



» Heating Microscope with Automatic Image Analysis Comparison of EMI 2 and EMI III

» Product Description of EMI III

One essential component of Hesse Instruments' heating microscope is the heating microscope software EMI III, which provides the following functions:

- ... Preparing, executing and evaluating measurements
- ... Documenting data and measurement results
- ... Managing measurements and user accounts

Similar to EMI 2, measurements are evaluated in real time while being taken. During a measurement, the current results are being displayed in parallel as images, graphs and numerical values. The manual evaluation comprises the editing of the data and results of a measurement as well as the creation of test reports. All measurements are managed in an internal database.

» Comparison

Compared to the previous software EMI 2, EMI III offers a higher performance and a wider scope of functions as well as a modern user interface.

The higher performance is achieved by upgraded hardware components on the one hand and by newly developed evaluation algorithms on the other hand. Both result in a higher resolution of the image analysis and hence increase the precision of the measurement results.

The scope of functions of EMI III was enhanced for each measurement step from preparation tasks like setting up the camera image to evaluation tasks like an interactive display of measurement results or extra options for creating diagrams and measurement reports.

You will find a detailed comparison on the next page.

Differences at a glance

EMI 2 EMI III

Preparation of measurements	Support for adjusting the camera image	✗	✓
	... Definable image section for the image analysis	✗	✓
	... Utilities such as a grid or specimen silhouettes	✗	✓
	Storage of measurement settings and heating profiles as methods	✗	✓
Execution of measurements	Automatic control of the furnace	✓	✓
	Real-time evaluation and display of results	✓	✓
Evaluation of measurements	Interactive displays of measurement results	✗	✓
	Input of extensive notes possible	✗	✓
	Recording of all evaluation changes	✗	✓
	Advanced functions for diagrams and images:	✗	✓
	... Zoom and image details		
	... Results markers on graphs		
	Storage of generated diagrams	✗	✓
Management of measurements	Enhanced data base	✗	✓
	Enhanced archiving function	✗	✓
	Enhanced export function	✗	✓
Automatic generation of measurement reports	Short measurement report	✓	✓
	Long measurement report	✗	✓
	... User-defined content		
	... Insertion of notes, diagrams, etc.		
	... Insertion of user data (i.e. logo)		
	... Cover sheet with text fields		
Advanced configuration options	Evaluation parameters	✗	✓
	Users and user rights	✗	✓
	User data	✗	✓
	... Logo ... Address		
Expansion with modules		✗	✓

Advantages of EMI III compared with EMI 2

Enhancement of the performance

Programmed for current operation systems (Windows 7 and higher, 32BIT and 64BIT) » EMI III can access up-to-date hardware, enhancing its performance

Use of a network compatible CCD-camera » Quick and digital transfer of the recorded images to the computer (1000 MBit / s)
» No conversion loss
» Increase of the image quality

Development of new evaluation algorithms » Finer resolution of the gray-scale analysis during the automatic image analysis

Increase in efficiency

Structured and clearly arranged user interface » Easy and intuitive operation of the software during setup of the camera image and preparation, execution and evaluation of measurements
» Short training periods for new users
» Clear display of measurements and results

Various editing options » Bigger scope of functions than in EMI 2
» Evaluation via linked and interactive diagrams, tables and images
» Optimal and quick evaluation of measurements
» User-defined design of diagrams and measurement reports
» Automatic generation of measurement reports possible

Control and flexibility

Configuration of evaluation parameters » Direct influence on the automatic image analysis
» Adaption of the parameters to diverse and non-typical measurement concepts possible

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