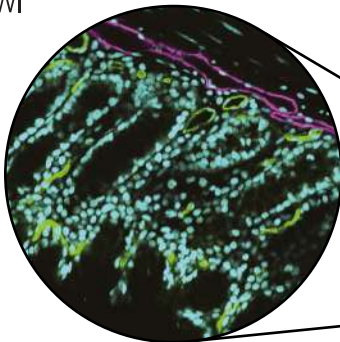


ER (Extended Resolution)  
NIS-Elements ER can be used to improve confocal spatial resolution up to 120 nm (lateral)/300 nm (axial) using GPU-processing with automatic parameter settings and user-defined options.

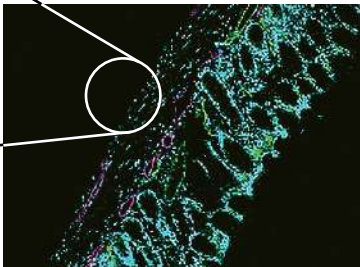


Superior Optics for Confocal imaging

- CFI Plan Apochromat Lambda S 25XC Sil/40XC Sil
- CFI Apochromat LWD Lambda S 20XC I/40X WI
- CFI Plan Apochromat Lambda S 10X
- CFI Plan Apochromat VC 60XC WI



Reducing the acquisition time also allows for extremely highspeed imaging (up to 720 fps at 2048 x 16 pixels). The result: longer imaging and/or more frequent imaging at high speed of living samples which allows capture of dynamic events, but also allows longer time-lapse maging or significantly faster collection times on fixed specimens.






MISCROSCOPY & OPTICAL INSTRUMENTATION

SEE MORE THAN BEFORE

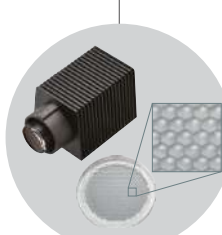
The Ti2 Inverted Microscope is exceptionally stable, drift-free platform is designed to meet the demands of super-resolution imaging while its unique hardware-triggering capabilities enhance even the most challenging, high-speed imaging applications. In addition, the status of each sensor is automatically recorded during acquisition, providing quality control for imaging experiments and enhancing data reproducibility.

Bright illumination over a wide area


High-power LEDs deliver bright illumination across the Ti2's large field of view, ensuring clear, consistent results from demanding applications such as high-magnification DIC.




Objectives with superior image flatness ensure high quality images from edge to edge. Utilizing the maximum potential of the OFN25 objective accelerates data collection.




Focus perfected





Continuous display of microscope status


A collection of built-in sensors detects and relays status information for a variety of components in the microscope. All of the status information is recorded in the metadata when you acquire images with a computer, so you can easily recall acquisition conditions and/or check for configuration errors.



Focusing mechanism

Mechanically redesigned for ultra-high stability

The new Z-focusing mechanism is smaller and positioned adjacent to the nosepiece to minimize vibrations. It remains adjacent to the nosepiece even in an expanded (staged-up) configuration, ensuring stability for all applications.



Large diameter observation optics

The diameter of the observation light path has been enlarged in order to achieve a field number of 25 at the imaging port. The resulting large FOV is capable of capturing approximately double the area of conventional optics, enabling users to gain maximum performance from large-format sensors such as CMOS detectors.



SLEE medical supplies a broad product range that is used for the sample preparation of microscopic sample material.

**SAMPLE PREPARATION OF MICROSCOPIC SAMPLE MATERIAL**

**Tissue Processors**

MTP carousel tissue processor and MTM I & II fast tissue processor for gentle, cost-efficient, user friendly and highly reliable specimen processing.



**Embedding Centers**

MPS/P1, MPS/P2 and Dispensing module MPS/P for Paraffin Dispensing, Prewarming module MPS/W for prewarming of cassettes and molds and Cold plate MPS/C and Cold plate MPS/CX for a fast and efficient cooling of paraffin blocks after embedding and prior to sectioning.



**Microtomes - SLEE Medical**

CUT 4062, CUT 5062 and CUT 6062 for Paraffin sections in the research, plastic and industrial applications and cuttec S Linear stainer besides MTR; the fast cooling units for microtomes.



**Cryostats**

MNT and MEV; Floorstanding High-end and Eco cryostat with CryoGlue innovative embedding medium for frozen sectioning.



**Staining Systems**

romatec, MSM and MAS; the linear stainers that will greatly improve productivity and cost effectiveness for routine histology. The stainers can process up to 12 baskets containing 30 slides each.



**Cover Slippers**

MCS I & II; The MCS cover slippers work with highest quality standard, cover slipping is done for each single glass separately fast and without bubbles.



**Water bath & Stretching table**

slidetec WATER/HEAT, slidetec WATER, slidetec HEAT and slidetec WATER s; the floating histology bath and slide warmer combination for stretching of paraffin sections and drying of slides after transfer of these stretched paraffin sections.





Molecular Machines & Industries (MMI) is the leading provider of microscope based micromanipulation solutions for the life sciences, material sciences, and healthcare.

**SINGLE CELL SORTING PRODUCTS**

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**MMI CellCut - Laser Microdissection (LMD)**

The ideal tool for the detection and isolation of single cells or group of cells from tissue or live cell cultures, utilized for clinical and research laser microdissection.



**MMI CellScan - Next Generation Laser Microdissection**

The MMI CellScan is a novel module to combine Whole Slide Imaging with Laser Microdissection.



**MMI CellEctor - Capillary Cell Sorting**

Designed for fast and reliable detection and isolation of single cells, stem cells and CTCs by fully controllable microscopic collection, utilized in stem cell and cancer research and for cellular diagnostics.



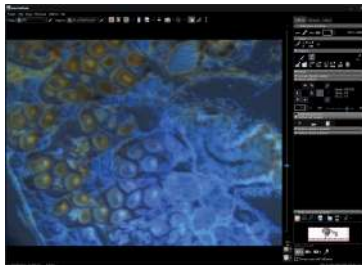
**MMI CellManipulator - Optical Tweezers & Force Spectrometer**

Our powerful optical tweezers system for comfortable, ultra-precise and contact-free manipulation of cells or other microscopic particles as well as for Force Spectroscopy applications.



**Software**

The intuitive software platform MMI CellTools is an integral part of all MMI instruments. This platform can also be expanded by additional software solutions, such as the MMI CellExplorer for automated cell recognition.







Molecular Devices delivers innovative bioanalytical solutions for protein and cell biology in life science research, pharmaceutical and biotherapeutic development.

## SINGLE & MULTI-MODE MICROPLATE READER

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### Single-mode Microplate Reader

The three most common read modes in a single-mode microplate reader are absorbance, fluorescence, and luminescence



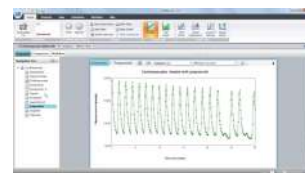
### Multi-mode Microplate Reader

multi-mode plate readers provide great flexibility and include absorbance, fluorescence and luminescence with configurable options for fluorescence polarization (FP), time-resolved fluorescence (TRF), FRET, and AlphaScreen.



### SoftMax Pro Software

provides ready-to-run protocols, analysis algorithms, and 21 different curve fit options.



### FLIPR Penta High-Throughput Cellular Screening System

The FLIPR Penta High-Throughput Cellular Screening System allows you to measure and analyze peaks of human-derived induced pluripotent stem cells (hiPSCs), differentiated into cardiomyocytes and neurons, up to 100 times per second.



