



HIGH PRESSURE NMR CELL



High pressure NMR research has long been the domain of a few specialized labs around the world. Performing such experiments required extensive experience with high pressure hardware and carried with it an element of risk.

This has changed with the introduction of the first commercial NMR cell capable of repeated and safe use at 36,260 psi (2,500 bar). Daedalus Innovations' proprietary and patented zirconia NMR tube has an internal diameter of 3 mm and a 5 mm outer diameter. This gives a surprisingly large active volume that makes the full range of triple-resonance experiments at high pressure readily accessible. The cell manifold easily assembles by threading the base piece to the main body component and tightening together to set the single-use seal. Modification of the NMR spectrometer or probe is not needed, and the cells are fully compatible with modern cryoprobe technology. High pressure tube assemblies compatible with either Bruker or Varian probes are available.

The wetted parts are chemically compatible with most solvents making this cell useful for a wide array of applications in multiple research areas: biophysics, petroleum industry, chemical process monitoring, gas phase studies, materials science, geology, and deep-sea research.

Customized solutions to fit your specific application are possible.

Wetted parts	7068 aluminum, zirconia (NMR tube), Viton
Tube dimensions	Tube section: 5 mm O.D. x 3 mm I.D. x 87 mm length Head section: 8 mm O.D. x 5 mm length
Tube volume	0.64 mL
Internal volume (manifold plus NMR tube)	Bruker: 0.81 mL Varian: 0.76 mL
Temperature range	5°C - 100°C using standard seals @ 2,500 bar -15°C - 125°C with specialized seals @ 2,500 bar
Pressure range	Versions available to 2,500 bar
Pressure connection	Manifold port is HiP HF2 (1/2"-20 UNF) for use with 1/8" tubing.
Allowed fluids	All fluids compatible with the wetted parts can be used in the cell. Examples are water, alcohols, alkanes, carbon dioxide, and xenon.



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