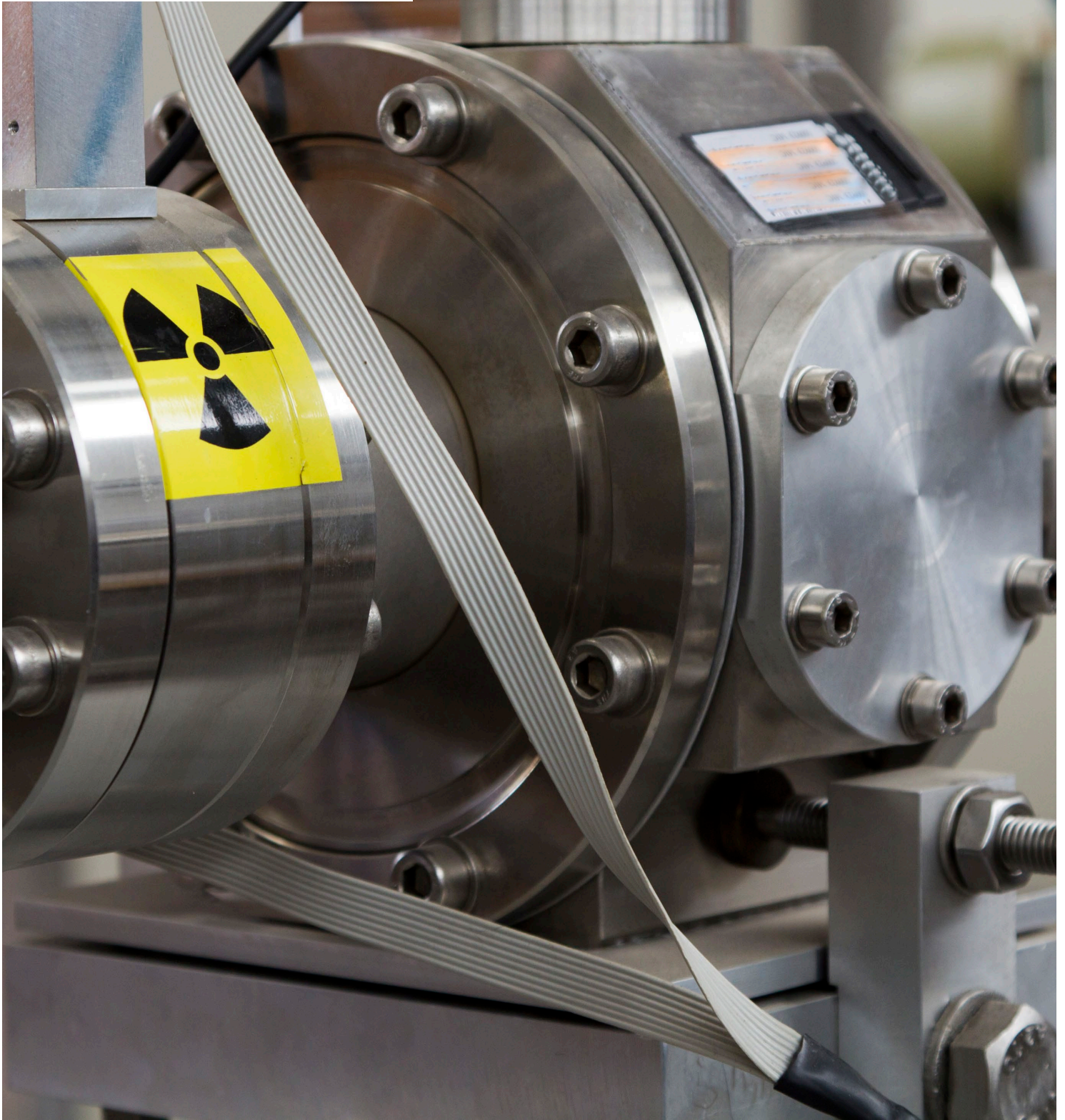


SEIBERSDORF
LABORATORIES



FREQUENTLY ASKED SOLUTIONS



RADIATION SAFETY AND APPLICATIONS



RADIATION PROTECTION FOR HUMANS AND ENVIRONMENT

Our business unit „Radiation Safety and Applications“ is committed to service, research and development concerning the safe handling of ionizing radiation and the protection of humans and environment from radioactivity. We consider ourselves a One-Stop-Shop for all kinds of services for users of ionizing radiation in medicine, industry and research. Our experts support first responders and authorities as well as national and international organizations.

