

CHALLENGES

The characterization of tritiated waste and materials faces multiple challenges. Firstly, their storage and disposal are made difficult because of its tendency to degas. Therefore, operators of such facilities require an in-depth characterization of the containers. Moreover, tritium concentration varies within a single component. Hence, destructive measurements by sampling are hardly representative. Finally, classical non-destructive characterization methods are at best biased, or even unapplicable. As a result, it is necessary to deploy solutions that can **make tritium quantity measurement become reliable**.

SOLUTION

The **HEAT-CHECK** line is a range of characterization solutions for nuclear materials and waste. It is based on calorimetry, that quantifies them from their heat release. It can be used alone with purely tritiated materials or waste or assisted by gamma spectrometry when other radionuclides are present.

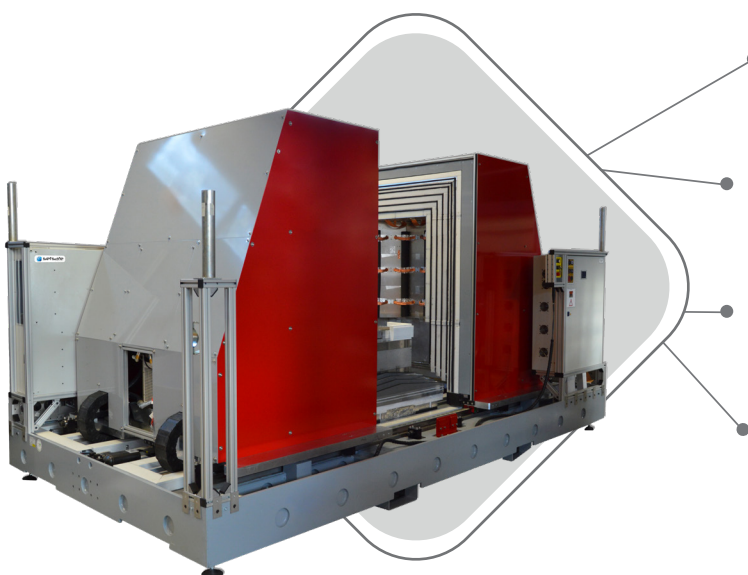
- Container volumes up to 380 liters, or more on request
- Accuracy <1% Precision <0.5%
- Options for automation, integration in measurement lines, use in gloveboxes or hot cells

BENEFITS

Measurement reliability

- The measurement is non-destructive, on the whole container, so it is representative
- Calorimetry is the most reliable among non-destructive tritium analysis techniques with accuracies that can be better than 1%
- Calorimetry can be used with any kind of matrix or materials as they don't influence its measurement results

HEAT-CHECK LINE



MEASUREMENTS OF VARIOUS CONTAINER VOLUMES

Up to 3 to 380 liters

QUANTITATIVE AND NON-DESTRUCTIVE MEASUREMENTS

With the highest accuracy for some isotopes like plutonium or tritium

RESULTS INDEPENDENT OF MATRIX AND CONDITIONING EFFECTS

Ideal addition to gamma spectrometry

SOFTWARE AND AUTOMATION OPTIONS

For simple and safe use