

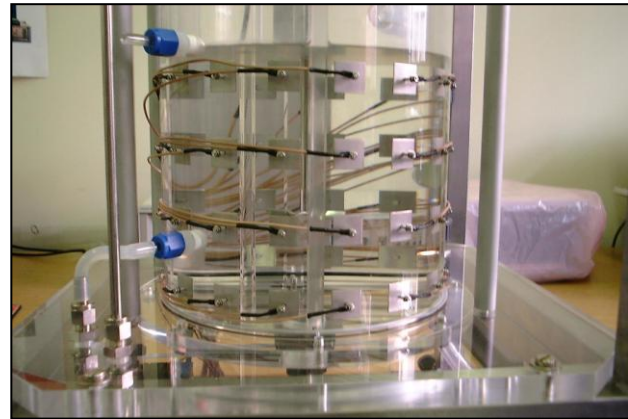


TOMOGRAPHY CAPABILITIES AT BHR GROUP

BHR Group has recently invested in Industrial Tomography Services (ITS) P2000 system, which enables it to carry out real-time tomography measurements in both rectangular and cylindrical mixing vessels.

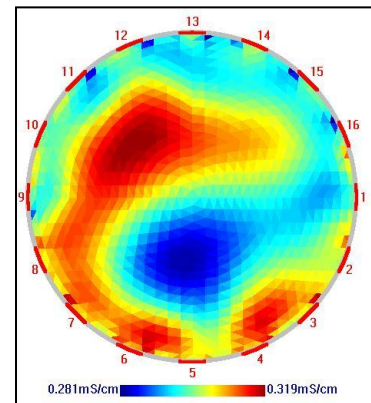
Tomography uses an array of sensors around the periphery of a vessel or pipe. Measurements are made of a particular parameter (usually electrical impedance or resistance) between every pair of sensors in any particular plane. Using a suitable mathematical reconstruction algorithm, a two-dimensional map of the parameter in that plane can be obtained: see below for a typical probe array and tomography output.

By measuring over different planes (four in the picture, right), a three-dimensional map can be produced.



Typical uses of tomography include:

- Visualisation of mixing patterns in a vessel (e.g. after introduction of a conducting tracer);
- Measurement of mixing time with, effectively, 100's of probes;
- Measurement of gas hold up distribution in a sparged vessel;
- Measurement of solids distribution for solid-liquid mixing;
- Measurement of liquid distribution for immiscible liquid-liquid mixing;
- Visualisation of mixing 'caverns' in yield stress fluids;
- Measurement of flow patterns in multiphase pipe flows.



The information collected can be used to:

- Understand and optimise mixer design;
- Provide data for effective scale up;

Provide validation data for Computational Fluid Dynamics (CFD) models.

The ITS P2000 is an 8-plane, Electrical Resistance Tomography system. Fully instrumented cylindrical and rectangular vessels are available, or bespoke geometries can be readily constructed.

Contact us for more information or visit our website.

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