### Axon Instruments Patch-Clamp Systems

Axopatch 200B Capacitor, MultiClamp 700B, Axoclamp 900A, Axon Digidata 1550B Low-Noise Data Acquisition System and pCLAMP 11 Software Suite.

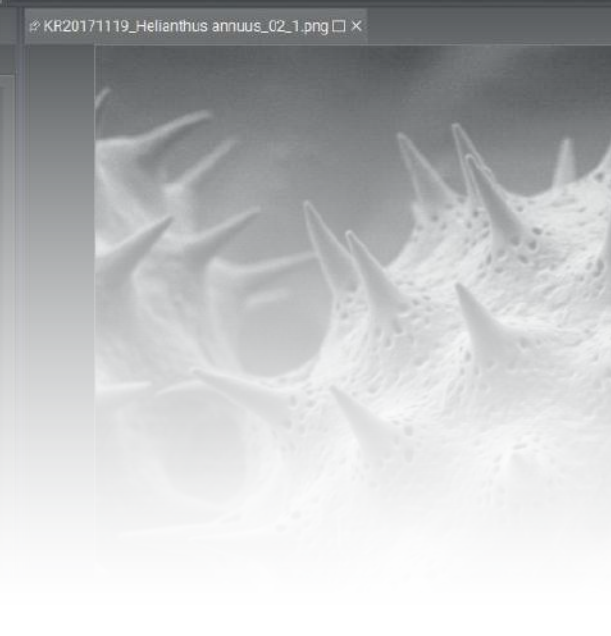
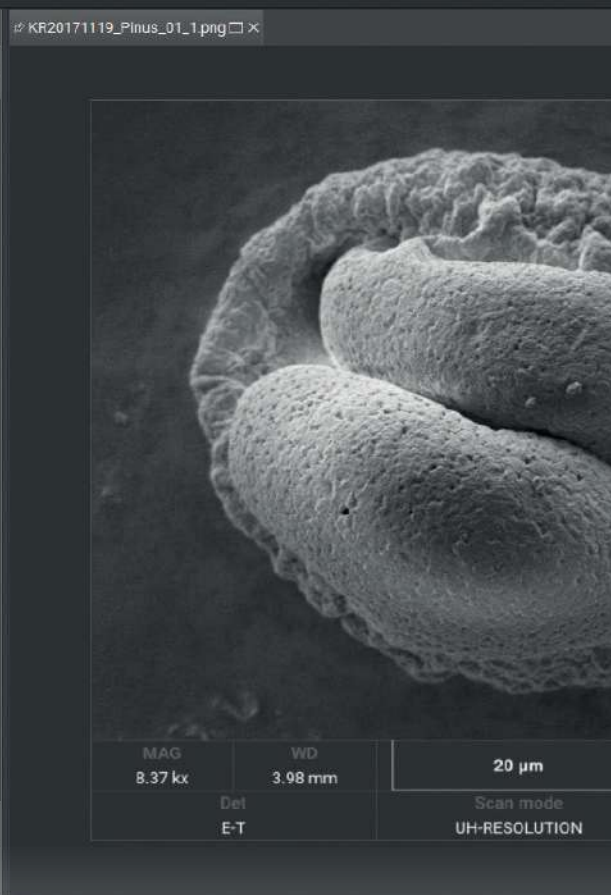
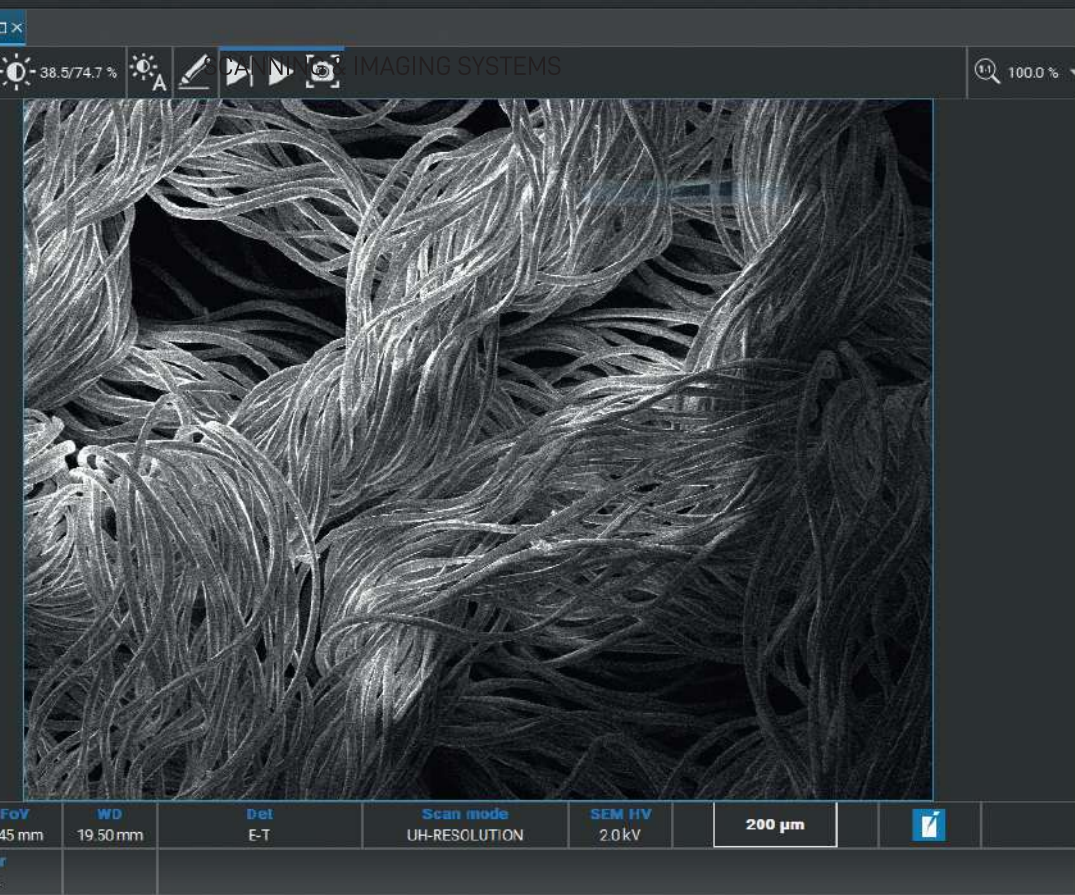


### Cellular Imaging Systems

ImageXpress Pico, ImageXpress Nano, ImageXpress Micro 4, ImageXpress Micro Confocal for of high-content imaging and cell imaging, from samples to results in minutes.







## SEMS, FIB-SEMS AND MICRO-CT'S

Scanning electron microscopy is a well-known non-destructive technique that uses an electron beam probe to analyse samples surface down to nano-scale. The scanning electron microscopes produce high magnification images with high resolution, a feature of which makes them suitable tools for a wide range of applications in numerous fields of science and industry.

## SEMS, FIB-SEMS AND MICRO-CT'S

### SCANNING ELECTRON MICROSCOPY (SEM)

Achieving a sub-nanometer resolution, the Tescan **SEM systems** will reveal the finest details about the structure of your material. Tescan's unique Wide Field Optics™ allow you to quickly locate areas of interest at magnifications as low as 2x before zooming in to understand their makeup.

For the micron and the sub-micron level there are SEM VEGA and SEM MIRA systems and for the nanoscale and sub-nanoscale there are SEM CLARA and SEM MAGNA systems.

