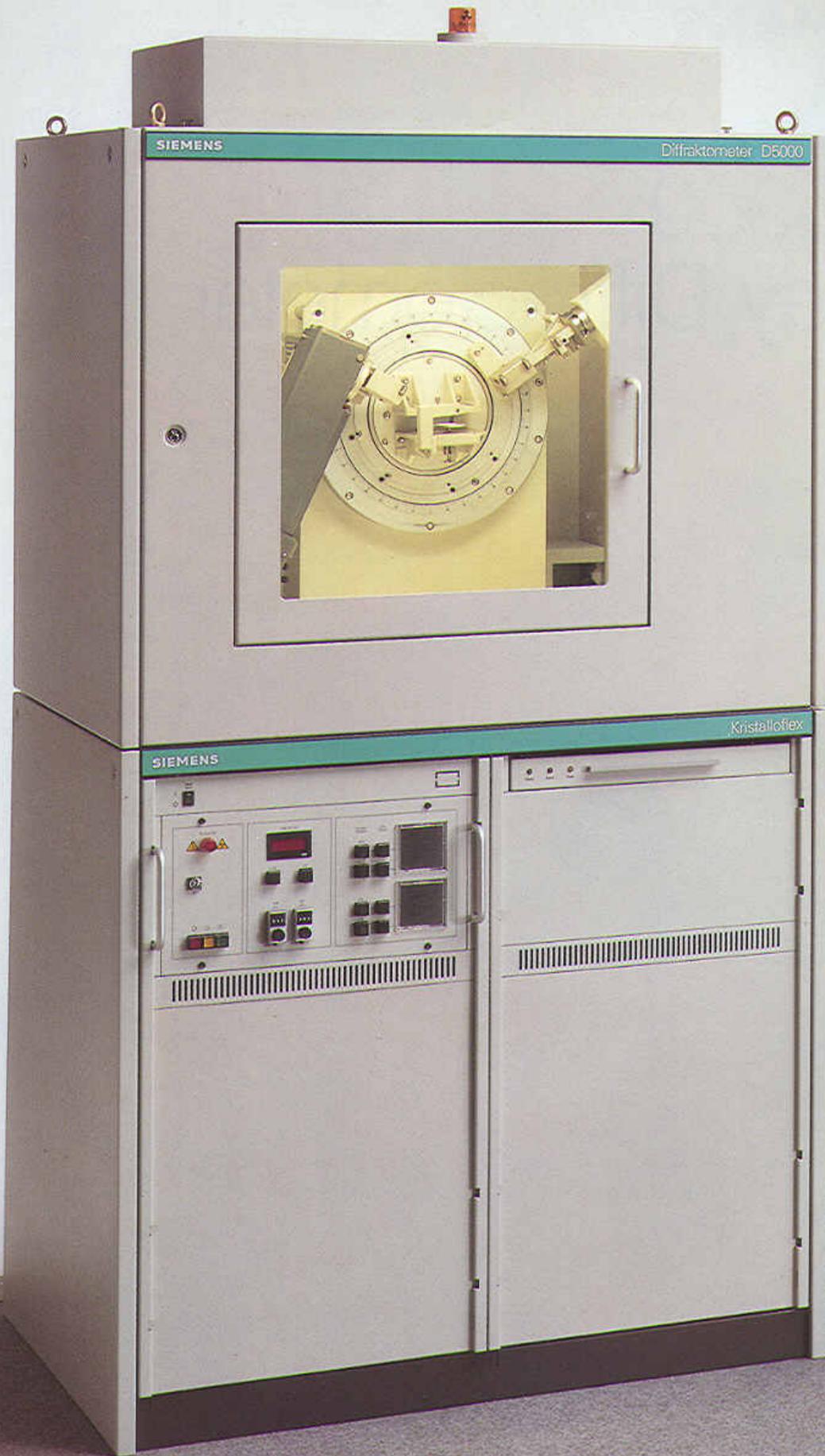


SIEMENS

D 5000
X-ray Diffractometer





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Diffraktometer D5000

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Kristalloflex

The D 5000 X-ray Diffractometer

Combining the latest technology in a modular design, the new D 5000 brings expanded capabilities to your lab, providing:

- High sensitivity with rugged construction;
- Fast results with high reproducibility;
- A modular design that can be optimized for specific applications with optional attachments.



The Heart of the D 5000:

A goniometer precisely engineered for exact measuring results, yet flexible to accommodate a variety of tasks.

