Prosonix

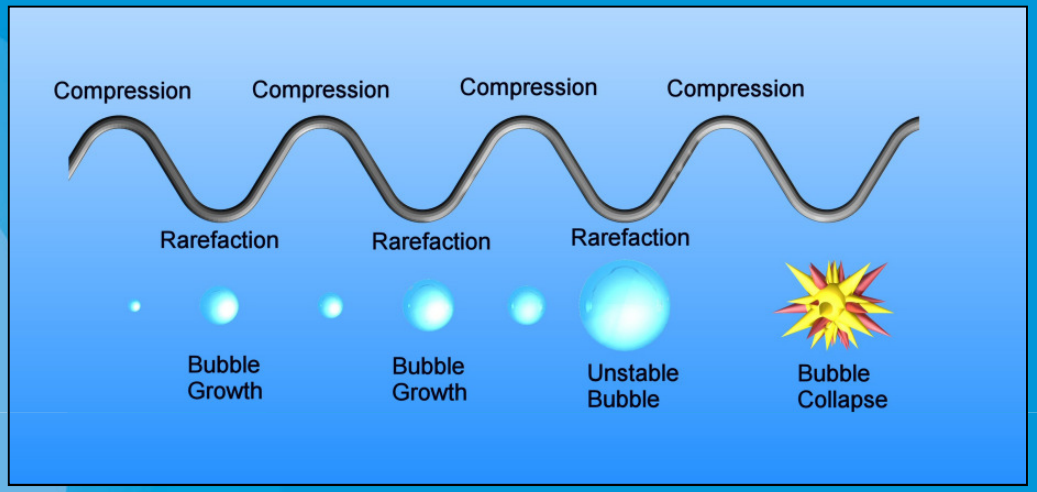
Ultrasonic Processing - Prosonitron Technology

