Industrial Solutions

POLAB® APM

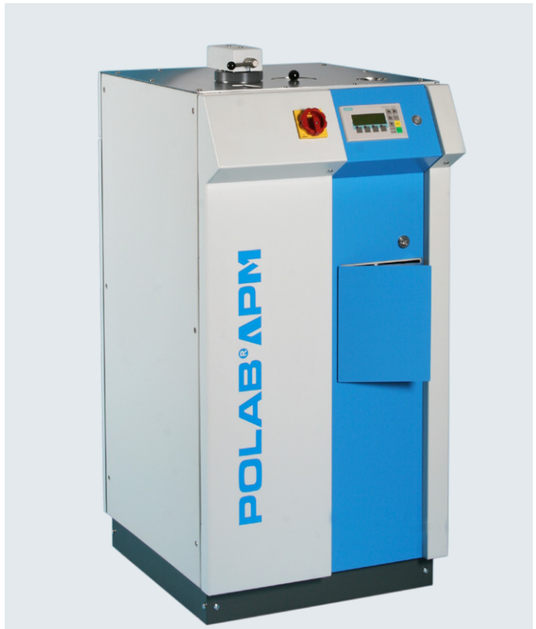
The automatic sample preparation module for XRF and XRD – compact, flexible and upgradable.

thyssenkrupp

POLAB® APM – Sample Preparation for XRF and XRD

Grinding unit and tablet press integrated into one compact housing.

Compact, flexibly configurable and upgrade-capable. POLAB® APM integrates into a single machine all the components needed for preparing samples of mineral materials.



POLAB® APM basis unit
The basis unit for sample preparation consists of the following components:
- Sample loader for blind sample and main sample
- Grinding aid dosing unit
- Grinding unit (patented)
- Tablet press
- Optional: volumetric or gravimetric dosing device

The POLAB® APM basis unit can be upgraded into POLAB® APMplus by simply changing certain components.

Benefits of POLAB® APM

- Patented grinding unit for efficient and gentle grinding
- Optimised sample preparation for the different requirements of XRF and XRD
- Excellent reproducibility
- High sample throughput rate and less routine work to be carried out by the laboratory personnel
- Predefined and user-specific sample preparation routines
- Operator panel for simple and intuitive operation
- Sequential control by PLC
- Grinding and pressing functions can be selected in a combined process or as single processes

Technical data

Weight:	443 kg (APM), 500 kg (APMplus)
Dimensions (W x H x D):	600 x 1230 x 735 mm (APM) 600 x 1230 x 900 mm (APMplus)
Power consumption:	2.0 kVA
Power supply:	1-phase
Compressed-air supply:	7-9 bar
Compressed-air consumption per sample:	160 dm³

Sample material

Properties:	mineral materials
Grain size:	0-7 mm
Residues on 1 mm screen (D 50 = 1 mm):	< 50 %
Moisture content:	< 1 %

Control system and control panel

Siemens
Optional: Rockwell

Sample holders: steel rings	Standard	Optional
Outside diameter:	51.5 mm	40.0 mm
Inner diameter:	35.0 mm	35.0 mm
Height:	8.6 mm	14.0 mm

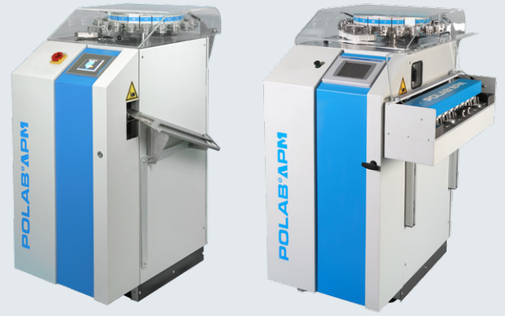
Tablet press

Pressing power:	47 ... 93 kN
Pressure holding time:	adjustable

Grinding unit: vibratory disc mill

Grinding bowl and grinding elements:	tungsten carbide
Effective volume:	30 cm³

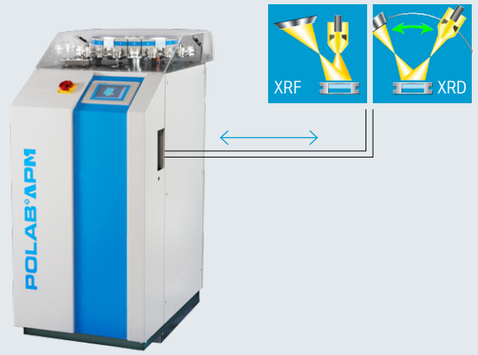
POLAB® APMplus Upgrading stages



POLAB® APMplus with output magazine

The expanded configuration for the automatic processing of sample series consists of:

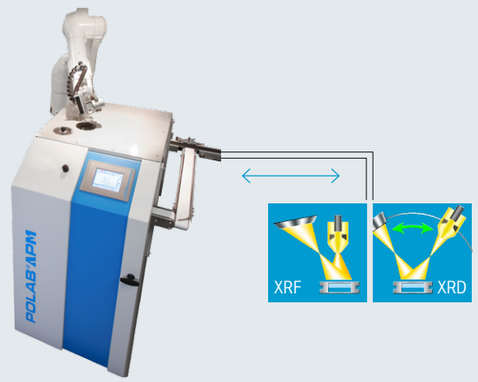
POLAB® APM basis unit
+ Input magazine (with up to 20 input positions)
+ Volumetric dosing device
+ Tablet and ring cleaning device
+ Magazine for steel rings
+ Output chute
+ Optional: output magazine



POLAB® APMplus with connection for tablet conveyor belt

The expanded configuration for the automatic transport of samples to the analysers consists of:

POLAB® APM basis unit
+ Input magazine (with up to 20 input positions)
+ Volumetric dosing device
+ Tablet and ring cleaning device
+ Magazine for steel rings
+ Connection for a tablet conveyor belt feeding the analysers



POLAB® APMplus for integration

The automatic sample preparation unit for integration into robot-based laboratories, such as POLAB® AMT, POLAB® Shuttle or POLAB® ACT, consists of:

POLAB® APM basis unit
+ Volumetric dosing device
+ Tablet and ring cleaning device
+ Magazine for steel rings
+ Connection for a tablet conveyor belt feeding the sample output or the analysers
+ Optional: gravimetric dosing device

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