SUNCOMBE
CIP & PROCESS ENGINEERS

BioWaste Inactivation

Suncombe Ltd, Jade House, Lockfield Avenue, Brimsdown, Enfield, Middlesex, EN37JY, United Kingdom
T +44(0)20-8443-3454 **F** +44(0)20-8443-3969 **E** info@suncombe.com **W** www.suncombe.com

www.suncombe.com

About Us

Formed in 1961, we have a tremendous amount of experience in-house and provide a high level of technical and engineering expertise in the supply of critical processing systems. Our products are built In House to a high quality and encompass all relevant legislation, guidelines, testing, documentation, quality assurance, traceability and validation requirements.

Introduction

Suncombe **Bio-Waste Inactivation Systems** decontaminate liquid hazardous infectious waste streams for research, production, laboratory and bio-containment environments. The systems are engineered to be robust and reliable and are available with any number of collection and treatment vessels with capacities to suit the waste volume. The Systems are based on standard modules with individual units custom designed for your specific requirement and cGMP applications.

Design

Using robust, proven design principles, the systems deal with ACDP Bio Level 2 to 4 or SAPO Category 2 to 4 take into account two main areas of concern. Firstly the systems effectively sterilise or inactivate any harmful pathogens in the waste stream and secondly total containment must be assured at all times. The systems are supplied with controls and interlocking functionality to ensure containment is always maintained and there is always a positive release prior to discharge of treated waste. Detailed development and design ensures that all areas can be maintained whilst the systems still accepts waste.

Typical Batch System

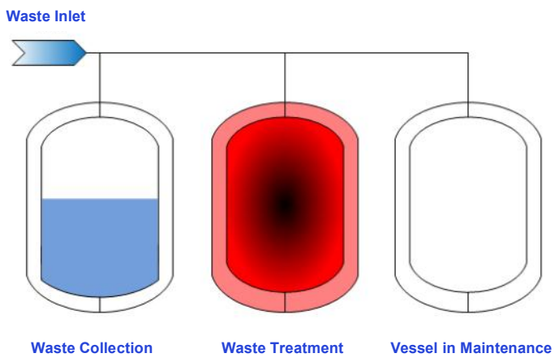
Typical MicroBioWaste Continuous System

System Type

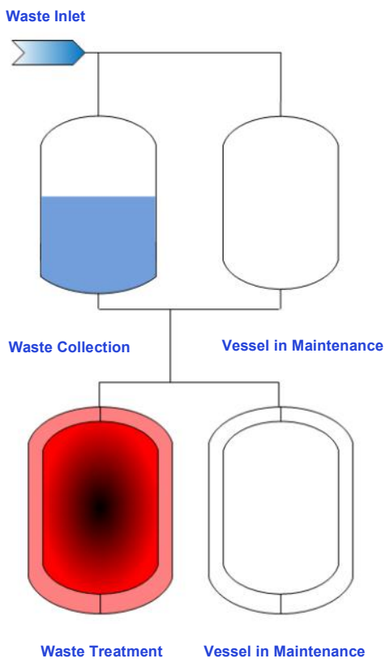
We offer Continuous Flow biowaste decontamination systems and Batch biowaste decontamination systems. Our systems are available for both thermal and thermochemical inactivation. Thermal inactivation can be performed using steam, super heated water or high efficiency electrical heating.

Typical Configurations

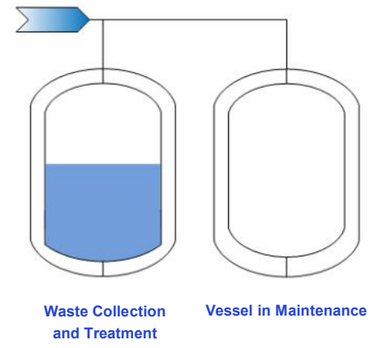
24 hours per day continuous use system with 3 x treatment vessels



24 hours per day continuous use system with 3 x treatment vessels



Up to 18 hours per day continuous use system with 2 x treatment vessels



Design

Full containment is provided even in the event of a process parameter excursion.
In the event of a process excursion the system will prompt the operator to deal with it in a step by step manor and in a way which has minimum process impact and limits system downtime. Safe system maintenance (planned preventative and breakdowns) is possible without plant downtime whilst maintaining the waste running and full containment. SIL Integrity level systems ensure that their is no possibility of untreated waste being inadvertently discharged.