Key features

- UHR imaging of non-conductive beam sensitive samples at low-kV
- A routine investigation of heavy-metal stained ultra-thin sections with excellent contrast using the In-beam BSE detector at extremely low kV
- Easy-to-use STEM detector as a cost-effective alternative to routinely used TEM
- Compatibility with major cryo-system suppliers on the market
- Easy-to-use, fully customizable, application-oriented and modular user interface



### FOCUSED ION BEAM SCANNING ELECTRON MICROSCOPY (FIB-SEM)

**Focused ion beam scanning electron microscopy (FIB-SEM)** combines two beams (electron and ion) in one instrument. The FIB column is used for cross sectioning or sample modification, while the SEM column provides high resolution imaging.

The geometry of FIB-SEM systems is such that the electron and ion beam focal points coincide, making simultaneous SEM imaging during FIB milling possible – a significant leap in terms of performance and throughput for FIB operations that demand ultimate levels of precision.

Tescan offers two different ion species for FIB sources: gallium ions and xenon ion plasma. Ga ion source FIB is preferred for all applications that need ultimate precision for fabrication and nano-patterning. Xenon plasma FIBs deliver much higher ion beam currents compared to Ga-FIB to remove large volumes of material in times frames that can be up to 50× shorter than Ga-FIB.

There is a full range of FIB-SEM Systems such as Tescan SOLARIS, Tescan SOLARIS X, Tescan AMBER, Tescan AMBER X.



SEMS, FIB-SEMS AND MICRO-CT'S

MICRO-CT SYSTEMS

Provides high throughput and flexibility; offering novel **dynamic CT workflows** enabling a wide range of 4D applications. Studying the change or evolution of a sample non-destructively. Our micro-CT solutions are specifically designed to facilitate high-throughput and dynamic CT workflows, expanding your in-situ research capabilities.

Micro-CT provides direct 3D information on the porosity, mineral distribution and microstructure of geological samples with micrometer resolution. Due to the unique design of the TESCAN micro-CT systems, it becomes possible to quantify fast dynamic in situ processes in the lab. It is specifically designed to facilitate high-throughput, multi-scale and dynamic CT workflows.

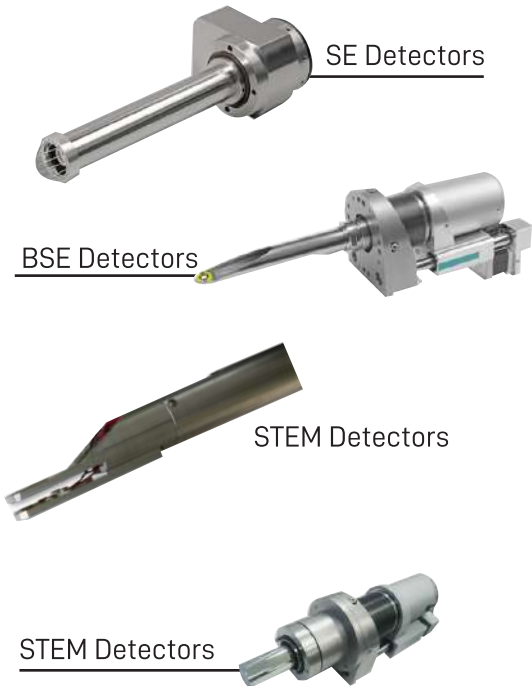


DETECTORS

TESCAN offers a wide range of **proprietary and third-party detectors** that can be integrated into our SEM and FIB-SEM systems.

Detectors offered by TESCAN:

- SE Detectors
- BSE Detectors
- Beam Deceleration Technology
- Electron Backscatter Diffraction
- STEM Detectors
- CL Detectors
- Low Vacuum Secondary Electron TESCAN Detectors
- Electron Beam Induced Current Detectors
- X-ray Spectrometry Detectors
- Secondary Ion TESCAN Detectors
- TOF-SIMS Detectors
- EDS Detector







Quorum Technologies is a market and technology leader in electron microscopy coating and cryogenic preparation

CRYO SAMPLE PREPARATION INSTRUMENTS

Sputter Coaters and SEM/ TEM Carbon Coaters

Low-cost, rotary-pumped sputter coaters for depositing non-oxidising metals - such as gold (Au) and platinum (Pt) - and turbomolecular-pumped coaters, suitable for both oxidising and non-oxidising metals.



Cryo-SEM Preparation Systems

Highly automated, column-mounted, gas-cooled cryo sem preparation and cryo transfer system suitable for most makes and models of W-SEM, FE-SEM and FIB/SEM.



Freeze Dryers for Sample Preparation

Freeze dryers, specifically designed for the careful drying of a range of electron microscopy samples.



Bench-Top Vacuum Evaporators

A large chamber system that comes as standard with a carbon rod gun and a metal filament/boat source.



Peltier Cooling Stages for SEM

Developed for use in low vacuum and natural SEMs, peltier-cooled stages accurately control dehydration from wet specimens.



Glow Discharge for TEM and Surface Modification

Compact, easy-to-use glow discharge system primarily used for the hydrophilisation (wetting) of TEM support films and grids.



## LABORATORY STERILIZATION SOLUTIONS



## STEAM STERILIZATION APPARATUS & SYSTEMS

FEDEGARI had gained a worldwide reputation for reliability and quality in the production of innovative steam sterilization apparatus and systems, thanks to the knowhow acquired and the experience and technologies developed in over 50 years' activity in this sector.

STEAM STERILIZATION APPARATUS & SYSTEMS

STERILIZERS & WASHERS

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**Saturated Steam Vertical Sterilizers**

The innovative FVA/A1, FVS and FVG series of vertical automatic steam sterilizers have been designed to meet the strictest requirements of the most demanding applications.



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**Saturated Steam Horizontal Bench Top Sterilizers**

The FOB series are suitable for many different applications, making it the perfect choice to satisfy modern laboratory needs. FOB series autoclaves combine technology and know-how, and can be used by very different laboratories.



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**Stand-alone Lab Sterilizer**

The FOB4 Lab Sterilizer is suitable for the use in laboratory for many different applications, such as:  
FOB5 Lab Sterilizer presents a great flexibility of use, ranging from quality assurance laboratories in pharmaceutical or food industries, to BSL4 – 3 laboratories in research centres and/or hospitals.



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**Lab Glassware Washer**

FGW Lab Glassware Washer uses a steam generator to improve washing performances: steam has an optimized emollient effect on greasy and sticky dirt.





STEAM STERILIZATION APPARATUS & SYSTEMS

EXPERIENCE TRUE STERILIZATION



Filter  
Decontamination of  
exhaust air with  
sterile filter.



Large volume sterilization  
Specially designed with ergonomical  
features for easy handling of large  
volume sterilization treating  
materials and goods as glassware  
and plastic ware, media preparation,  
liquids in open and sealed containers,  
mixed regular and biohazard wastes,  
as well as porous loads, packed  
instruments, textiles, rubber  
articles, etc. for hospital use.



Stainless Steel Plates  
High efficient preheating  
and drying system  
guaranteed by the AISI  
316 L stainless steel plate  
heat exchanger

Performance  
Improved performances  
thanks to more efficient  
and faster processing.

Configuration

All models can be configured using a  
wide range of process and software  
options and an extensive choice of  
accessories.

GMP / GLP compatible data management  
offering full traceability and  
documentation meeting the most stringent  
worldwide safety and quality standards.

Options for compliance to EN 285 and HTM.



Thema4Lab  
Controller

Thema4Lab process controller  
is a revolutionary solution,  
Engineered and pre-validated  
by Fedegari according to  
GAMP 5.

This innovative and pioneering  
system guarantees a reliable  
and cost-effective process  
development and is already  
available on FOB5 steam  
sterilizers and FGW glassware  
washers.

Separate steam generator.