RADIATION PROTECTION / RADIONUCLIDE LABORATORY

Our core competencies comprise ultra low-level gamma-ray spectrometry to determine trace amounts of radioactivity in food, consumables and environmental samples as well as whole or partial body radiation dose measurements and excretory product monitoring by radiochemistry.

Our methods are accredited by an inspection authority and are regularly validated in international proficiency tests. They range from whole body counting to measurements of beta emitters (^3H , ^{14}C , ^{32}P , ^{125}I , ^{90}Sr , ...) and actinides (uranium, thorium, plutonium, americium, curium) in excretory products to the analytical radiochemistry of actinides and ^{90}Sr in environmental samples. These assays are intended, for example, to determine the levels of radionuclide in imported or exported steel, food, wood, construction materials, etc.

We offer the testing of sealed radioactive sources for leaks. The certificate we issue is recognized by the authorities as proof of leak-tightness under § 17 of the Austrian Radiation Protection Law.

ACCREDITED DOSIMETRIC SERVICE FOR INCORPORATION MONITORING

The incorporation monitoring takes place in the context of the accredited testing laboratory. Our methods are regularly validated in international proficiency tests and comprise in vivo measurements

- whole body counter
- thyroid monitoring / lung monitoring

and in vitro analysis in urine and feces

- determination of gamma emitters (e.g., cobalt-60, iodine-131, cesium-137)
- determination of pure beta emitters (e.g., tritium, carbon-14, sulfur-35, phosphorus-32, phosphorus-33, strontium-90)
- determination of alpha emitters (e.g., uranium, thorium, plutonium, and americium isotopes)

and assessment of organ doses and committed effective doses.

EXPERT ASSESSMENT / CONSULTING

We issue the necessary expert assessments on radiation protection for uses of ionizing radiation in medicine, industry and research, for example X-ray facilities, unsealed and sealed radioactive sources as well as particle accelerators. We offer:

- expert reports on radiation protection
- radiation expertise for type approvals
- safety and accident analyses
- consulting
- assistance in licensing process
- communication with the authorities

Our services are performed by a team of experts with many years of experience and are certified under strict quality guidelines and nationally accredited. Furthermore, our experts play a leading role in international and national radiation protection committees and make scientific contributions to the field (conferences, workshops).



TRAINING

The Seibersdorf Academy offers a broad range of courses in radiation protection:

- Training as a Radiation protection officer (RPO) in medicine and veterinary medicine (diagnostics and therapy using unsealed and sealed sources of radiation, accelerators and X-ray facilities)
- Training as a Radiation protection officer (RPO) in industry and research (unsealed and sealed sources of radiation, industrial X-ray facilities)
- Physician training to obtain authorization to perform radiation protection inspections
- Radiation protection training for action forces
- Refresher and continuing education courses
- Inhouse training

Theoretical presentations are supplemented by practical exercises. The presenters are experts with many years of experience in radiation protection and adult education. Our unique training capabilities in Austria include facilities for non-destructive materials testing, X-ray diagnostic units and a radioisotope laboratory.

SYSTEM DEVELOPMENT / MEASURING EQUIPMENT

The system development unit is involved in the development, sale and service of measuring systems designed for a diverse range of applications. Our range of products and services include:

- Standalone automated inspection systems for industrial non-contact quality control, highly sensitive measuring devices to detect sources of radioactivity and contamination (portal monitors) for garbage collectors and junk dealers and to protect against illicit trafficking of nuclear materials at borders,
- Sturdy radiation detectors for industry, the military, executive authorities and civil defense facilities (hand-held radiation detectors, drinking water detectors),
- Non-destructive and non-contact densitometry of high-density materials by penetration using high-energy gamma rays,
- Detection and location of sources of radioactivity using mobile detection equipment such as air detection systems and mobile laboratories,
- Customized detection procedure and facility design.



OUR EXPERTISE:

- Internal dosimetry
- New analytical procedures and detection methods
- testing of leaktightness
- Radiation protection expert reports
- Consulting
- Radiation protection training
- System development
- Measuring equipment

CONTACT

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