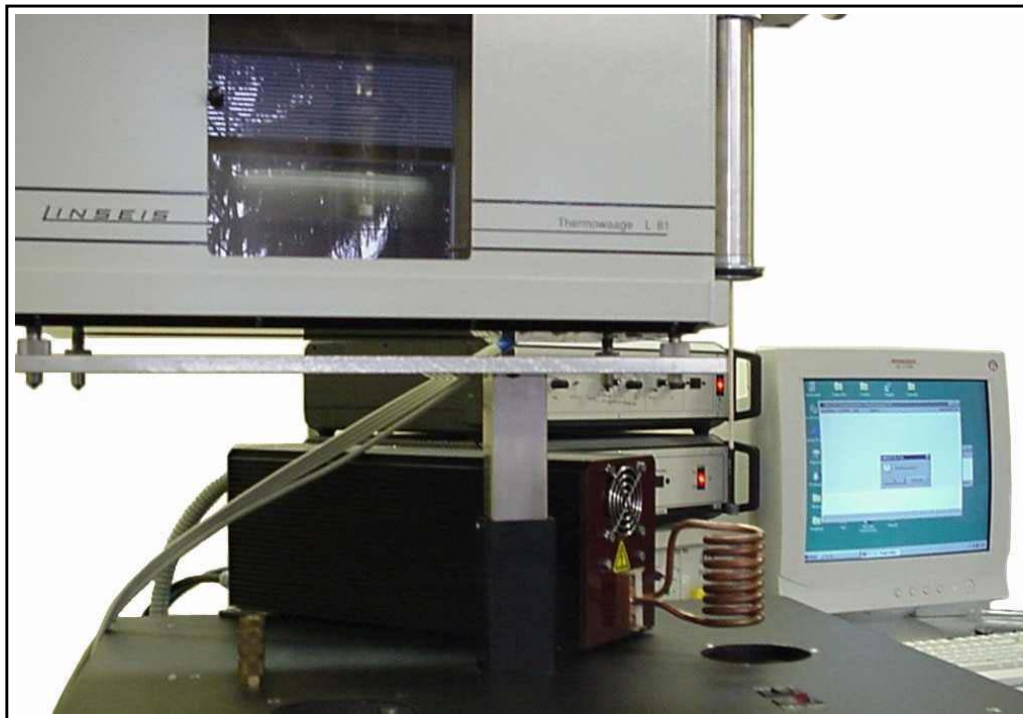


High Speed Thermal Balance L81/RITA

RITA– Rapid Inductive Thermal Analysis



Picture: L81/RITA high speed Thermal balance

The high speed thermal balance L81/RITA was developed to measure the weight change signal during rapid temperature changes (up to 100K/s).

The basic balance that is used is our well proven L81 series balance.

The normal slower resistance type furnace is replaced with a faster induction furnace which results in very fast heating and cooling rates.

The induction furnace normally works only with metallic materials; however other samples can be measured using a metallic crucible which will transfer heat to the sample.



Picture: Inductive furnace

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As there is no big mass of a normally used resistance furnace, measurements can be done within seconds. The system stays cool, even the protection tube is cool.



Picture: Sample up to 1000°C

SPACE SHUTTLE & LINSEIS



The initial application for the system was a space application.

Researchers are investigating materials and looking for the exact mass change during the atmosphere reentry phase of a space vehicle.

Within seconds, a space tile will display a large mass loss.

Using the L81/RITA system this rapid mass change can be measured.

The L81/RITA also employs our automatic gas control system which controls the sample atmosphere for measurements in inert and vacuum environments.