Construction

316L Stainless Steel, duplex stainless and Hastelloy materials are available, selected to ensure the continued operation of the system when chlorine based solutions are present. ASME, EN and PD cGMP design standards and certified fully welded construction ensures best available liquid containment.

Typical ETP+Plus Batch System

Features

Suncombe **Bio-Waste Inactivation Systems** are individually designed to incorporate the required features for your specific application.

Suncombe PureCIP™ CIP System

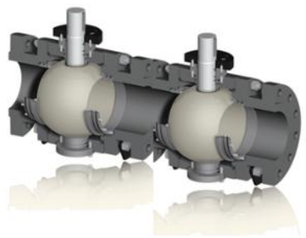
The **PureCIP™** is used to Clean In Place the equipment for routine and planned preventative maintenance, replacements and breakdowns.

Power Failure

Provided with a back-up Uninterruptable Power Supply to ensure that a power failure does not occur. In the event of a failure the system incorporates passive security to provide a safe automatic shutdown which contains all effluent in a closed system

Dual Redundancy

Each section of the plant can be Cleaned (CIP) and sterilized (SIP) with a double valve arrangement in place thereby ensuring operator safety and maintenance of containment. This facility provides secondary containment with the inter-valve space decontaminated on every cycle.

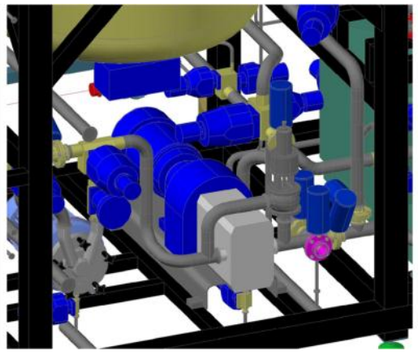


Maintainability

The schemes are designed to ensure 100% safe and straightforward maintenance and service operations.

3D Modeling

3D Modeling is employed throughout the design process to allow full visualisation of the scheme prior to manufacture.



Tank Venting

Sterile heated hydrophobic vent filters at micron are used for all vessels. The filters are steam sterilisable and can be cleaned and sterilised in-situ prior to replacement. Twin parallel and twin series filters can be included for dual redundancy.

Control

Our inhouse electrical design, manufacturing and software capabilities ensure every control system is robust and reliable. The ControlSuite™automation packages are PLC driven with visualisation HMIs, reporting facilities, remote monitoring and interfaces to factory wide systems.

Visualisation

Human Machine Interface screens are included to provide visualisation of the process. Additional screens also contain full configuration, reporting and trending functionality.

Reporting

The reporting suite is compliant with current electronic records guidelines including 21CR11 compliance. Producing electronic and hard copy batch records of each operation, alarm and event it provides an audit trail and total traceability.

Dual Redundant Instrumentation

Dual redundancy is provided for the inactivation parameters (temperature and time) and all other critical devices (level and pressure). Readings are constantly compared and any continuing difference is reported.

Pressure Relief

Complying with worldwide regulations, the pressure relief requirements are considered for each project individually. Detailed design activities provide the relieving requirements ranging from the removal of reliefd to double redundant bursting disc and pressure safety valves. Pressure relieving is also fitted to incoming services to ensure a positive pressure is always applied to the containment envelope.

Support

The Suncombe Technical Support and Customer Care departments' obligation is to provide total customer support. This support starts at the proposal stage, continues throughout the contract and thereafter. We currently supports all of our clients over the last 50 years. Support includes advise and surveys, installation and commissioning, training, call-out repairs and service contracts for preventative maintenance.