The most versatile and advanced high definition computerised system for microscopic analysis of fibres, yarns, fabrics, non-woven and small parts.

Suitable to perform a variety of analysis, such as:
- fibre fineness (conforms to ISO 137, UNI ISO 1130, UNI 5423, ASTM D276, ASTM D2130 standards);
- fibre identification;
- fibre and yarn cross section;
- research of foreign fibres and of the contamination particles;
- fabric structure (warp and weft density);
- fabric composition, conforms to IWTO 8, IWS TM24, ISO 137, ASTM D2130, NIKE (Section H, Fiber Content Testing Requirements) Standards;
- non-woven uniformity (evenness of fibre distribution);
- inspection of mechanical parts (i.e.: needles, spinnerets, travellers, zippers, etc.);
- monitor the quality of purchased raw materials.

The system is available in 3 versions:
- Video Analyser (Code 250D), complete with both Biological and Stereo Microscope.
- MicroLab (Code 250E), inclusive of Biological Microscope only.
- MacroLab (Code 250F), inclusive of Stereo Microscope only.
System composition

- **LEICA Biological Microscope**, equipped with:
  - Professional lenses, recommended for the longitudinal and sectional analysis of fibres and yarns.
  - Trinocular phototube viewing body with “Siedentopf” design, to adjust the interpupillary distance without changing the focusing.
  - Koehler illumination device for the phase contrast and microphotography (20W).
  - Objective image viewing.
  - Polarising filter for a better sample viewing.
  - High precision focusing system.
  - Slide movement device with micrometric regulation.
  - On screen magnifications from 195X to 2830X.
  - Highly accurate revolving lenses system.

- **High quality LEICA Stereo Microscope**, for the analysis of fabrics, yarns and mechanical parts like traveller, needles and spinnerets. Equipped with:
  - Illuminated base. Adjustable light intensity and direction, particularly suitable for the analysis of fabrics.
  - High precision focusing device.
  - Videocamera connector (oculars supplied as optional).
  - 5 fixed focus lenses.

- **Professional digital color camera** CMOS TP16000AH, USB 3.0, 16.0 Mpixel
  - Image Sensor: 1/2.33” Aptina MN34120 CMOS (6.18X14.67 mm).
  - Pixel Size: 1.335 μm X 1.335 μm.
  - Color Rendering Technique: Ultra Fine HISP Color Engine.
  - A/D Converter: 12-bit Parallel, 8-bit R.G.B. to PC.
  - Max Resolution (Hardware): 4648x3506 (16MP).
  - Exposure: Normal; 0.2-2000 ms.
  - USB Cable: USB 3.0 cable, 2.5 m length.
  - Camera Body: Metal body painted in black, square type, 68x68x46 mm.

- **LED ring light illuminator**
  - Cromaticity coordinates (x, y): 0.320, 0.320 (pure white), 6300K.
  - Optical power: Luminous flux: 220 lumen.
  - Illuminance (at 10 cm distance): 30000 lux.
  - Adjustable brightness.
  - Illumination settings: omnidirectional (ring completely on), oblique (only a quarter or half ring switched on).
• Fibres, yarns, fabrics **sample preparation, and microscope observation kit**, composed by:
  - a complete set for sample preparation (scissors, tweezers, blades, needles, yarn, slides, slide holders, and other accessories);
  - immersion oil;
  - sample holder for fabric analysis;
  - plate for fibre section analysis;
  - calibration slide, for the system routine calibration.

• **Personal computer and printer**
  - Personal computer (Code 237.92), complete with LCD monitor (Code 250.300).
  - Ink jet photographic quality A4 printer (Code 250.4), complete with a set of ink cartridges and high definition photographic paper, supplied as spare.

• Software
  - The Mesdan Video Analyser software is characterised by its high versatility and flexibility; it allows to measure length, surfaces, perimeters, angles, etc. The operator can scroll on screen the stored images for comparison with live pictures, create reports with comments, graphs, statistics, etc.
  - The software is provided with 5 ready-to-use Excel templates for the most common analysis, such as:
    - perimeter and surface calculation;
    - fibre count measurements;
    - yarn/fabric composition (blend analysis);
    - fabric density (cm/inch);
    - generic length measurements.
  - The obtained data allow to produce reports with statistics (CV%, mean values, composition percentages, etc.) and comparative graphs, that can be either printed or stored. In order to ease fibre identification, the software includes a “fibre database”, a comprehensible collection of known fibres represented by their cross section and longitudinal view.

  **Example of fibre fineness analysis:**
  1. **Windows** displays the live picture: it is possible to store/print a picture complete with comments and measurements and export them to an Excel template to obtain statistics.
  2. **“View finder”** pop-up window on the area where measurements are taken, in order to guarantee the best accuracy.
  3. **Material chart**: the name of the material to be tested is entered here (each material measurement is expressed in different colours); if necessary, each measurement will be exported automatically in pre-set Excel columns.

Available Languages: Italian, English, Spanish, Portuguese and Polish.

**Optional**

- **63X Lens (for the Biological Microscope)** as replacement of one of the 4 lenses supplied as standard with the microscope, it enables a 2830X on screen magnification. Code 250.336.
- **Optical fibre illumination device** (for both Biological & Stereo Microscope), 70000 lux illuminance (at 10 cm distance), equipped with two arms (each one 50 cm long), 14W LED, brightness control potentiometer. Code 250.318.
- **C-STEP Connector with 0.5X Lens (for the Biological Microscope)**. The installation of this connector allows to halve the on screen magnification and double the sample field of vision. Code 250.338.
- **Trinocular Kit** (for the Stereo-Microscope), to display the sample image either on the PC monitor or in the oculars. Code 250 340.
- **C-STEP Connector with 0.5X Lens (for the Stereo-Microscope)**. The installation of this connector allows to halve the on screen magnification and double the sample field of vision. Code 250.334.
- **Translator stage for the Stereo-Microscope**. Code 250.424.

**Consumables**

- Set of 50 slides, Code 191.50.
- Set of 200 slide covers, Code 191.52.
- Immersion oil bottle, Code 191.54.
- Set of cartridges for printer, Code 250.322.
Some examples of the most typical applications of Video Analyser:

- Fibre identification of fineness
- Length view of cotton fibre and wool fibre
- Viscose fibre (section view)
- Glass fibre
- Section of round hollow fibres
- Yarn crimp evaluation
- Perimeter & area
- Lycra core protusion
- Analysis of Lycra filaments
- Non-woven regularity
- Fabric density assessment
- Contamination analysis
- Parts inspection - comparison
- Section of indigo yarn

**DIMENSIONS / POWER SUPPLY**

- Weight: 53 kg
- Dimensions: (L) 1080 x (W) 700 x (H) 700 mm
- Power supply: 100-240 Vac, 50/60 Hz

Photographs and descriptions of the present leaflet have to be considered as purely indicative and not binding.

**REFERENCE STANDARDS**

- ISO 137, UNI EN 12751, UNI 5423, UNI ISO 1130, ASTM D629, ASTM D2130
- ASTM D276, AATCC 20, IWTO 8, IWS TM 24, NIKE (section H, fiber content testing requirements)