



Thermal Screening Unit - TS^U

Simple, rapid and reliable hazard assessment to determine the conditions of temperature, pressure, and concentration at which chemicals can be handled safely.

OVERVIEW

Fast and early screening for the thermal stability of liquids, powders and solids, reliably performed in the Thermal Screening Unit (TS^U).

The TS^U uses samples ranging from 0.5 to 5g and will generate both temperature and pressure data which is considered a better alternative to classical DSC/DTA methods.

For effective reaction hazards screening, two critical pieces of data are required:

- The "Onset" temperature for the reaction - where the exotherm is detected
- The pressure generated by the runaway - key indicator of hazard

The TS^U is simple to operate, has a small footprint, and offers flexibility of operation. Also available with sample cells from 1ml to 10ml, to accommodate a range of materials.

A low temperature version is also available allowing screening well below room temperature.



OPERATING MODES

The principle operation is a simple oven temperature ramp (0.5-10 °C/min), with sample temperature and pressure allowed to vary independently. Exotherm and gas evolutions are indicated by a spike in the sample temperature and/or pressure traces.

Additional operating modes are available as standard including:

- Isothermal (stability)
- Dual-Scan
- Soak & Scan

MULTIPLE UNITS

Several Thermal Screening Units can be used in parallel, running from the same computer. This is a cost effective method of screening large numbers of samples. The compact design of the TS^U makes it easy to fit several units into a standard fume cupboard.



Thermal Screening Unit - Ts^u

FEATURES AND BENEFITS

- Representative sample sizes for more reliable data
- Affordable and low cost operation
- Metal alloy and glass test cells
- Study liquids, solids, and reaction mixtures in a single unit



Alloy and Glass Test Cells

DATA GENERATED

- Temperature rate
- Pressure
- Time from exotherm to explosion
- Reaction enthalpy
- Reaction kinetics

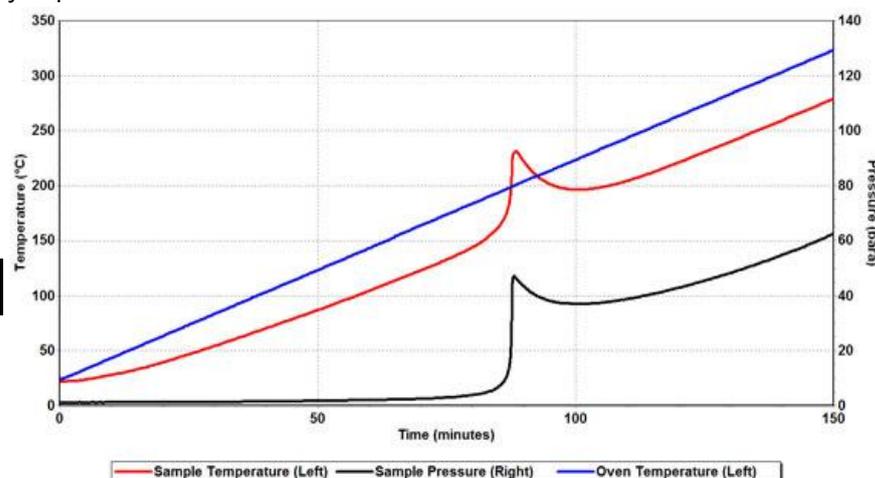


DATA HANDLING AND CONTROL

- Fully controlled for unattended operation
- Real data display
- Simple data format, that can be easily exported in to Microsoft Excel

TECHNICAL SPECIFICATION

- Maximum Temperature: 400 °C
- Maximum Pressure: 200bar
- Maximum Sampling: 10ml



Heating Rates: 0 to **Thermal**