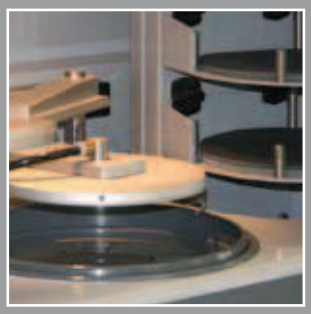
SYSTEMAUTOMAT


FLEXIBLE

Always a step ahead.

MADE IN GERMANY

All components used by us, as well as the constructive design correspond to the normal device requirements for industry in Germany and the EC Safety Regulations. The units are finished in service friendly modular construction.

4 STATIONS

5 STATIONS

8 STATIONS

7 STATIONS

SYSTEMAUTOMAT

Designed and developed by ATM, the compact SYSTEMAUTOMAT completely automates the grinding and polishing aspects of the specimen preparation process. Simple touch-screen controls access all parameters and procedures.
The SYSTEMAUTOMAT automatically proceeds from one step to the next, eliminating the manual, time-consuming task of cleaning each sample holder between steps.

The SYSTEMAUTOMAT ensures that each specimen is properly processed and guarantees reproducible results. The SYSTEMAUTOMAT has a price-to-performance ratio that makes it a cost effective system, even for lower volume labs.

MODULAR CONSTRUCTION

Elements for the SYSTEMAUTOMAT come from the System Lab cabinets and equipment. Within the sturdy aluminium housing, it is possible to install 4 to 8 system work stations. Up to 11 different operations can be programmed and sequenced for a particular application. Options include pre-grinding, grinding and polishing as well as cleaning and drying in any combination.

SAMPLE HOLDER STACK

GRINDING HEADS

GRINDING AND POLISHING HEAD

The grinding and polishing head picks up a sample holder from the stack and travels to individual work stations to perform each cycle in the proper sequence. Upon completion, the head returns the holder to the stack.
The use of two heads allows simultaneous grinding and polishing and optimizes the SYSTEMAUTOMAT when preparing multiple specimen holders.

SAMPLE HOLDER STACK

The sample holder racking system holds up to 12 sample holders. After starting the machine, the holders are taken out automatically for processing. After processing, the completed sample holders are returned to their original position with the polished surface facing upwards.

DOSING DRAWER

PLANE
GRINDING STATION

GRINDING STATION
WITH FOIL CHANGER
AND STORAGE
COMPARTMENT

POLISHING STATIONS

CUP-WHEEL
FOR DRESSING

GRINDING AND POLISHING STATIONS

The SYSTEMAUTOMAT is constructed with stations for complete materialographic operations from planar grinding through intermediate steps and final polishing. All stations are integrated into the system.

The grinding and polishing discs are fixed onto the working wheels by using a vacuum (Vacu-Jet System) or magnetic disc system.

DOSING OPTIONS

Each station can be configured for specific abrasive requirements. Water, diamond suspensions, diamond lubricant and oxide dispensing are fully integrated and controlled via programming.
Grinding and polishing stations can also include fully automatic protective covers to maintain a clean work environment.