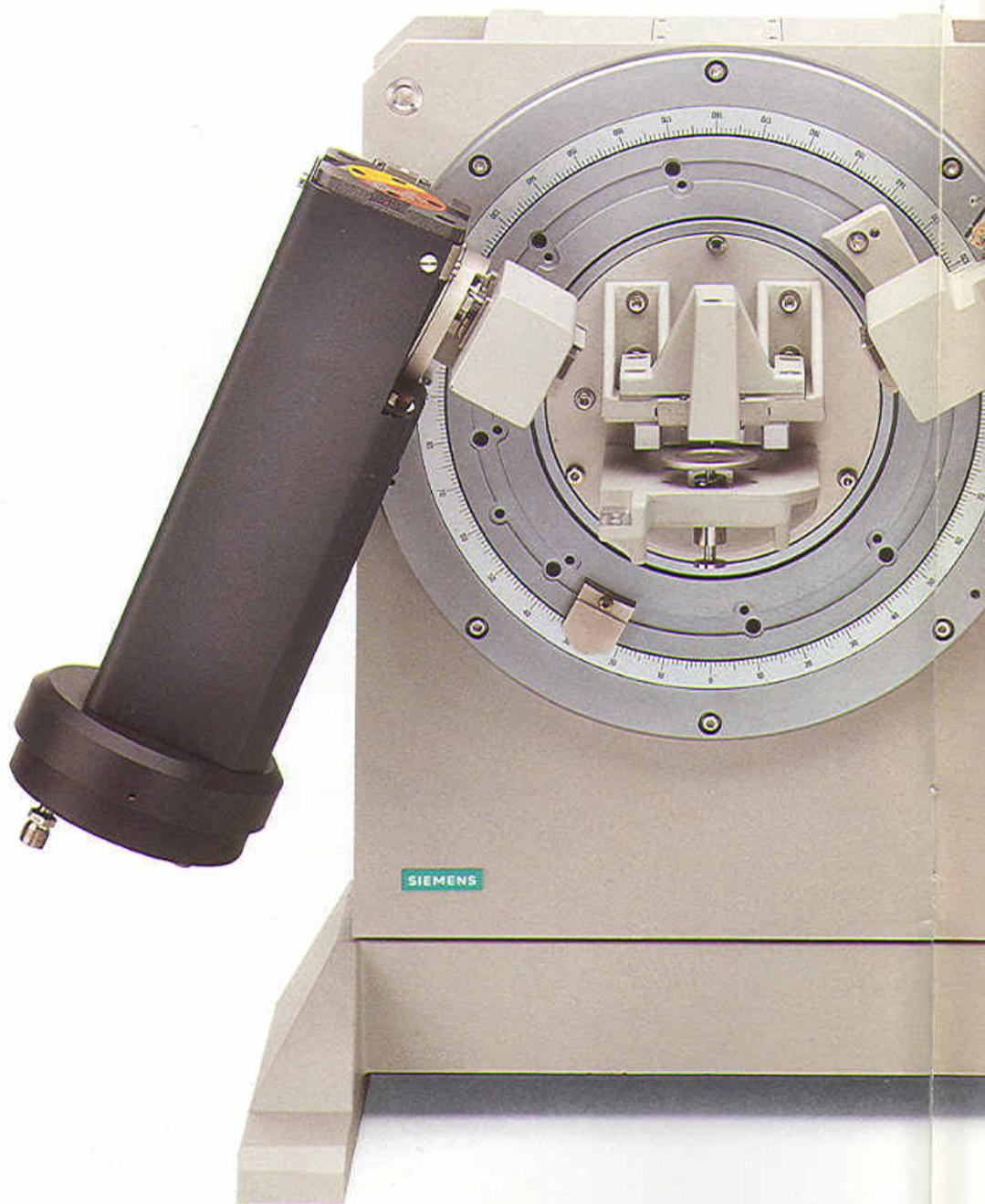
The basic module of the D 5000 is the goniometer. Its new, high-precision design features two independently controlled stepping motor drives. Representing the ultimate in flexibility, it operates in both horizontal and vertical modes (with the tube stand flanged to the goniometer housing for easy change-over), and in either Theta-2Theta or Theta-Theta geometry.