Valving system  
Sanitary diaphragm valve in 316L  
stainless steel with pneumatic  
actuator for maximum reliability  
and tightness.





## WEIGHING SOLUTIONS AND METERS

# METTLER TOLEDO

## WEIGHING SOLUTIONS AND ANALYTICAL INSTRUMENTS

Complete outstanding quality and functionality are delivered through the world's leaders comprehensive range of laboratory balances and analytical instruments that provides users with flexibility and precision.



WEIGHING SOLUTIONS AND ANALYTICAL INSTRUMENTS

ANALYTICAL BALANCES

**METTLER TOLEDO analytical and semi analytical balance** measures mass to a high degree of precision.

It has a weighing capacity in the range of 100-500 g (typically 200 g) and a readability of 0.001-0.1 mg. Analytical balance sensitivity requires it to be protected by a draft shield or an enclosure.

METTLER TOLEDO XPE, XSE and XS analytical balances are equipped with the SmartGrid weighing pan minimising air turbulence and therefore shorten stabilization times and allowing faster weighing results.

The MinWeigh function of METTLER TOLEDO analytical balances, installed by a certified technician, monitors the minimum sample weight of the balance. If a weighing is below the determined acceptable minimum value, the balance display turns red.



PRECISION BALANCES

**METTLER TOLEDO electronic precision balances** offer a wide range of weighing capacities, with maximum capacities up to 64 kg.

They allow readability in the range of 1 mg (0.001 g) to 1 g, or 3-0 decimal places. High precision laboratory balances can extend this accuracy to 4 decimal places, on the display of the precision balance.

The innovative SmartPan™ weighing pan used by METTLER TOLEDO' XPR and XSR precision balances provides extraordinary stability and significantly reduces the impact of air currents on results. Repeatability is improved by up to %50 and even on 1 mg precision balances, accurate results can be acquired without a draft shield.



WEIGHING SOLUTIONS AND ANALYTICAL INSTRUMENTS

PH, ORP, ION CONCENTRATION, DISSOLVED OXYGEN (DO, BOD) OR CONDUCTIVITY —

Bench-top Meters

Professional and high performance meters for a wide range of applications. Perfect combination of precise measurement technologies and ease-of-use.



Portable Meters

High-end (IP67) meters engineered to provide users with fast quality data, one-handed operation, and durability.



Electrodes & Sensors

These electrodes & sensors combine innovative technologies and a tradition in glass-blowing for fast, accurate and reliable measurements.



Buffer Solutions & Electrolytes

Traceable to primary standards and come with a quality inspection certificate, which guarantees the stated values and traceability.





## LIQUID & MEDIA HANDLING INSTRUMENTS & EQUIPMENT

# METTLER TOLEDO

## LIQUID HANDLING FOR THE LIFE SCIENCES - PIPETTES

METTLER TOLEDO is the technology leader in the unmatched, very precise and accurate liquid handling laboratory instruments and solutions which guarantee better results at higher sensitivities.

LIQUID HANDLING FOR THE LIFE SCIENCES

PIPETTES

Single Channel Pipette Pipet-Lite XLS

With proven accuracy and precision, Pipet-Lite XLS+ single channel pipette is among the most ergonomic manual pipettes available.



Multichannel Pipette Pipet-Lite XLS

Multichannel Pipette Pipet-Lite XLS+ new liquid ends are made of durable, lightweight materials and new mechanical designs.



Multichannel Adjustable Spacer Pipet-Lite XLS

For speed, ease and accuracy, nothing beats the Rainin Pipet-Lite XLS Adjustable Spacer pipette for streamlining complex workflows.



Single Channel Electronic Pipette E4 XLS

With the Rainin E4 XLS+ Single Channel Electronic Pipette, METTLER TOLEDO has set the standard for simplicity and performance in electronic pipetting.



Electronic Multichannel Pipette E4 XLS

Multi-dispense, mixing and other pipetting modes on the E4 XLS+ multichannel pipette are easy to use and minimize setup time for high throughput work.



LIQUID HANDLING FOR THE LIFE SCIENCES

PIPETTES

Electronic Adjustable Spacer Multichannel Pipette  
E4 XLS

Reduce up to %98 of your pipetting steps when transferring multiple samples between plates, tubes and other vessels.



Pipette Tips

Made from %100 virgin polypropylene in a fully automated, Class 100,000 clean room facility.



LiteTouch System and Universal Fit

Rainin tips optimize work with different kinds of pipettes:

- LTS: Rainin LiteTouch System™ pipettes
- UNV: Universal-fit pipettes, by Rainin and other manufacturers.

Unique to Rainin, the LiteTouch System connects a specially shaped nozzle to a perfectly matched LTS tip to deliver the industry's lowest tip mounting and ejection forces. The result: fewer repetitive stress injuries and more comfort while pipetting.



Before LTS      After LTS

Pipette Management

Control your pipettes with SmartStand and EasyDirect Software.



High-throughput Pipetting

From completely manual to semi-automated, Rainin -384/96well pipettors and consumables deliver outstanding performance.





# INTEGRA

Moving liquids in a precise and productive way is core to many tasks of laboratory professionals in the life sciences industry.

## MEDIA PREPARATION & DISPENSING AND LIQUID HANDLING

### Media sterilization

MEDIACLAVE allows for a much shorter process in which medium formulation and sterilization is carried out in one single step. The temperature of the agar medium is precisely monitored and controlled during the entire process.



### Media Automatic Dispensing

MEDIAJET can process up to 1100 dishes in a single hour and provides truly reliable walk-away operation. Equipped with a UV lamp, the filling chamber where Petri dishes are automatically filled with agar medium, is kept free from contamination.



### Peristaltic Pumps

DOSE IT peristaltic pump is an easy to use device that can be used for many purposes. It is extremely light it is also easy to create individual programs, e.g. dispensing with continually increasing speed for density gradients.



### Flame Sterilization

FIREBOY: Two different types of safe Bunsen burners for connection to a gas distribution system or gas cartridges.

FLAMEBOY: Flame pistol with piezoelectric ignition for connection to a gas distribution system or gas cartridges.





IN VITRO FERTILIZATION (IVF) LABORATORY



**NARISHIGE**

MICROSCOPY & IMAGING SOLUTIONS

Fertility treatment is a cutting-edge process, in which we contribute by delivering the highest level of specialty in equipment and supplies so the most exhaustive testing process comes in handy.

MICROSCOPY & IMAGING SOLUTIONS

ICSI STATION & IMSI IMAGING METHOD

ICSI Station - NIKON & NARISHIGE

The ICSI Station consists of Nikon Ti inverted microscope, Narishige micromanipulators, TokaiHit glass hotstage and the Nikon NAMC objectives

The NTX is a dedicated micromanipulator set for the Ti2 inverted microscope that allows effortless setup and easy adjustment of the pipette holder.



(IMSI) - High magnification light microscopy imaging method

Intracytoplasmic morphologically selected sperm injection (IMSI) is a technique in the in vitro fertilization (IVF) field used to select the healthiest sperm for intracytoplasmic sperm injection (ICSI). This technique has been shown to increase pregnancy rates and reduce abortion rates compared to routine ICSI-IVF.



The easy switching between IMSI and ICSI is made by simply rotating the nose piece to change the view.

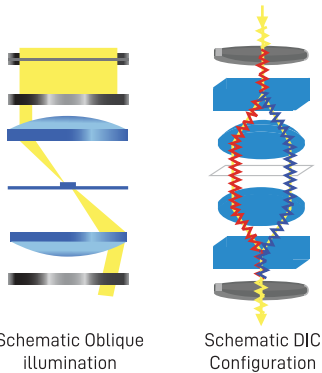


With Nikon, IMSI is performed on the microscope binoculars without the need to switch your view to the camera monitor.



