LCTR-Series
Laminar Continuous Taylor Reactors

Laminar Continuous Taylor Reactors (LCTRs) are a patented chemical reactor series that produce **high-purity, uniform substances** using **Taylor Fluid Flow**.

The Laminar Taylor flow reactor uses a jacketed cylindrical vessel with a central, rotating agitation bar to produce taylor flow mixing along the length of the vessel. Reagents are pumped at a controlled rate into the vessel and the reaction efficiency is maximised through specific turbulent mixing before the products are collected at the end of the vessel.

### LCTR Benefits

- **Reduced reaction times** – order of magnitude decreases in reaction time, depending on application
- **Increased purity** – higher purity products through uniform mixing
- **Fully controlled** – controlled particle size and distribution in crystallisation & precipitation reactions
- **Scalable process** – continuous process, scalable from low-volume laboratory bench top reactors to production scale (working volume 0.02 – 1,000 litres)

### Key Applications

- Pharmaceutical API crystallisation
- Graphene oxide manufacturing
- Li-ion battery material manufacturing
- OLED material purification
- CNT washing
- Amino acid purification
- Recycling phosphoric Acid
- Precipitation/crystallisation of inorganic compounds
- Recrystallisation for high purity

**Sulfamerazine**: conventional method vs. Laminar reactor. Controlled particle sizes and desired phase transformation in significantly less time
Advantages of Taylor Flow Reactors

✓ Flow reactor designed around exploiting specific turbulent mixing through Taylor flow
✓ Significantly higher mixing force and mass transfer velocity than conventional batch reactors
✓ Combines the advantages of tank and tubular type reactors in the production of high-purity materials under continuous flow

For more information, or to discuss your requirements, please contact us on 01954 232 776

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