

## Bio-hazardous Waste Materials

### Process description

The AMT System introduces a valuable and cost effective solution for waste liquids that require sterilisation, pasteurisation or coagulation. It is particularly useful for bio-hazardous waste that needs to be sterilised prior to final treatment or disposal.

Virtually any waste stream that can be pumped through a 50mm pipe may be treated using the AMT System.

Examples of materials that may be effectively treated include blood, egg, hospital and laboratory waste, and other contaminated waste.

**Results from trials undertaken at Edinburgh University indicate that the AMT machine can kill most common dangerous micro organisms at 98°C.**

### Versatility

The modular nature of the AMT System allows the machine to be easily integrated within most waste treatment systems. The technology is scalable and machines are available that operate at 150 and 1500 litres per hour. This can be increased to 3000 litres per hour using heat recovery.

### Key features

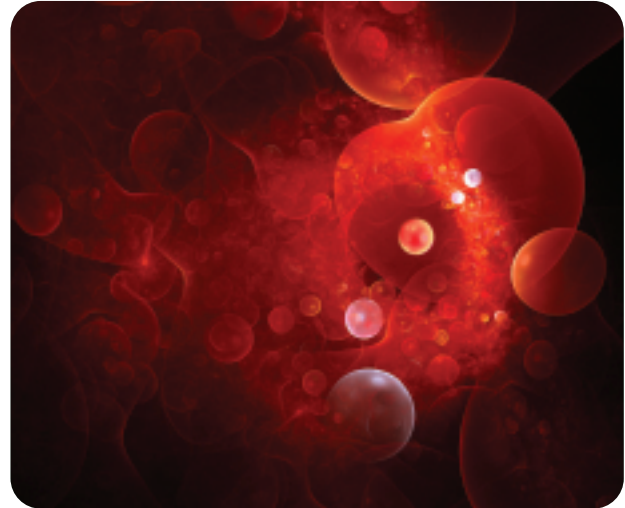
**Low treatment cost: £3-7 per tonne**

**Low installation costs & small foot print**

**Robust design for harsh environments**

**Sealed system - no odour problems**

**Simple to operate**



### Case Study

The **AMT 1500** system has been used to treat blood waste from abattoirs.

#### Advantages

- Removes the need for expensive specialist disposal
- Blood transformed to sterile solid and fluid waste
- Fluid discharged straight to sewer (low BOD 500– 3000)
- Solid waste is reduced dramatically (50% of total volume with centrifugation)
- Sterile solids can be sold as an ingredient for pet food
- Aseptically collected and treated blood may be used for food products such as black pudding
- Removes odours associated with waste-blood collection and disposal

*'Global leader in the use of microwaves to heat and condition liquids, suspensions and semi solids'*

## The AMT System of “Volumetric Heating” presents a unique technique to deliver microwave energy deep into liquids on a continuous basis and on an industrial scale.

The AMT system allows practically any material that can be pumped through a 50mm diameter pipe to be heated and conditioned using microwaves. The heart of the system is a unique wave guide which allows magnetrons of varying power output to focus their energy uniformly across the entire cross-sectional area of any microwave transparent tube. The AMT mixing system keeps even the thickest liquids moving and ensures rapid and even heating.

### Design Features

- There are no hot metal surfaces for difficult materials to stick to (eg milk, egg, blood)
- The unique AMT mixing device ensures even flow and cooking of the most viscous fluids
- The cooking chamber may be made of any microwave transparent material and can be optimised for the temperature and pressures required
- By adjusting the number, spacing and size of the microwave sources the cooking system is highly scalable
- Fine control of temperature ( $\pm 0.5^{\circ}\text{C}$ ) is achieved by automatically varying the flow rate of the integrated pump
- Compact design fabricated in stainless steel
- Easily and quickly cleaned
- Batch processes may be made continuous
- Potential to create new or enhanced products
- No ancillary equipment or controls required

For further information about demonstrations of the AMT system or to trial the technology, please contact BESTPUMP on 0845 467 2378 or email [info@bestpump.co.uk](mailto:info@bestpump.co.uk)

*The AMT System can offer significant carbon reductions over conventional methods of cooking. AMT can help provide an independent assessment of how these savings can be converted into economic benefits.*

#### Disclaimer

Our technical advice - whether verbal in writing or by way of trials - is given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test equipment supplied by us as to their suitability for the intended process and uses. The application, use of our equipment is beyond our control and therefore, entirely your own responsibility.