MICROWAVE TECHNOLOGY

POTENTIAL UNLOCKED

IB Catalyst Engineering Focused Workshop

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Making Waves in the World of Liquid Thermal Processing
Contents

• Why does AMT microwave technology work in IB?

• Immediate areas of application
Why does AMT microwave technology work in IB?

Overcomes the problems commonly associated with microwave heating

- Total penetration through cross section of flowing liquids
- No hot spots, no cold spots
- Continuous, not batch
- Tonnes/hour, not kgs/hour
- Precision temperature selection ±1°C
- No fouling, no product damage

Continuous, industrial scale microwave processing, available immediately
Immediate areas of application

**Extraction** (with or without solvents)
- Accelerated extraction rates: x30 to x150+
- Higher yield
- Lower energy needs
- Reduced thermal degradation
- Fewer extraction stages

**Anaerobic digestion**
- Microwave hydrolysis
- Accelerated reaction rates
- Decreased retention time
- Increased biogas yield
- AD from recalcitrant materials

**Value from waste**
- Stabilisation of waste materials for downstream processing
- Give shelf life of 21-28 days
- Facilitate transport for downstream processing