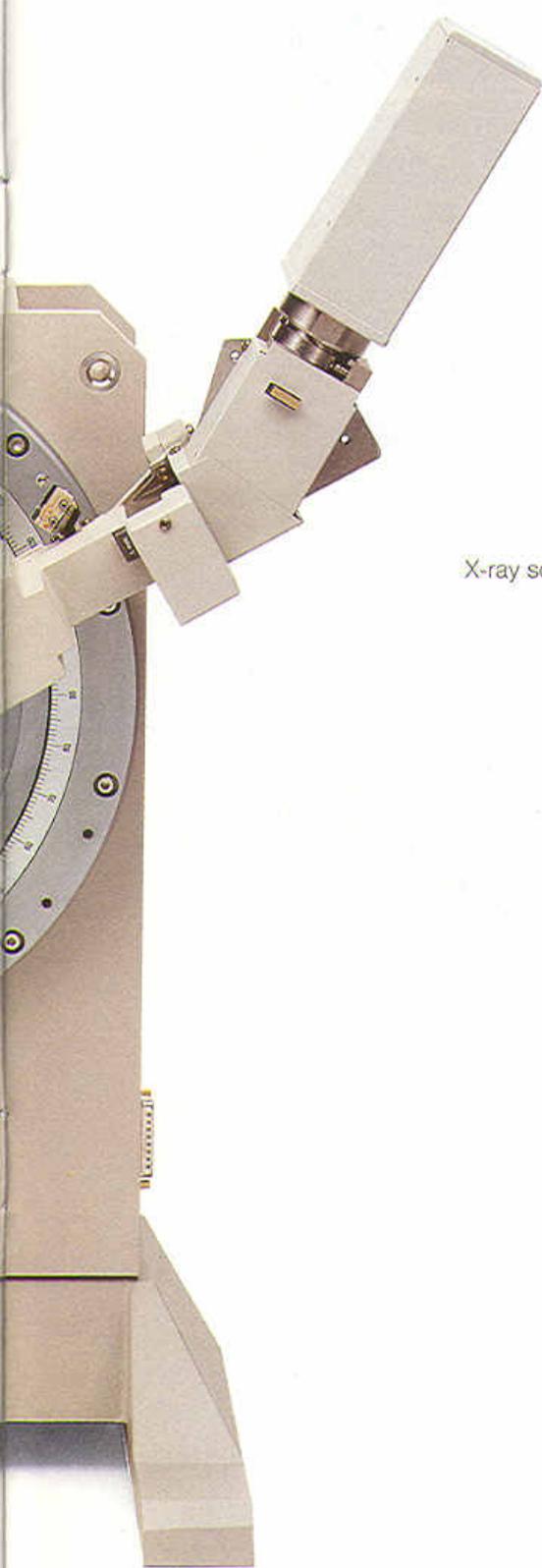
The open goniometer architecture forms the basis for a wide range of automation possibilities and supports a variety of applications. To adapt the unit to these applications, various attachments have been developed:

- Stepping-motor operating variable incident and diffracted beam slits,
- Automatic detector slit changer,
- Various measuring circle diameters, selectable from 401 to 600 mm,
- Reflection and transmission sample holder which can be freely rotated or set to specific positions,
- Automatic sample changer with sample rotation for up to 40 samples
- Focussing primary beam monochromators for transmission or reflection geometries,
- Focussing secondary beam monochromators,
- Various detector systems, including scintillation counters, proportional counters, PSD's (position sensitive detectors) and semi-conductor detectors.

For maximum reliability, the D 5000 is mechanically pre-aligned at the factory. After installation of your system only a computer assisted, automated final alignment that takes only a few minutes is required. Difficult alignments of the tube stand, sample changer and detector have been totally eli-

minated. Hence, the goniometer can also be used in a configuration with a vertical tube stand. Plus, the new zero-backlash sample changer interface permits the free exchange of accessories with reproducible exact positioning.