Ultrasonic Flow Cells for Laboratory and Plant Scale Processing

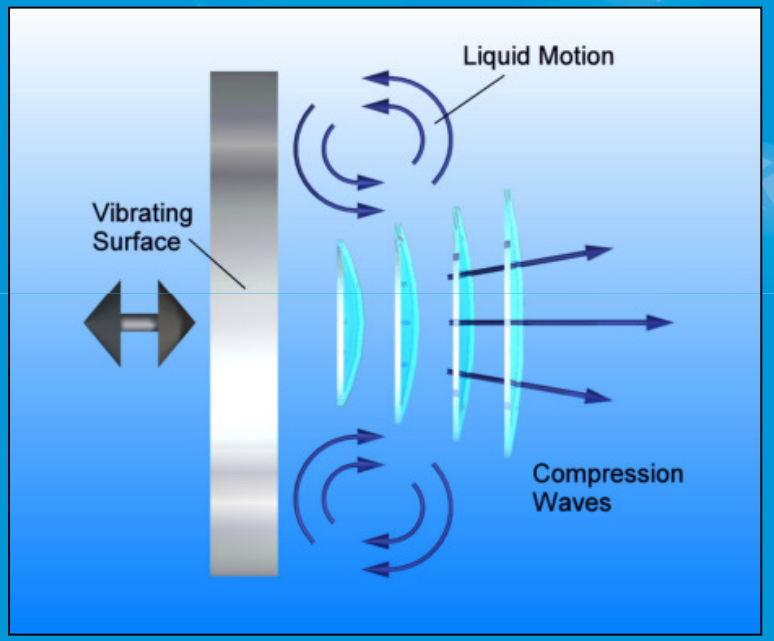
30th June 2009

Prosonix
Experts in Sound Science™

Ultrasonic Processing



Cavitation Generation with Ultrasound



Transmission of Sound Waves

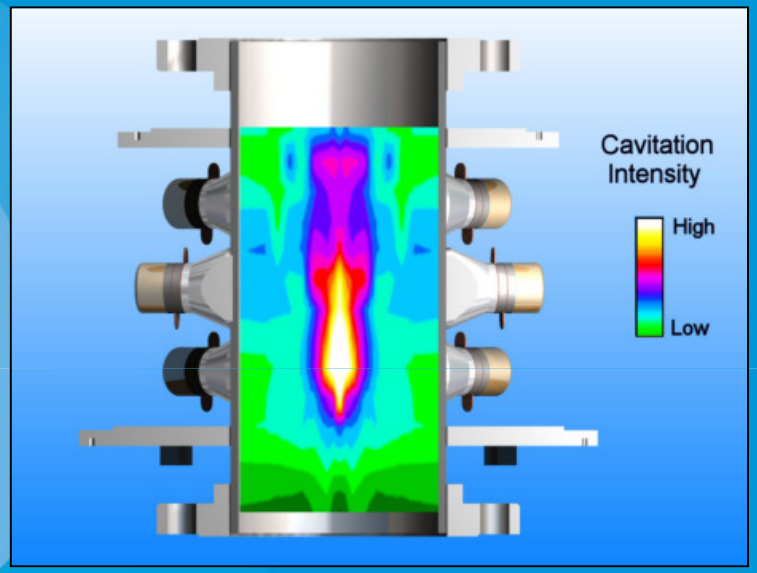
Sono Nucleation

Sono Milling

Enhanced Mass Transfer

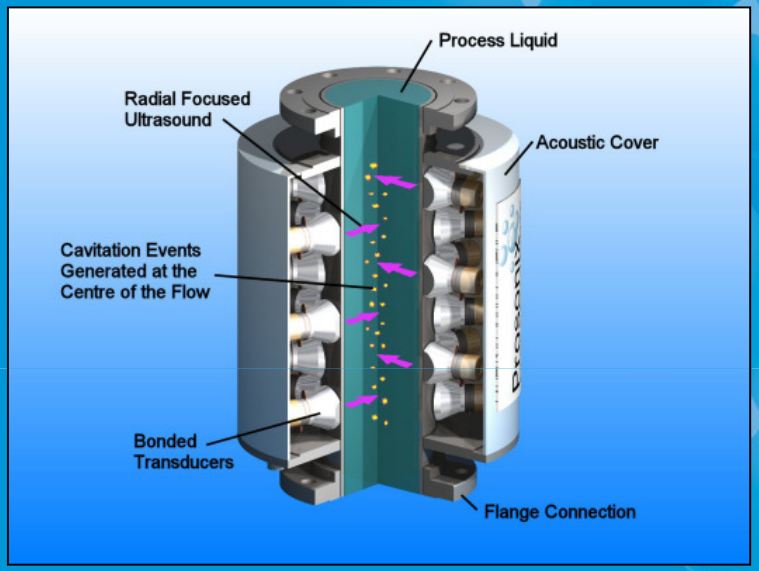
Prosonix
Experts in Sound Science™

Prosonitron™ Key Feature - Radially Focused Ultrasound



Cavitation Inensity Map of P500 HD

(Taken using probe from NPL)

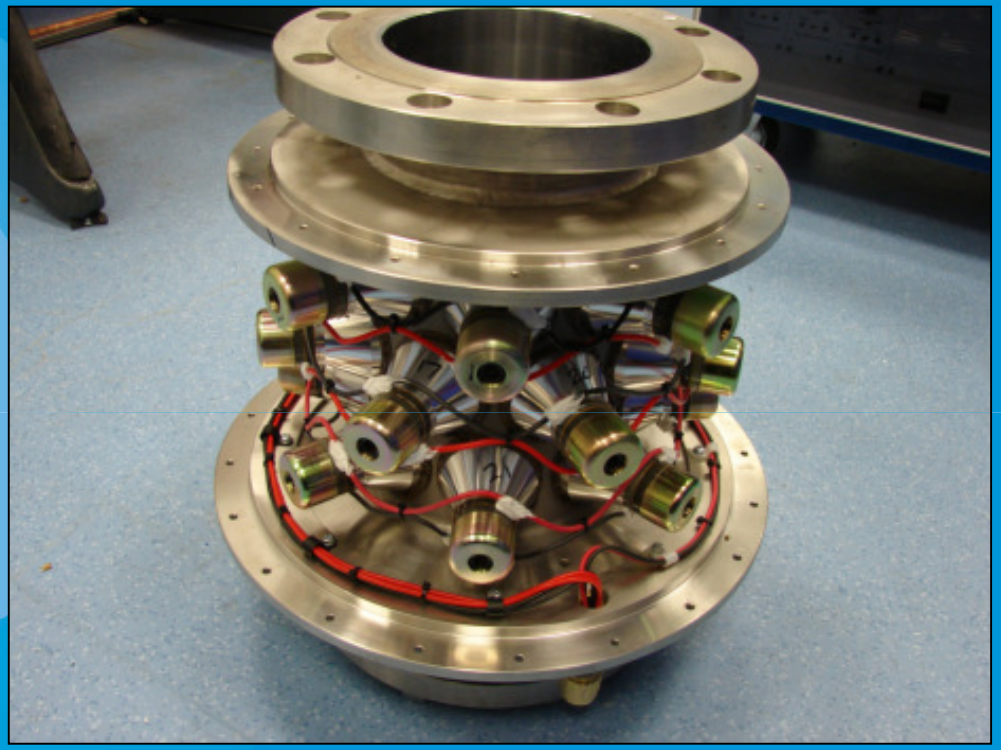


Sound Waves Travel Radially Inward Building in Intensity to Focus Cavitation at the Centre of the Cell.

