

Thermal balance L81 / II



The principle of the newly developed thermal balance L81/II is the zero deflection principle. The effect of a change of weight and a resulting position change is zeroed out by means of the force of electromagnets. The balance arm is hanging on a steel band and is thus without friction.

The measuring signal is the current through the electromagnets that insure the zero deflection.

The change of this current is proportional to the change of weight. A second use of the electromagnets is the use for electronic tar. By introducing a constant current it is possible to zero out a starting weight signal.

By means of construction of the balance it is possible that it can be operated in vertical as well as in horizontal mode. There are different sample holders available, for TG only, TG/DTA and for TG/HDSC measurement.

Through use of different furnaces temperature ranges from RT up to 1000°C/1250°C and 1550°C can be reached.

Thermal analysis as a measuring technique is since it's start always enhanced and further developed. A typical improvement was the use of EGA (evolved gas analysis) to further improve the measuring results. The thermal balance L81/II was also developed in a way that it is able to use EGA techniques. We at Linseis have ready solutions for using FTIR spectrometers and mass specs.

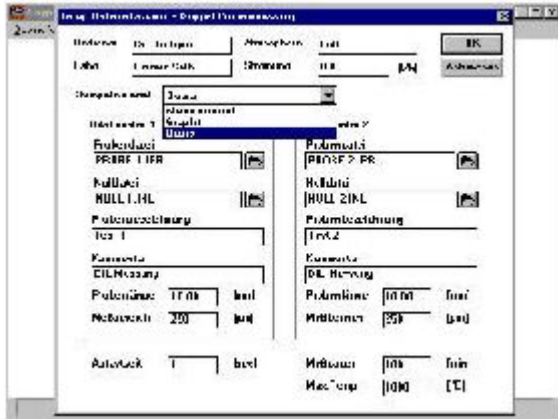
The balance was developed with a possibility to be run under vacuum. A vacuum of up to 10E-4mbar is possible.

It is also possible to measure in static or in dynamic atmospheres. Here it is possible to protect the sensitive balance parts through additional inert gas.

As this balance is built up in a modular way this insures future enhancements and also improves the availability of the instruments for different applications.

LINSEIS Software for the Thermo balance

Abb.1, Setup menu



All Linseis thermal analytical instruments are controlled through a computer. The software packages are compatible with Windows 95 / 98 / ME / 2000 / NT.

The following entries are available in the setup menu

- all specific measuring parameters
- individual comments
- programmed values of heating rates and cooling rates
- programming of stops and dwell times
- repeat up to 99 times, of 16 programmable segments

Software package standard features

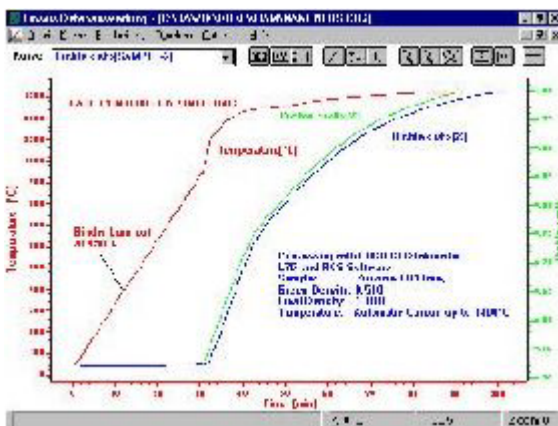
The function menus of the Thermal Analysis software package for all Linseis thermal analytical instruments are similar and easy to use. This insures an user friendly operation. The evaluation program complements the data acquisition part and has many features available to produce ready results.

Evaluation – Software

The evaluation software is part of the complete Windows software. It features a number of functions enabling a complete evaluation of all types of data. The evaluation and the data acquisition can be performed simultaneously. Data can be corrected using zero and calibration correction. Data evaluation includes:

Signal correction and smoothing, derivation, relative mass change, mass calculation, curve arithmetic, data peak evaluation, glass point evaluation, slope correction. A mean curve with statistic analysis can be performed on multiple curves. Graphical displays can be printed on all Windows compatible printers. Data can be displayed and printed in a table format. The

Abb.2, The evaluation



Übersicht über Lieferbare Thermowaagen

Type	mode	temperature range
L81 / II / 1000	horizontal	TG / T
L81 / II / 1000 + DTA	horizontal	TG / DTG / DTA / T
L81 / II / 1550	vertical	TG / DTG / T
L81 / II / 1550 + DTA	vertical	TG / DTG / DTA / T
L81 / II / 1550 + HDSC	vertical	TG / DTG / DTA / HDSC / T

20 °C up to 1000 °C
20 °C up to 1000 °C
20 °C up to 1550 °C
20 °C up to 1550 °C
20 °C up to 1550 °C