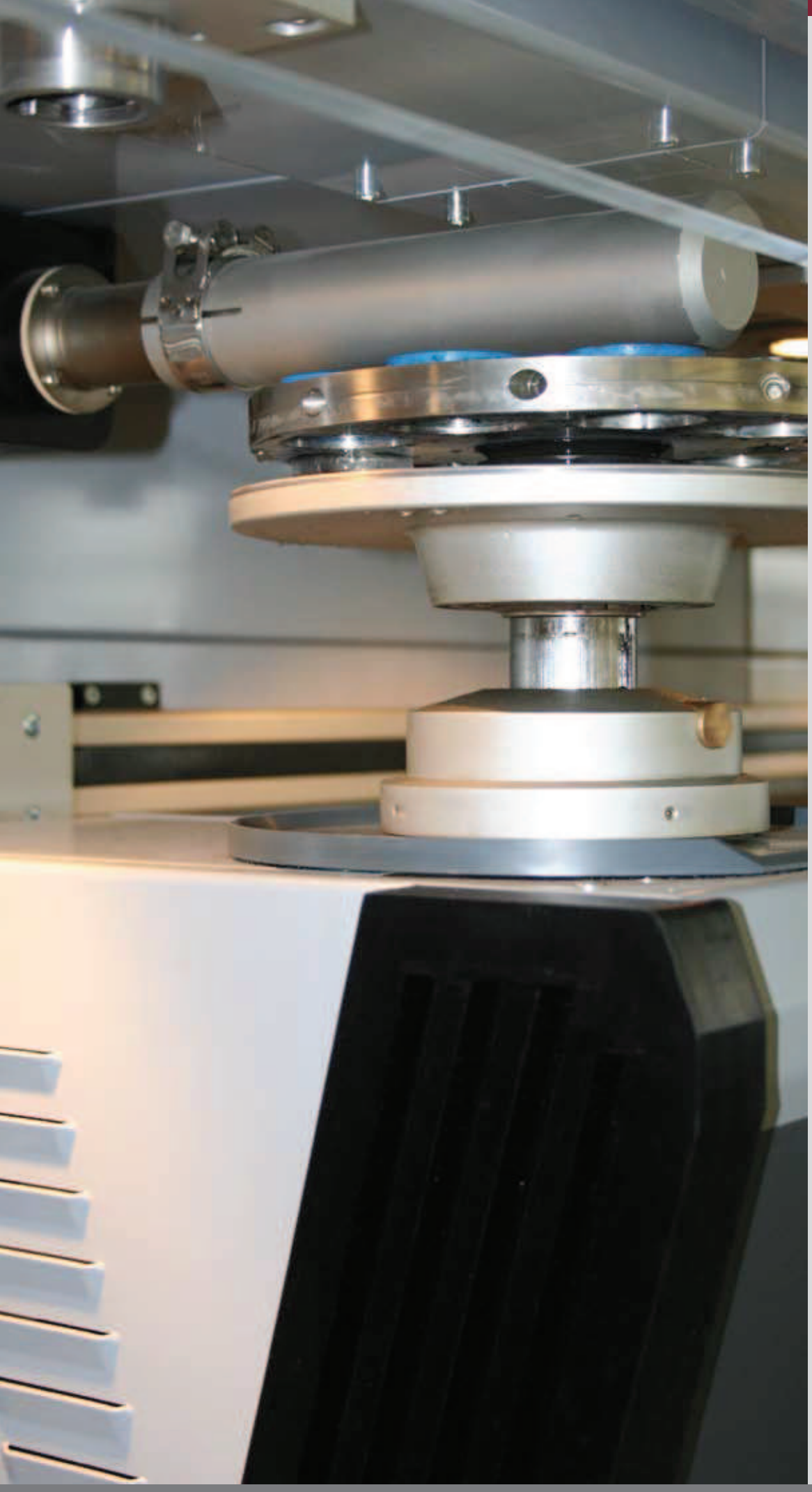
FOIL CHANGER

In the storage elevator, there are four compartments for disposable grinding discs, such as SiC paper.
The vacuum exchange arm grips the pre-selected SiC paper and places it onto the wheel.
The Vacu-Jet system then operates immediately, securing the disc to the platen automatically.
When finished, the used grinding paper is discarded.

SURFACE GRINDING STATION

The high speed grinding station planes the surface of the sample very quickly using an abrasive stone. The fully enclosed stone has an integrated recirculation coolant system in the cabinet.
SiC and Al_2O_3 grinding stones are kept flat by an automatic diamond dressing device with adjustable dressing depths and intervals.

For diamond grinding disc applications, a cup-wheel is available for dressing the diamond surface.



CLEANING HOSE

WARM AIR DRYER

CLEANING STATIONS

ULTRASONIC CLEANING STATION

The ultrasonic cleaning station provides intermediate or final cleaning. Cleaning time and sequence is easily programmable. The cleaning tank includes heating with variable temperature control.
A recirculation filter system, which lengthens the useful life of the cleaning fluid and optimizes the final result, is also available.

HIGH SPEED CLEANING STATION

The cleaning station enables a fully automatic cleaning of the sample. The multi-step cleaning is carried out with water, air and alcohol.
Cleaning times and steps are completely adjustable as needed.

WARM AIR DRYING

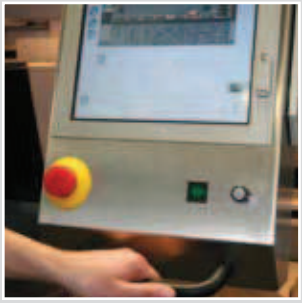
After final cleaning, a programmable warm air blower dries the samples with the polished side upwards. Then the dry samples are stored in the sample stack.

DATA TRANSFER

The ATM central lab is always looking for solutions for your problems. We can develop an optimum procedure for a particular sample and send it to you via data transfer. Acquired data can also be exchanged via an internal network. This enables reproducibility and comparison of procedures and parameters anywhere, anytime.

ILLUSTRATION: 5 LINE COMBINATION

VIRTUAL PROCESSING SEQUENCE



MOVABLE CONTROL PANEL

COMBINATION EXAMPLE 5 LINE

This combination example shows a 5 line SYSTEMAUTOMAT

1. Movable control panel (sideway) with touch-screen control
2. Polishing head: clockwise and counter-clockwise rotation
3. Holder stack for 6 sample holders
4. Two grinding and polishing stations with variable speed working wheels
5. Fully-automatic sample cleaning with water, ethanol, air; for intermediate and final cleaning
6. Warm air dryer with timer
7. Automatic loading station with variable speed grinder, Vacu-Jet and foil exchange system
8. Dosing drawer for storing of polishing suspensions
9. Sedimentation tank for drain water

TOUCH-SCREEN CONTROL

Simple operation with drag-and-drop graphical touch-screen controls at the central panel that can slide to any work station. For each step, the screen shows a graphical representation of the working position. It is possible to follow the processing sequence in real time. The process sequence can be stored and then recalled as a complete program. A large number of programs can be stored and then recalled as needed.

As standard equipment, there is a LAN connection for remote maintenance and monitoring by your facility or by ATM. This enables the recognition and removal of faults/errors or downloading of updates and procedures.

ATM GMBH

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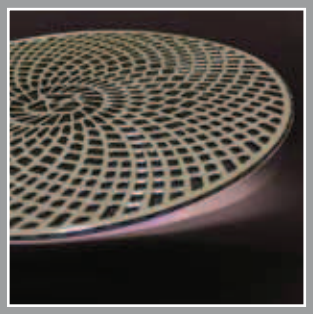

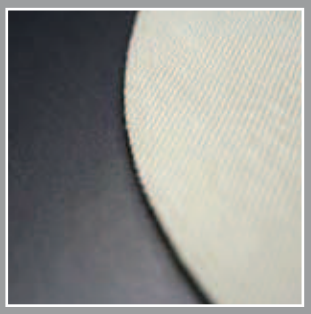

The consumables were tested in our central lab and specifically selected for our machines.

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