Photos courtesy of Farah Hospital, IVF lab  
Amman - Jordan

The main objective in configuring a microscope for IMSI is to achieve magnifications of at least 6000x. This may be achieved using a Nikon inverted microscope equipped with high resolution Normarski optics (100x oil or 60x oil Plan Apo VC) enhanced by a videozoom and digital imaging.



There are two ways to view 3D images; oblique illumination and DIC. The first one compromises the resolution while Nikon IMSI solution is based on DIC which does not affect of the image resolution.





MICROSCOPY & IMAGING SOLUTIONS

INTRACYTOPLASMIC SPERM INJECTION (ICSI) STATION



The junction positions of the microscope's support section and the supporting parts of the motor-driven manipulator are set depending on each pipette's angle, and the angle of the pipette holder can be easily adjusted.

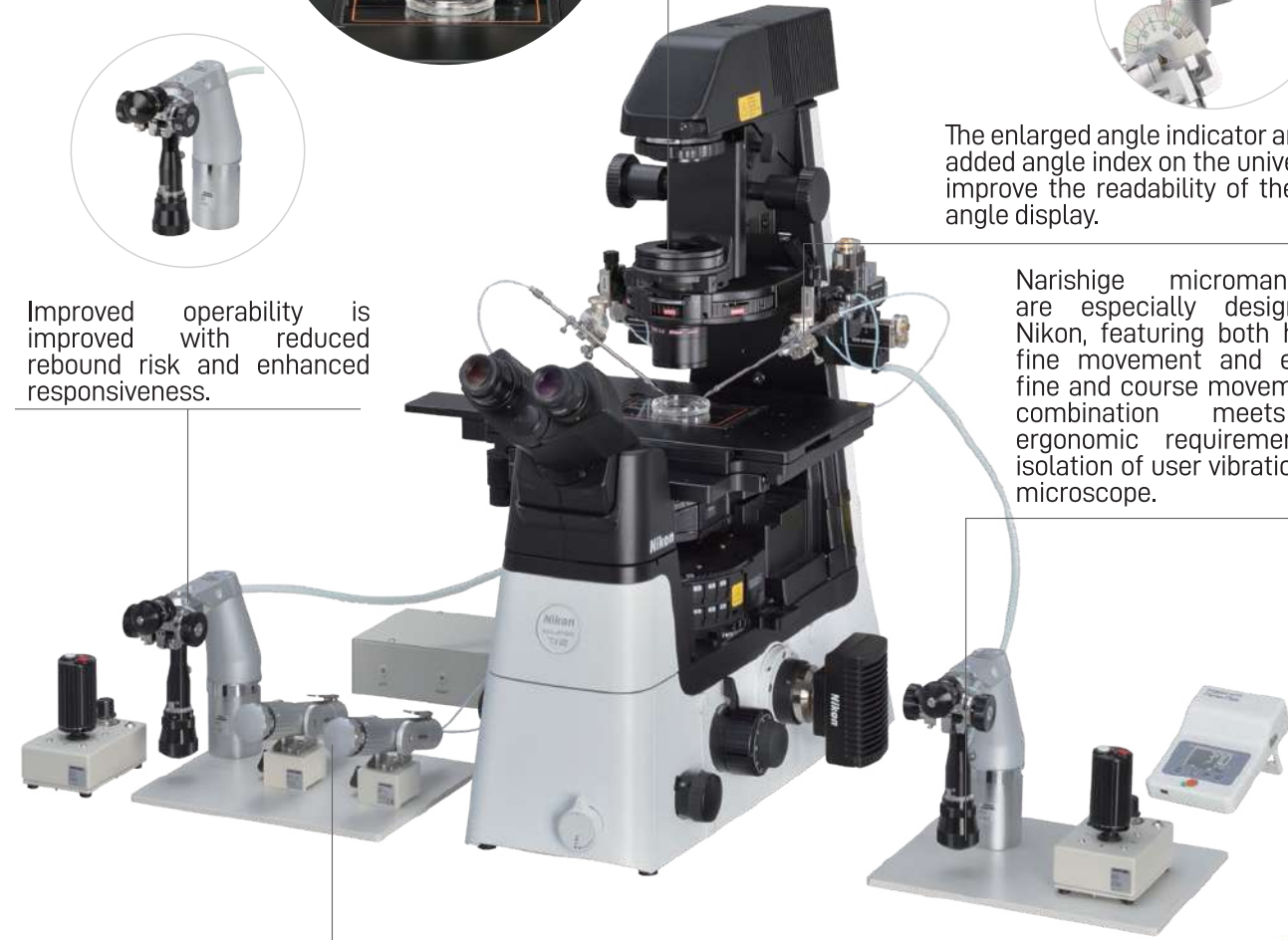


The enlarged angle indicator and newly added angle index on the universal joint improve the readability of the pipette angle display.

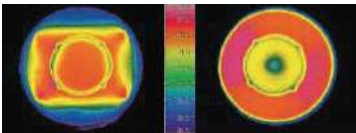


Improved operability is improved with reduced rebound risk and enhanced responsiveness.

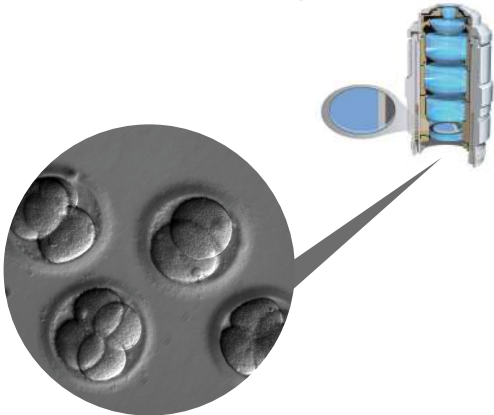
Narishige micromanipulators are especially designed for Nikon, featuring both hydraulic fine movement and electrical fine and course movement. this combination meets user ergonomic requirements and isolation of user vibration on the microscope.



Pneumatic Microinjector, Oil-type Microinjector and Pneumatic Injector.



TokaiHit hotstage is made of special break resistance glass with high optical transparency and offers a uniform and precise temperature control which is not achievable using the metal hot stage.



NAMC (Nikon Advanced Modulation Contrast) NAMC provides pseudo-three-dimensional images with a shadow-cast appearance. The direction of contrast can be easily adjusted for each sample.



## IN VITRO FERTILIZATION (IVF) LABORATORY



## INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

ESCO provides high-quality equipment such as long-term embryo incubators, ART workstations, anti-vibration tables, time-lapse incubators and they continuously develop advanced technologies to meet the increasing demand of the IVF industry.

INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

FULL RANGE OF EQUIPMENT FOR YOUR IVF LAB

Time-Lapse

With Miri® TL6 and Miri® TL12 Time-Lapse Systems, you will never miss a significant event in embryo development with the continuous monitoring system

It is a multi-room incubator with a built-in camera and microscope that allows embryologists to view the development of the embryo from fertilization until the day of transfer without any disturbances.



Multi-room Incubator

The 6-chamber and 12-chamber format prevents cross-contamination while HEPA+VOC filtration cleans the airstream. The chambers are also independent of each other; hence, any disruption such as temperature drop when opening the lid will have no impact on the rest of the system.



IVF Workstations

The Basic Models; Fertilisafe with Miri Chambers and Multi-purpose Models from ESCO have been designed to keep the culture dish at the right temperature at all times while observation and manipulation is carried out.

Widths of 120 to 180 cm are available with single and double microscope setup for one or multi-users.