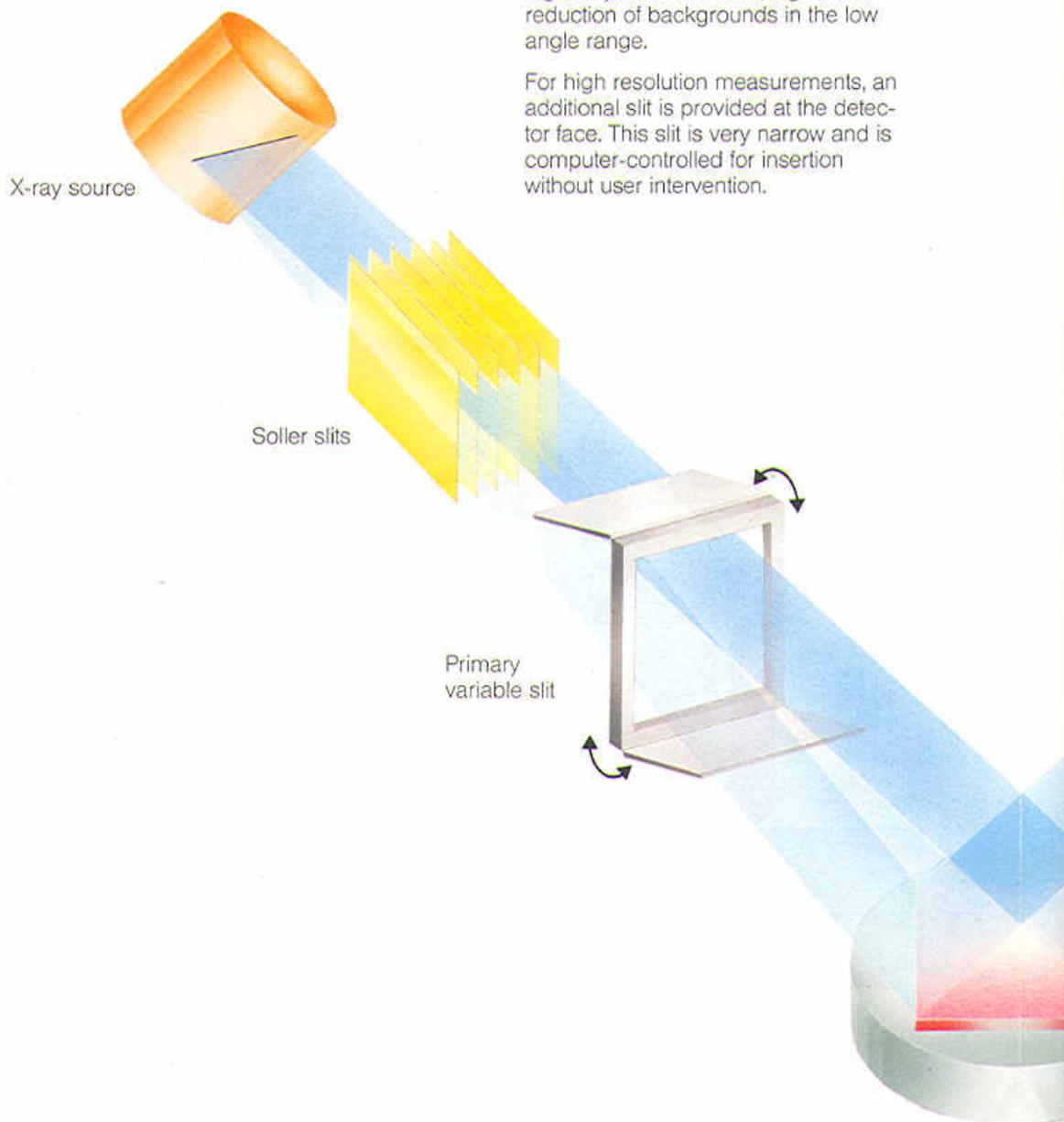


Add-on modules offer total flexibility in configuring the D 5000 for specific applications without compromising the integrity of design and ease of use of the basic system.

Automated Slit Assemblies

Variable aperture, stepping motor controlled incident- and diffracted-beam slits are the keys to optimum measuring results, providing rapid adjustment of incident beam divergence and collimation of the diffracted beam for reduction of scattering effects, all under computer control. These assemblies permit automatic Theta-coupled adjustment of the slits as well as fixed, computer-controlled width selection. This allows fast and easy adaptation of the goniometer to varying analytical conditions, e.g. for the reduction of backgrounds in the low angle range.

For high resolution measurements, an additional slit is provided at the detector face. This slit is very narrow and is computer-controlled for insertion without user intervention.



