

Image Analysis



Design a vision system

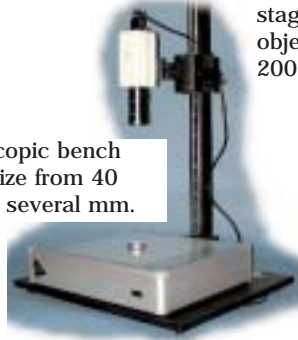
Motorized microscope (3 Axes , X, Y , Z-Focus)
object size from 0.1 micron to 15 μm .



Stereo magnifier, equipped
with a motorized scanning
stage.
object size from 20 μm to
200 μm



Macroscopic bench
object size from 40
 μm to a several mm.



Microscope with a manual X, Y stage equip-
ped with encoders for measurements
outside the current field of view.



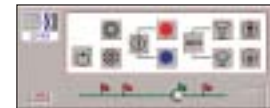
Monochrome camera
(high sensitivity)



Acquisition by scanner or a digital
camera controlled by a Twain dri-
ver.



CCD color digital camera
IEEE 1394 (1,450,000
Pixel)



A macroscopic zoom (2 x to 90 x)
remotely controlled by software
with a motor driven auto-focus
system



A halogen lighting
generator for annular
optical fibers

Semi-rigid fibers, emerging annular
fibers.



Digitalization kit with an acquisition board to
the PCI bus, with connecting cable for 4 came-
ras (RGB, YC, PAL).

Computer system with custo-
mized configurations running
under the Windows NT/2000/XP operating systems.

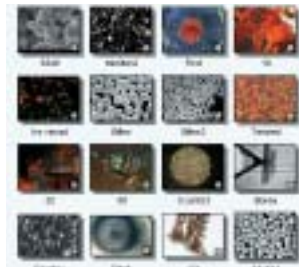


Acquiring, Archiving : Archimed Pro

Database



The database module creates an image database using Access® format, allowing multi-criteria searches in user selected headings. A "small image" index is automatically created and is printable.



"Small image" index



Identity sheet



Catalog formatting



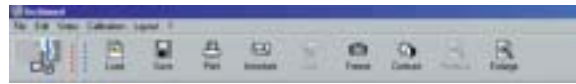
Search criteria

Real time video



The real-time video module displays an image digitized by the acquisition board. The image can be calibrated, annotated and enhanced in real time.

Options allow the accumulation of images for weakly illuminated objects and image averaging to eliminate random image noise.



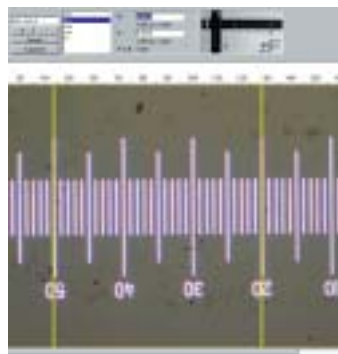
Frame grabber



Positive Reaction



Image enhancement, averaging



System calibration

Image integration and annotations



Overlay



Adjustable calibration scale

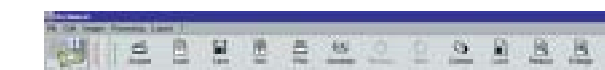
Reporting, Montage : Archimed Pro

Image processing

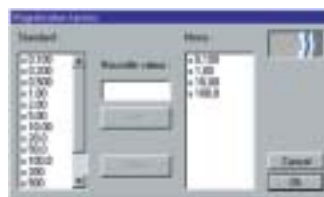


The image processing module allows modification of the image to enhance it, make it clearer or to accentuate its colors.

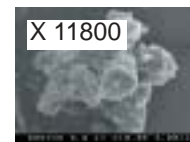
A highly innovative function allows setting the image's size to a known optical magnification factor.



Contrast enhancement, clarity improvement



Magnification adjustment



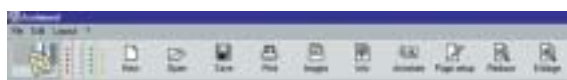
Colour adjustment and modification



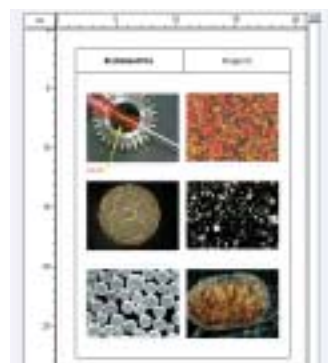
Report



The report module controls an image presentation form, along with the free positioning of photos, insertion of a logo and annotation of legends. The images are directly "imported" into the report from the database, camera or processing module.