AVT Anti Vibration Table

The Anti Vibration Table (AVT) features an anti-vibration mechanism for passive dampening of the microscope.





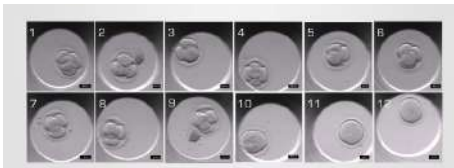
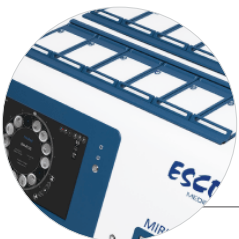
INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

TIME-LAPSE EMBRYO INCUBATOR

The Heated Lid prevents condensation, enhances temperature regulation and recovery and creates uniformity between the top and the bottom lid.



The Multi-room System with individual chambers allows embryologists to culture embryos within one independent environmentally stable chamber for each patient.



Miri® TL can continuously capture time-lapse images of your embryo as it develops using a built-in camera and a microscope.

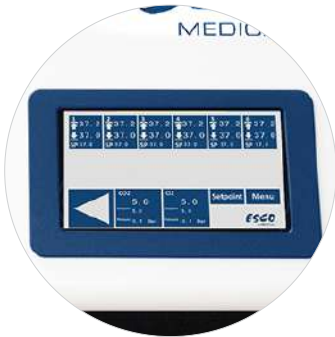


As images are digitally-stored, a video can be generated to enable a more objective and reliable grading of the embryo. The Time-Lapse video enables a detailed scoring of embryos cultured for better prediction of future development and implantation potential.



The Gamma-sterilized CultureCoin is used for culturing each embryo in its own environment. It features ergonomic design for easy, safe, and secure handling of embryos, independent wells for pH measurements and Oxygen plasma treated surface for effective prevention of bubble formation.

Easily change parameter settings with a reliable touch-screen display. Configuration is as simple as you need it to be.



INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

MIRI® BENCHTOP MULTI-ROOM INCUBATOR



The heated chamber lids prevent condensation, enhance temperature regulation/recovery, and ensure temperature uniformity between the top and bottom of the chamber



The Heated bottom provides direct heat transfer to the cultures through the optimization plate for stable heat regulation. It also comes with Optional SAFE Sens® Integration for continuous pH monitoring.



the glass lid tops, while acting as chamber insulators, can be written on which is a very useful feature for organization.



Six and Twelve independent MIRI® chambers, with precise temperature and gas regulation: Opening any chamber does not affect the environment in other chambers. Temperature or gas fluctuation caused by opening the lid have no impact on the rest of the system

Mute Button that temporarily mutes alarm messages and sounds for five (5) minutes.



Superior gas system works with premix gas or %100 CO2 gas, with NDIR CO2 sensor to regulate CO2 levels.  
HEPA-VOC gas filtration system ensure clean gas recirculation

INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

FERTILISAFE™ MULTI-ZONE WORKSTATION

The touchscreen monitor is a fully functional Windows PC with additional features;

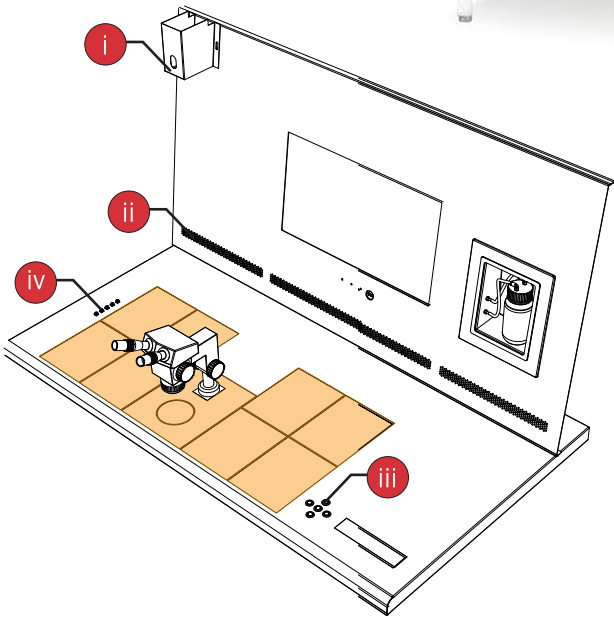
- Observe and record culture behavior in real time via microscope camera function.
- Enable teleconference calls with colleagues in other sites for real-time collaborative work (Note: Webcam is not supplied).

The heated glass stage has a dedicated and uninterrupted power supply to further enhance the temperature control and recovery in this zone.

The Humidification System allows digital control of pre-mixed gas, which enables complete environmental control for the samples. Gas outlet port is located on the table surface and the plastic cover will enclose the humidified gas which creates a small "incubator".

Having an integrated stereomicroscope in the work chamber makes it possible to keep the culture dishes at the right temperature while observation and manipulation is being carried out. Fewer movement will also reduce risk of accidents.

Your specimens are more secured than ever with the integrated Mirc chambers, known for its stable and precise temperature output.



The heated glass stage is a monitored heating zone with

- i - Airflow velocity sensor
- ii - Auto-purge slots
- iii - Control panel for table plate
- iv - PT1000 temperature validation ports

Multi-Zone Heating System with Four (4) Temperature Modes

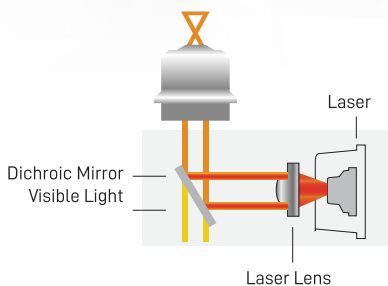
1 set point, 10 independent zones with their own heating elements and sensors allow excellent uniformity. The heating system will automatically prioritize power distribution to ensure effective temperature control with fast recovery.



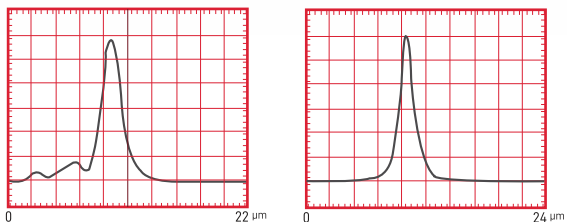
Hamilton Thorne designs, manufactures and distributes precision laser devices and advanced image analysis systems for the fertility, stem cell and development biology research markets.

CLINICAL LASERS

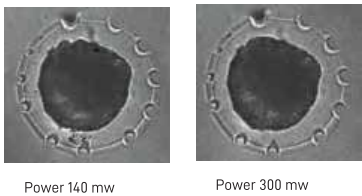
ZILOS-tk laser is integrated into the objective which is attached directly to the turret of the inverted microscope, leaving both the fluorescent and filter cube ports open for normal use.



The laser is integrated as part of the objective to guarantee optical alignment, to provide protection against dust and to sustain the alignment for the life time of the laser.

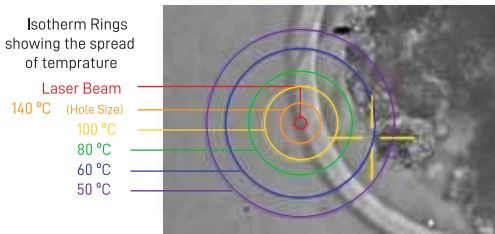


The Laser beam should be aligned perfectly with the visible light with all laser components built into the objective, this way, safety can be guaranteed and maintained.



The laser is designed with the specimen safety as No. 1 criteria, utilizing high power laser and factory aligned laser optics integrated into the laser objective, this assured the shortest shot time is needed and there by reducing the heat impact from the laser to minimum.

