

Weighing technology at work

Optimally balanced temperature compensation

RTN load cells impress under extreme temperature conditions

-25 °C to +80 °C
(-13 °F to +176 °F)

Strong temperature variations can have a detrimental effect on the measurement results of load cells. RTN load cells are uninfluenced by freezing or extremely hot conditions. Due to their optimized temperature compensation, they deliver reliable results. RTN load cells demonstrate their strengths even in the technically extremely demanding isotope enrichment process.



Isotope enrichment systems produce expensive products. This is why the produced quantities are precisely determined during the process procedure. An internationally common method of isotope separation is the gas centrifuge system. Isotopes in the introduced gas with different weights are mechanically separated in the centrifuges.

Extreme temperature capabilities

In the first production step, the transport container with the gaseous element to be separated is located in a heating chamber at up to +80 °C (+176 °F). Following a centrifuge cascade, the separated gases are cooled down in a cooling chamber to -25 °C (-13 °F). Identical load cells are used in both areas. Their precise location is unknown until they are installed.

Money saved by precision

The load cells are individually interchangeable to enable simple and cost-effective maintenance. This challenging requirement means that the load cell sets must remain within the required limits with regard to their total performance, in any combination.

Project requirements for the load cells:

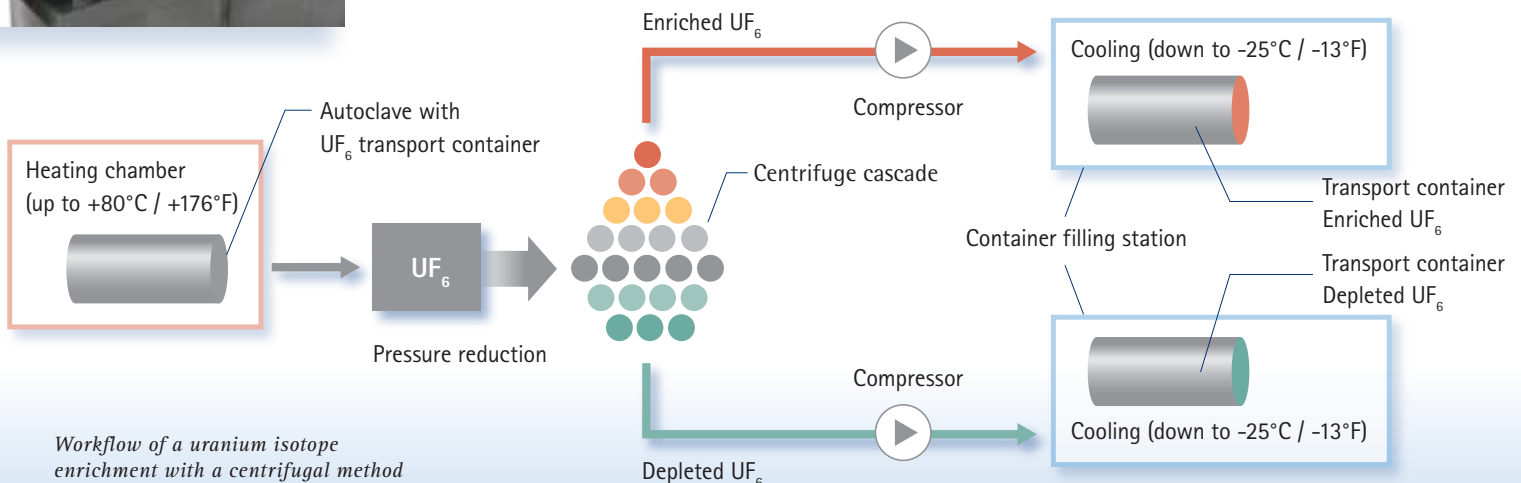
- ___ Recording of loads up to 15 t, with a resolution of 3 kg (6.6 lbs)
- ___ Working temperature range -25 °C to +80 °C (-13 °F to +176 °F)
- ___ Simple exchange of load cells in case of maintenance
- ___ Random load cell combinations
- ___ Hermetically sealed due to strict safety regulations
- ___ Compact design

■ Rudolf Almendinger, HBM

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RTN load cells adapted to the application case



Workflow of a uranium isotope enrichment with a centrifugal method