Legend annotations



Form formatting

Cartography



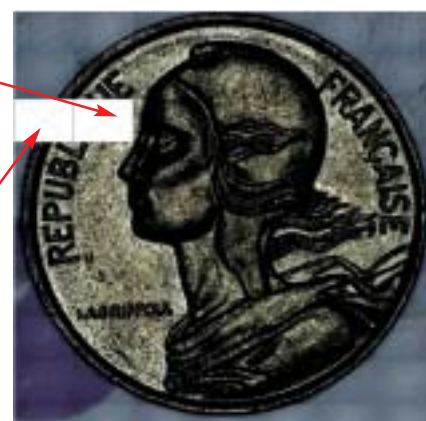
With an indexed X, Y stage, the mapping module allows you to arrange into a single image several acquired images. The reconstructed image becomes a high definition image which can be printed and even exported to other software.



Positioning grid



Final montage



Software

Videomet



Videomet is software for taking measurements of components. It includes many powerful interactive measurement tools. With its edge sensor using image analysis Videomet provides all the facilities of a powerful video profile projection system for metrology.

Videomet permits repetitive analysis of the same locations on different components. The measurements include : position, length, width, elongation, diameter, radius, equivalent diameter, perimeter, area and form factor.

Areas

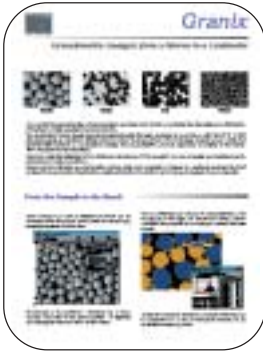


Areas measures the area fractions of different phases of a materials, classified and defined by the user.

Areas provides the following results :

- Area
- Area fraction %

Granix



Granix analyzes particle size using non-contact electronic screening. This technique rapidly generates particle size distributions of a population, which are then expressed in a format declared by international standards.

Gsizer



GrainSizer provides a rapid estimate of grain index according to the ASTM E-112 and NF04-102 standards.

The following results are stored : Mean grain area, average number of grains per mm², ASTM or NF index.

Ellix



Ellix is software for automatically analyzing shapes, by fitting a shape to objects in each image according to various geometric models.

Ellix provides a very complete graphical representation module : distribution histogram, scattergrams and a compass of orientations whose axes and scales are completely customisable. Statistical analyses are also provided.

Filtrex



Filtrex is an automatic particle and fiber counting and sizing application.

With an X,Y Automatic stage, Filtrex thoroughly analyses filters and membranes of any kind.

Replay



Replay is a digital video recorder, which automatically records video images from a PC equipped with an acquisition board.

The recording is executed in 4 modes :

- Manually when prompted
- Periodically eg time lapse
- Automatically change is detected
- When the image stabilizes



With the Thermo software, Replay records a session of images with the temperature inset into each image. The sequences can be converted into AVI film.

The temperature value can be taken from a Mettler™ or Linkam™ controller associated with an FP series or Linkam series heating plate



Company profile and services

Microvision Instruments



Microvision Instruments, a French company created in 1992 with a capital of 135 000 Euros located at Evry (30 km south of Paris nearby the Orly airport), designs and markets image analysis based measurement systems.

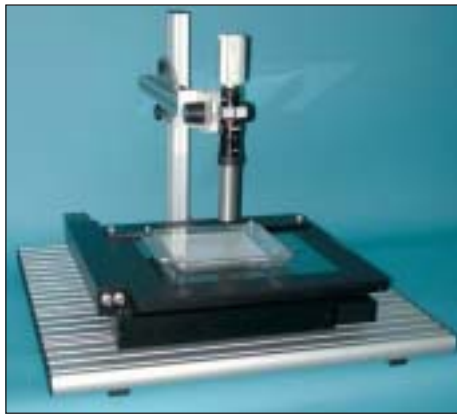
Its customers are manufacturers and public/private research agencies : Alcatel, BP, Cabot, CNRS, Dassault, Du Pont de Nemours, Inserm, Knauf, Lipha, L'Oréal, Nestlé, Philips, Aventis, Sanofi-Synthelabo, Altadis, Thales, Pfizer. And, its systems are installed throughout world in such countries as Belgium, Brazil, Spain, Great Britain, Hungary, Italy, Luxemburg, Japan, Switzerland, Czech Republic, Egypt, USA.

Thanks to the services provided, Microvision Instruments is capable of responding to any problem formulated by its customers, writing the specification to devise solutions, producing them, and delivering a finished and installed product. These services are provided alone or as a complement to standard products.

Services

Microvision provides complete standard or dedicated systems. For each system, Microvision supplies the micrometers or the calibration rulers with a COFRAC® or NAMAS® certificate, the peripheral consumables (for thermal printers, inkjet printers, etc.), lenses and customized lighting systems.

Our Expert Measurement department proposes for a reasonable price to analyze a batch of samples. In the case of specific studies, our partners equipped with our systems remain at your disposal to study the results of your analyses.



Scanning stage with a traveling range of 300 mm x 300 mm, on a Tech Systèmes ® bench.



Manual X, Y stage adapted for a Navitar ® zoom on a Tech Systèmes ® bench.



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