

P2+ Electrical Resistance Tomography



Operation

Measurement Principals: ERT

Number of electrodes: 128; 16 x 8 planes, 32 x 4 planes or 8 x 16 planes

Image reconstruction algorithm: Linear back projection with MSBP and SBP

System performance

Accuracy: +/- 1% of conductivity change

Stability: < 0.6% deviation @9.6 kHz, 2 hours

Frame acquisition speed: 20 ms/frame

Spatial resolution: 5% of the sensor/pipe diameter

Online measurement speed:
2 frames/S with 16 electrodes
10 frames/S with 8 electrodes

Hardware

Input: Injecting current with adjacent method

Range: 0 - 1.5, -15, -75mA (ad-ad)

Injection frequency: 75 Hz - 153.6kHz

Output: 0.001 +10 V (pp)

Memory : 32 Kbytes ROM, 2MB RAM

Max no. measurement frame: 9600f with 16 electrodes with 104 data measurement points

Mode of measurement: Sequential

Power Supply

Power input: 100-240 V a/c, 50/60 Hz 1.5A

Consumption: DC 24 V 45W

Software

GUI: VC++ Class

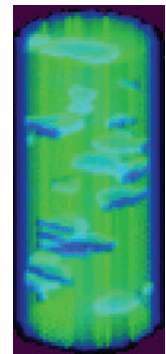
Data display: Online view and management of tomography data

Tomograms images in 2D/3D stacked images online / offline

Output: P2k file, analysed using ITS Toolsuite, VTK, AVI video and Bin file types exportable to other external software for further analysis

Data Analysis

- Tomograms
- Raw data
- Pixel statistics
- Concentration
- Tomography analysis package
- Mixing and homogeneity index
- Pixel history...



Computer Requirements

Operation environment: Windows XP version of 2002
CPU: Pentium 4 or above @ 2.6GHz process speed or above

Memory: 1GB

Hard drive @ 80GB

Monitor: 1024 X 768 or above, 17" +;

USB ports

Certification

Intrinsic Safety Module: EEx ia II C T6: - Sira 02E2086

Sensing measurement protocols

Non-conducting vessel:

- Circular
- Linear probe (real and complex)
- Channel
- Dual-probe
- Cross-correlation.

Conducting vessel:

- Circular
- Linear probe
- Cross-correlation