

3FLEX

Surface Characterization

Chemisorption & Physisorption Instrument with Optional TCD



Perform High Resolution TPR, TPO, and TPD Experiments

Micromeritics 3Flex, the industry's most highly recognized and preferred instrument for physisorption and chemisorption¹, has been made even more powerful.

With the addition of the integral thermal conductivity detector, dynamic chemisorption analyses are available to the user providing the ability to perform

temperature programmed reduction (TPR), oxidation (TPO), desorption (TPD), and reactions (TPRx).

The TCD option provides the capability to investigate temperature dependence of specific adsorption or desorption process profiles for catalyst and adsorbents, as well as pulse chemisorption in one, very capable, instrument.

3Flex Chemi-TCD Available Configurations:

Level 1

Includes: injection port, cold trap, and new analysis protocols in MicroActive to support dynamic chemisorption analyses.

Level 2

Pulse chemisorption: adds increased precision, repeatability, and reproducibility by the addition of an injector loop valve with two loop options in addition to four gas inlets, a restrictor for flow control and an industry exclusive; local temperature measurement/control at loop injection

Included Features of the 3Flex TCD Option:

- *Industry exclusive*, localized loop valve temperature measurement and control improves precision, signal detectability and repeatability of the temperature-sensitive TCD detector.
- Time, temperature, and TCD signal are recorded via the newly enhanced MicroActive software. In addition to data collection a full suite of signal processing tools are available to transform raw data to sample property information. These tools include: peak integration, peak deconvolution (curve fitting), and calculation of active surface area, crystallite size, and dispersion.
- Full versatility; change from chemisorption experiments to physisorption analysis in minutes.