Low surface intensity but high volumetric intensity allows ultrasonic processing with minimal surface erosion.

Prosonix
Experts in Sound Science™

The Prosonitron™ P500 Flow Cell

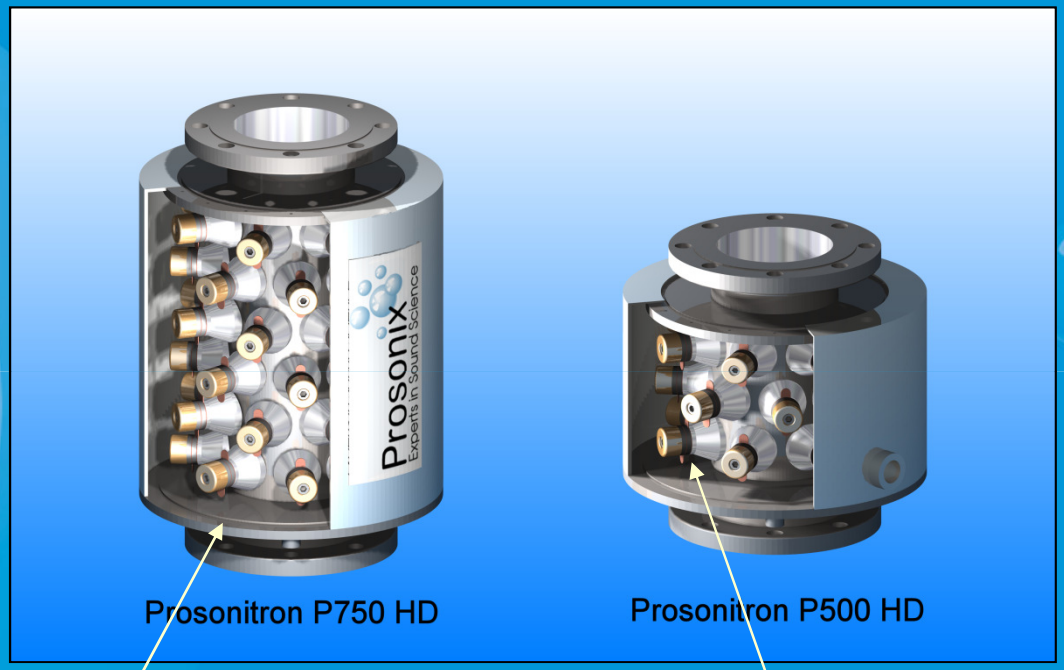


Prosonitron P500 HD flow cell

Generator Cabinet - 2 or 3 Control Cards

Prosonix
Experts in Sound Science™

Plant Scale Prosonitron Equipment - P500 HD and P750 HD



42 Transducers, 1200 W, 8.2 litre sonicated volume 63 kg

21 Transducers, 600 W, 4.4 litre sonicated volume 49 kg

Plant Installations
Alumina Production

Prosonix
Experts in Sound Science™

Lab Scale Equipment – SL10 and SL250

Sonolab SL250 – Large Flow Cell

7 Bonded Transducers (50 to 150 W typical) in a similar configuration as the plant scale equipment.

Ideal for 5 to 50 litre batches.

Sonolab SL10 – Mini flow cell

1 Bonded Transducer (5 to 60W typical) delivering power into a 110 ml flow cell volume.

Ideal for 1to 5 litre batches

Plant Insallations
Alumina Production

Prosonix
Experts in Sound Science™

Cost Drivers

1. Materials of construction (e.g. Hastelloy C276)
2. Certification of equipment (e.g. ATEX)
3. Aseptic cleaning
4. Size of equipment
    - Configuration
    - Sonication Volume
5. Number of items ordered
6. Commercial terms agreed
    - Warranties
    - Payment terms
    - Service provision

Prosonix
Experts in Sound Science™

Contact Information

For further information please visit

www.prosonix.co.uk

Or Contact us on

+44 (0) 1865 78 4250

Prosonix
Experts in Sound Science™