MAPS-2

**Fully automatic, PC-controlled preparation system with a unique graphical user interface**

MAPS-2 is the ultimate solution for automatic preparation of materialographic specimens. A modular system which is tailored exactly to the user’s specific requirements. MAPS-2 takes care of the entire preparation process - from plane grinding to final polishing – including cleaning and drying. The preparation quality is excellent, and due to the precise control of all preparation parameters and consumption of abrasives and lubricants, the reproducibility is second to none. Another consequence of controlled preparation is considerable savings in preparation costs.

Modularity means flexibility. MAPS-2 is an obvious choice for high capacity preparation. Whatever the requirements are, a MAPS-2 system can be designed to meet your needs.

- Tailor-made solution
- High volume preparation
- Excellent preparation quality
- Outstanding reproducibility
- Considerable savings in manpower and consumables
- Very easy and intuitive operation
MAPS-2 consists of modules, each with two work stations, one cleaning station and a specimen holder arm. Accessories such as dosing units, an additional recirculation cooling unit, level indicators for consumables, etc. differ according to the configuration of each MAPS-2 system. Conveyors transport the specimen holders from unit to unit. Suspensions and lubricants are stored in easily accessible modules.

Almost endless combination possibilities
The MAPS-2 modules can be configured in numerous different ways, depending on the requirements. This is the consequence of modularity taken to its logical extreme: each MAPS-2 system is configured on the basis of a thorough analysis of the user’s specific needs.

Very high efficiency
A steady flow of specimen holders can pass through MAPS-2. While the second module takes care of polishing, the first module is already busy plane grinding the next batch of specimens. A special queue function makes it possible to prepare different materials using different preparation methods. The queue function ensures an extremely fast throughput and eliminates all bottleneck problems, even at high volume preparation.

Remote diagnostics and software updates
Maps-2 can be connected to a Local Area Network and can thus be accessed via the Internet. This enables Struers service engineers to remotely check the condition of Maps-2 and detect any errors. Possible software updates can also be carried out remotely, reducing machine downtime to an absolute minimum.

Reduce preparation costs
More time for demanding work
MAPS-2 takes care of the entire preparation process, even when it comes to the most complex specimens, leaving the operator time for other chores. In many cases, materialographic preparation has been a bottleneck. MAPS-2 eliminates this problem and leaves plenty of time for the one task which has not yet been satisfactorily automated: microscopic examination and evaluation of a materialographic structure.
Reduce preparation costs with MAPS-2

Automation not only means unique reproducibility and high quality – it also implies large cost savings. Within the world of materialography it is gradually realized that the initial cost of automatic equipment is more than counterbalanced by savings in time, labour and consumables. Materialographic preparation employs costly diamond products. Due to precise, automatic control of consumables consumption, MAPS-2 takes care that exactly the right amount is used – no more, no less.

Touch-screen controlled operation

MAPS-2 is programmed and operated from a large touch-screen. A single tap on the screen inserts a new specimen holder. No further action is necessary when the method is the same as the previous one. To select a different method another tap opens the methods window from where all existing methods can be recalled immediately. New methods can be programmed instantly and also the configuration of the machine can be changed on the fly. The touch screen can be mounted either on the right (default) or left hand side of Module 1.

Additionally it is also possible to have a separate power supply so that the built-in PC and the touch screen can be operated even if one of the modules is dysfunctional.

High capacity specimen production

Quality control is more and more integrated into the production area. This makes new demands to the preparation equipment within the fields of reliability and safety. MAPS-2 is prepared for a rough life – working around the clock in an industrial environment. Sensors constantly monitor the process, ensuring a smooth and uninterrupted preparation process. In case of shutdown the operator is specifically advised which consumables to refill, etc. While MAPS-2 is working in the production area, the operator may monitor the process from the office via the LAN. With MAPS-2 as the foundation of current quality control, adjustments in the production can be carried out with minimal delay.

Safety

MAPS-2 sets new standards for safety. With a totally automatic system every aspect of personal and machine safety has to be included. MAPS-2 complies with the strictest international safety standards. The conveyors are equipped with safety covers and the entire machine is closed with transparent windows and doors. The process can be monitored easily, but access to moving or rotating parts is prohibited and if it should happen that a specimen was not clamped properly it cannot fly out of the machine.

A typical MAPS-2 configuration

A two-module configuration for fully automated, high-volume preparation. The two modules are controlled by a PC and linked by a connection conveyor. The two work stations in Module 1 perform plane grinding, fine grinding and specimen cleaning. Module 2 carries out the two polishing steps, plus cleaning and drying. A queue function makes it possible to line up different specimen holders. It also eliminates stoppages: the transport system is non-synchronous, so the conveyors serve as accumulators of specimen holders. If 4 preparation steps are not sufficient, an extra module can easily be added to expand the number of preparation steps.

Peristaltic pumps guarantee precise dosing of suspension and lubricant, and built in weighing cells continuously monitor the liquid level in the bottles. If necessary, the manual dosing buttons can be used to apply additional lubricant or suspension during the process.
Struers' equipment is in conformity with the provisions of the applicable International Directives and their
approriate Standards (please contact you local supplier for details).

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