**ZILOS-TK® Laser**  
It is an integrated Laser and 40x Objective Combination; Compact, portable and unique! The ZILOS-tk laser is integrated into the objective then the ZILOS-tk laser-objective is attached directly to the turret of all current and older models of the inverted microscope.



The patented isothermal rings is a validated algorithm that calculates how far the heat resulting from the laser shots will spread deep into the specimen.



Hamilton Thorne designs, manufactures and distributes precision laser devices and advanced image analysis systems for the fertility, stem cell and development biology research markets.

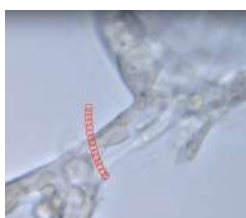
## CLINICAL LASERS

LYKOS with Dynamic Targeting System™ (DTS) represents the next generation of clinical lasers for Assisted Reproductive Technology.

With precise targeting features, automated calibration and built-in quality control reporting, LYKOS with DTS provides computer-controlled accuracy and enhanced ease-of-use

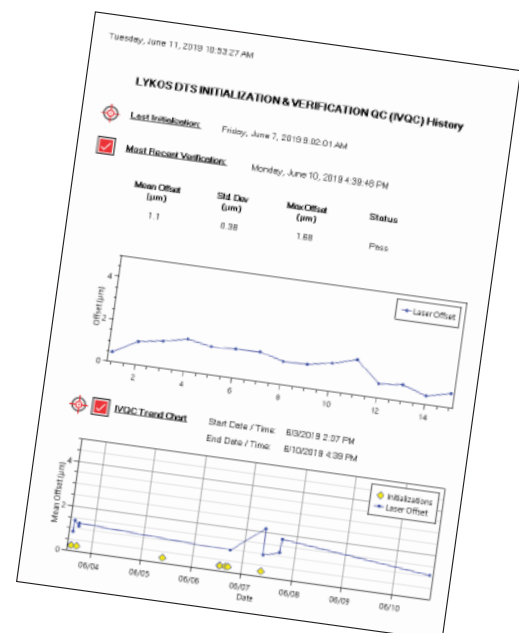


- Single Shot: Click any single point on the screen and a single laser pulse will be applied to that exact point.
- Line / Curve: Draw a straight line of any length and then select and drag to create a curve.
- Freehand: Any freeform path may be drawn by clicking and dragging the mouse pointer.
- Multipoint: Click up to 10 non-connected locations to apply laser. Each point may have a different laser setting.
- Rectangle: Click and drag to draw a rectangle of any proportion.



Built-in Quality Control Reporting: With the built-in quality control reporting, you can view the results of the daily verification in both numerical and graphical form. In addition, a Trend Chart lets you see the results over a selected period of time.

DTS Verification: The DTS positioning can be easily verified prior to use and the results of the verification saved.







The world's largest manufacturer of serial-production environmental simulation chambers for scientific or industrial laboratories

TEMPERATURE, CLIMATE & ENVIRONMENTAL SIMULATION CHAMBERS

CO<sub>2</sub> incubators

CO<sub>2</sub> incubators with hot air sterilization are contamination-proof due to 180 °C hot air sterilization and reliably pH-stable thanks to the drift-free infrared CO<sub>2</sub> measurements conducted in real time.



Cooling incubators

Every KB Series cooling incubator makes safe, reproducible incubation possible, even at high ambient temperatures as they are gentle on samples and provide high-quality performance.



Growth chambers

The KBW Series growth chambers create ideal conditions for the culture using light and temperature thanks to homogeneous light in combination with a constant temperature and humidity



Ultra-low temperature freezers

the BINDER ultra-low freezer guarantees absolute temperature stability during vaccine storage. Especially when storing vaccines that require a cold chain



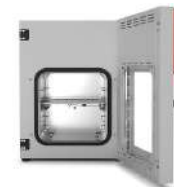
Drying and heating chambers

The heating oven series is a reliable and powerful unit ideal for tasks in basic research, as well as in human and veterinary medicine.



Vacuum drying chambers

enable effective drying without residue or damaging the material being dried where the samples and similar materials incorporating flammable and non-flammable solvents can be dried, depending on the individual use.



Constant climate chambers

reliable all-in-one solution for photostability testing in a single chamber. Wide temperature and humidity ranges can be realized with Series KMF chambers – ideal for complex stress tests at 85 °C and 85% RH, for example



Dynamic climate chambers

Dynamic climate chambers Series is suitable for complex temperature profiles in the range of -40 °C or -70 °C to 180 °C. and can also regulate humidity in the range of 10 % to 98 % RH.



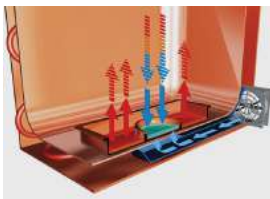
INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

TEMPERATURE, CLIMATE & ENVIRONMENTAL SIMULATION CHAMBERS



**Heat jacket**  
This heated jacket heats the incubator chamber directly from all directions, resulting in a fast temperature recovery time and more uniform heat distribution.

**Intuitive Touchscreen Controller**  
Internal data recording, can be read out in open format via USB interface.



**Premadry humidification**  
Binder technique to prevent condensation with cold spot integrated to condensate the excess humidity

**The new drift free CO<sub>2</sub> sensor technology**  
the new detector and source are inherently stable without the need for compensation with direct access to the sensor making maintenance easier



3 perforated shelves, stainless steel.

Lockable door handle.

170 liters of extra space in the interior while maintaining the same footprint.



**DuoDoor™ system:** Unit door and glass door can be opened with one handle.

**Multi-layer security concept,** meeting any laboratory staff's needs beyond expectations



- Temperature range: ambient temperature plus 4 °C to 60 °C
- Humidity range: 90 to %95 RH
- CO<sub>2</sub> control range: 0 to 20 vol% CO<sub>2</sub>
- O<sub>2</sub> control range: 0.2 to 20 vol% O<sub>2</sub> for versions with O<sub>2</sub> control
- Maximum usable space with minimal footprint and excellent ease of use
- Minimum risk of contamination thanks to uncompromising hot-air sterilization

INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

QUALITY CONTROL SOFTWARES

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Quality Control - ROTRONIC

The RMS Monitoring system from Rotronic for IVF Laboratories consists of data loggers that come in small housing and wireless interface and an interface between the wireless data logger and the server software that can manage up to 60 data loggers simultaneously.



MediTEX IVF Software

MediTEX IVF is a platform that enables you to collect all data relevant to diagnostics and therapy. MediTEX IVF consists of the functions; EMR - Electronic medical record, Practice management and organization and data validation and prospectivity.



Oosight™ Software

Oosight™ software improves your quantitative and reproducible method to measure biological disruption in either fresh or previously frozen oocytes. You can now select oocytes for ICSI and embryos for implantation and use the system as well to help improve enucleation efficiency.





IVF LABORATORY CONSUMABLES & PORTABLES

Disinfectants - SparMED

OOSAFE® IVF Laboratory Disinfectants; For all your disinfection needs in IVF Laboratories with Oosafe Disinfectant of CO<sub>2</sub> Incubators and Laminar Flow Hoods, Oosafe Surface Disinfectant, Oosafe Hand Disinfectant and Oosafe Disinfection Wipes.



Filters - SparMED

Oosafe® Filters are an inline filters used in between CO<sub>2</sub> incubators and gas sources to purify incoming CO<sub>2</sub>, N<sub>2</sub> and premixed gas against Volatile Organic Compounds (VOCs), Chemically Active Compounds (CACs), bacteria, odor, dust and more.