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Sample Mounts

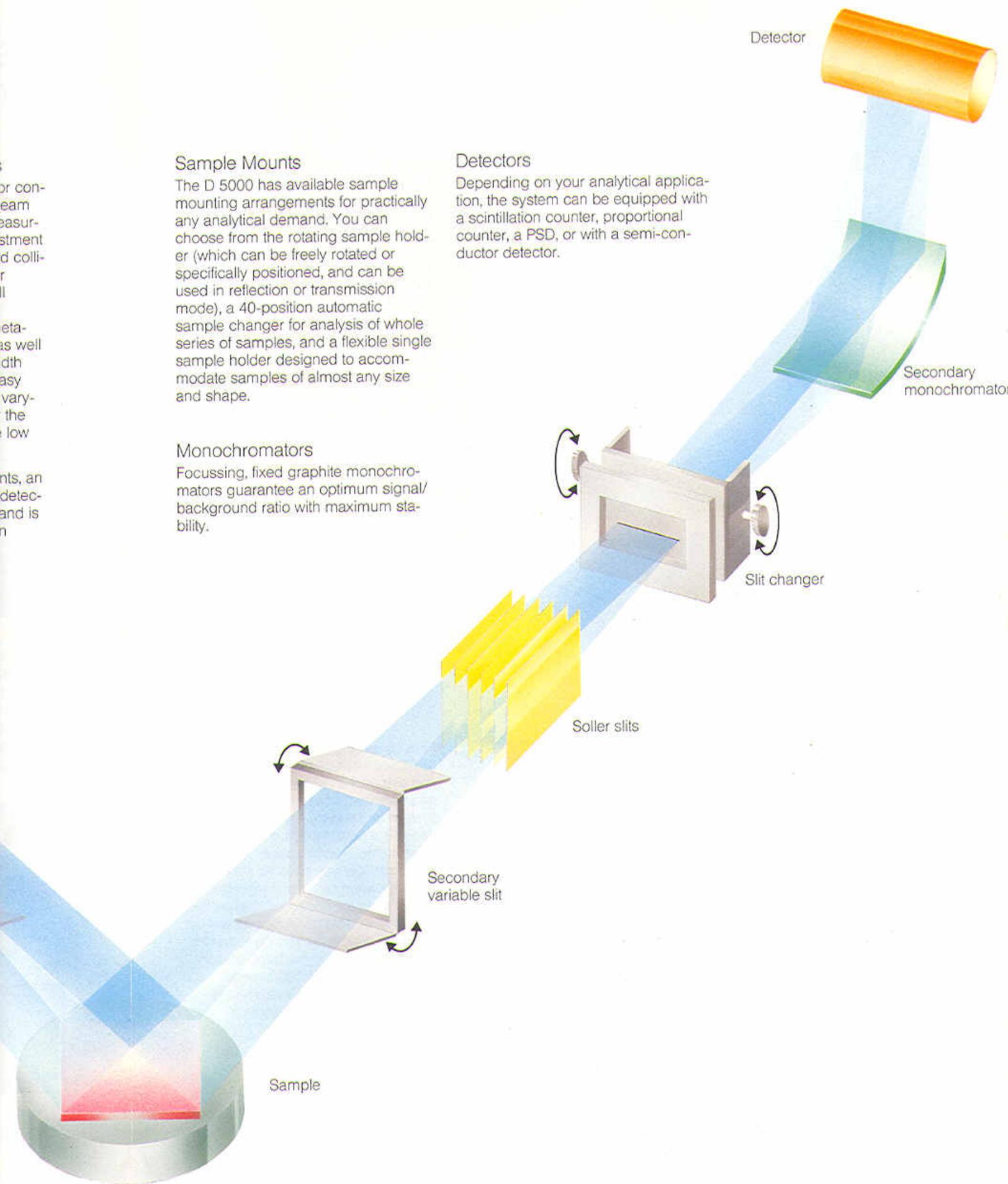
The D 5000 has available sample mounting arrangements for practically any analytical demand. You can choose from the rotating sample holder (which can be freely rotated or specifically positioned, and can be used in reflection or transmission mode), a 40-position automatic sample changer for analysis of whole series of samples, and a flexible single sample holder designed to accommodate samples of almost any size and shape.

Monochromators

Focussing, fixed graphite monochromators guarantee an optimum signal/background ratio with maximum stability.

Detectors

Depending on your analytical application, the system can be equipped with a scintillation counter, proportional counter, a PSD, or with a semi-conductor detector.





The D 5000 has the flexibility to meet any analytical challenge. Whether you want to work in horizontal or vertical mode, in Theta-2Theta or in Theta-Theta mode, the D 5000 supports all these different demands in only one system. With only a few accessories and in very little time, you can change the basic Theta-2Theta goniometer into a Theta-Theta unit right in your lab. This gives your lab the capability of handling measurements of liquid or loose powder samples, or even bulky samples (e.g. for stress measurements or for high temperature studies).



Plus, by adding one of our proven, application-specific accessories, you can extend the diffractometer to form an integrated, special measurement system for residual stresses and textures. The combination of our open asymmetric Eulerian cradle with the X-Y-Z sample tray ensures the highest flexibility when mounting samples. The stepping motor controlled X-translation provides sample oscillation as well as selection of specific sample areas for analysis. Following the basic design philosophy of the D 5000, these modules have been developed for easy installation and alignment.

The Host Computer and Microprocessor Controller

The D 5000 uses a dedicated microprocessor controller to handle real-time operation of the diffractometer. The microprocessor operates from commands issued by the host computer, which is normally used for high-level system control and data evaluation. Add-in slots in the microprocessor accept control boards for the diffractometer accessories.