OOSAFE® Air Cleaner KN - SparMed

Oosafe® Air Cleaner KN is an advanced equipment designed for IVF Laboratory use which purifies air against Volatile Organic Compounds (VOCs), Chemically Active Compounds (CACs), particles, microorganisms, toxins, solvents and odor.



VitroStash - COLDSTASH

A dewar retrofit with VitroStash will cost about half of a new dewar. VitroStash increases current storage capacities by more than 2X. No need to change current lab configurations. Enhanced grid configuration allows for simple, ergonomic storage. Fewer dewars further reduces energy and LN2 costs.



G100 CO<sub>2</sub> analyser - Geotech

The G100 provides the user with a fast, simple to use and accurate piece of laboratory kit. The key benefit of using the G100 is the ability to take simultaneous CO<sub>2</sub>, O<sub>2</sub>, relative humidity and temperature readings.



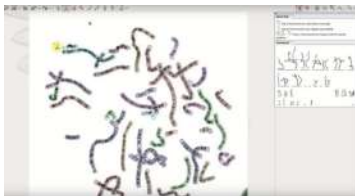




GENETICS LABORATORY SOLUTIONS

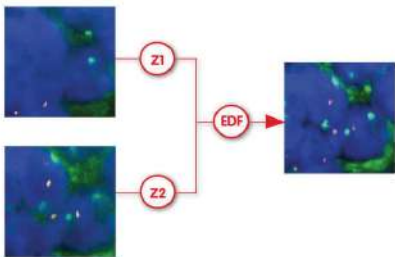
LUCIA KARYO - LIM & LUCIA CYTOGENETICS

LUCIA Karyo is a powerful feature-rich software that provides a capable helper for all kinds and sizes of cytogenetic laboratories.



LUCIA FISH/mFISH - LIM & LUCIA CYTOGENETICS

Image acquisition with different levels of user control, from fully-automatic to fully-manual.



Microarray

Microarray technology has greatly contributed to research in many areas including functional biology, genomics, transcriptomics, and proteomics, both in plants and animals.



Lucia Metaphase Finder

The Metaphase Finder system comes in a very compact set and offers flexibility comfort and seamless work flow.



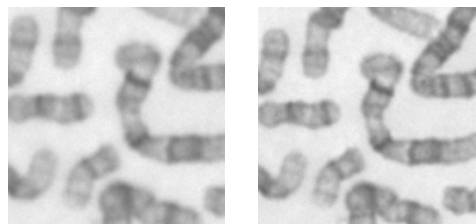
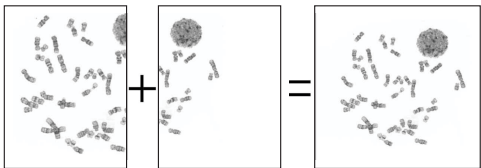
INNOVATIVE SOLUTIONS FOR FERTILITY CLINICS & LABS

LUCIA CYTOGENETIC SOFTWARE



**LUCIA Karyo** is a powerful feature-rich software created by experienced programmers who work in tight cooperation with experts on biology and cytogenetics. The whole team's top priority is to provide a capable helper for all kinds and sizes of cytogenetic laboratories.

**A single click** is all what you need to capture images and LUCIA will do the rest of camera correction and image enhancement.

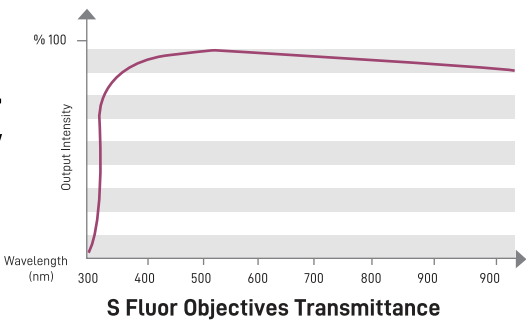


Dedicated Karyotyping Objective

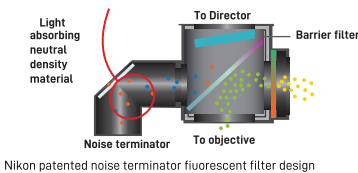
Specialized 100x objective dedicated for karyotyping application which offers the highest possible resolution.

Superior Fluorescent Objectives

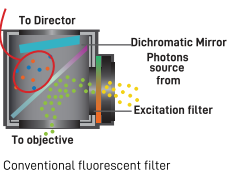
CFI super fluor lenses provide the highest ultraviolet transmission, exceptionally high N.A., chromatic correction, transmission below 340nm and low auto-fluorescence.



Stray light terminated away from the eyepieces eliminating the Noise



Stray light reflected from the filter toward the eyepieces creating Noise



5 Times Less Fluorescence Noise

The noise terminator is installed to process excitation light (stray light) that passed through the dichroic mirror, thereby preventing the light leaking into the observation side.

With LUCIA Reporting is easier

- Standard user interface to most document editors
- External objects and images can be inserted to the report
- Easy system data insertion
- Conditional karyogram usage
- Unlimited undo history



## INSTALLATION, QUALIFICATION, VALIDATION & REPAIR

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### OUR SERVICE TEAM

We understand the importance of adequate services and the need for a properly qualified service team to perform their tasks as expected along with the continuous changing of technologies.

Therefore, our service team receives professional training through dedicated training programs provided by our manufacturing partners and by Taawon internal programs.

### INSTALLATION AND COMMISSIONING

It is one of our responsibilities to serve a complete successful installation and commissioning of the equipment we supply; That also includes staff training on the operation of the instrument and other optional services.

### CUSTOMER TRAINING

We offer training on the application and the preventive maintenance of all the equipment we supply.

### MAINTENANCE & REPAIR

Maintenance and repair are performed by a well trained team of engineers and technicians. With the aid from manufacturing companies manuals, most repairs can be done at customers' sites or at Taawon's workshop if needed which is fully equipped with specialized tools and instruments for different tasks.

### CALIBRATION & CONTRACTS

We offer calibration services for selected instruments such as weighing solutions, titrators, particle counters, humidity sensors and thermal analysis. For some instruments we offer to do the adjustment based on calibration reports generated.

We also offer annual contracts that includes routine visits and emergency calls, it also includes different options for quality control assistance.



## INSTALLATION, QUALIFICATION, VALIDATION & REPAIR

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### QUALIFICATION

Qualification is a critical step to which we are dedicated to perform for pharmaceutical industries including all the instruments and equipment we supply. we also perform qualification in other sectors as well.

### SUPPORTING APPLICATIONS & REGULATIONS

With the continuously evolving technologies and the need to comply with local and international regulations and requirements, we update our staff and our clients knowledge and skills constantly to be part of our contribution and support for our customers within our field of specialty

### TRAINING

Training is performed by qualified trainer's of Taawon's team.

our trainers have training experience with different industrial and medical sectors along with special training they have received from different manufacturing companies.

### CERTIFICATES

Trainees who attend our training programs will receive certificates of attendee with details about the training and training period.

Trainees who apply and pass training exams will receive training certificate with training program details.

### TRAINING VENUES

Training for small groups (up to 7 persons) can be conducted at our training room and work shop in Taawon offices, for theoretical and practical parts. For larger number of participants training can be arranged at selected proper locations.



# Contact us

E-mail: [info@taawon.com](mailto:info@taawon.com)

**Taawon for Laboratory & Scientific Supplies**

**Amman - Jordan**

**Tel: +962 (06) 51 55 477/8**

**Fax: +962 (06) 51 55 470**

[www.taawon.com](http://www.taawon.com)