



SUNCOMBE
CIP & PROCESS ENGINEERS



Gillain & Co
HYGIENIC EQUIPMENT FOR FOOD & LIFE SCIENCES

BioWaste Inactivation



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.

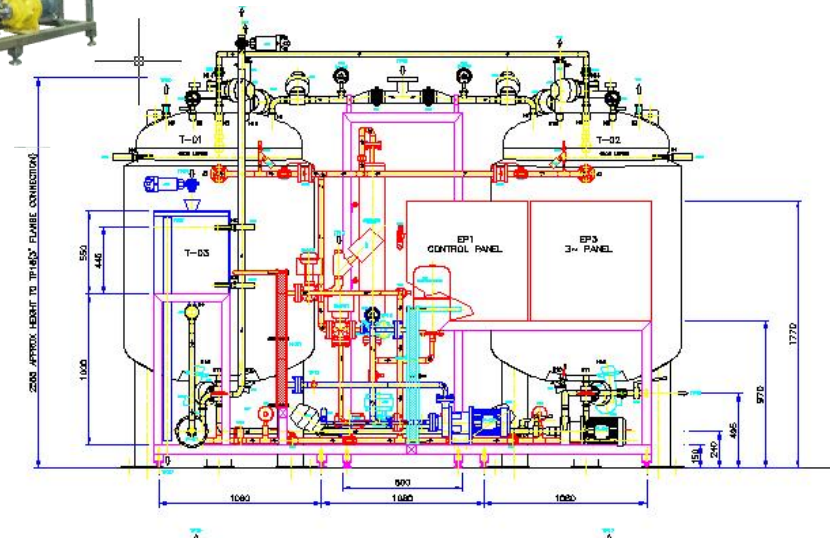
Introduction

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.

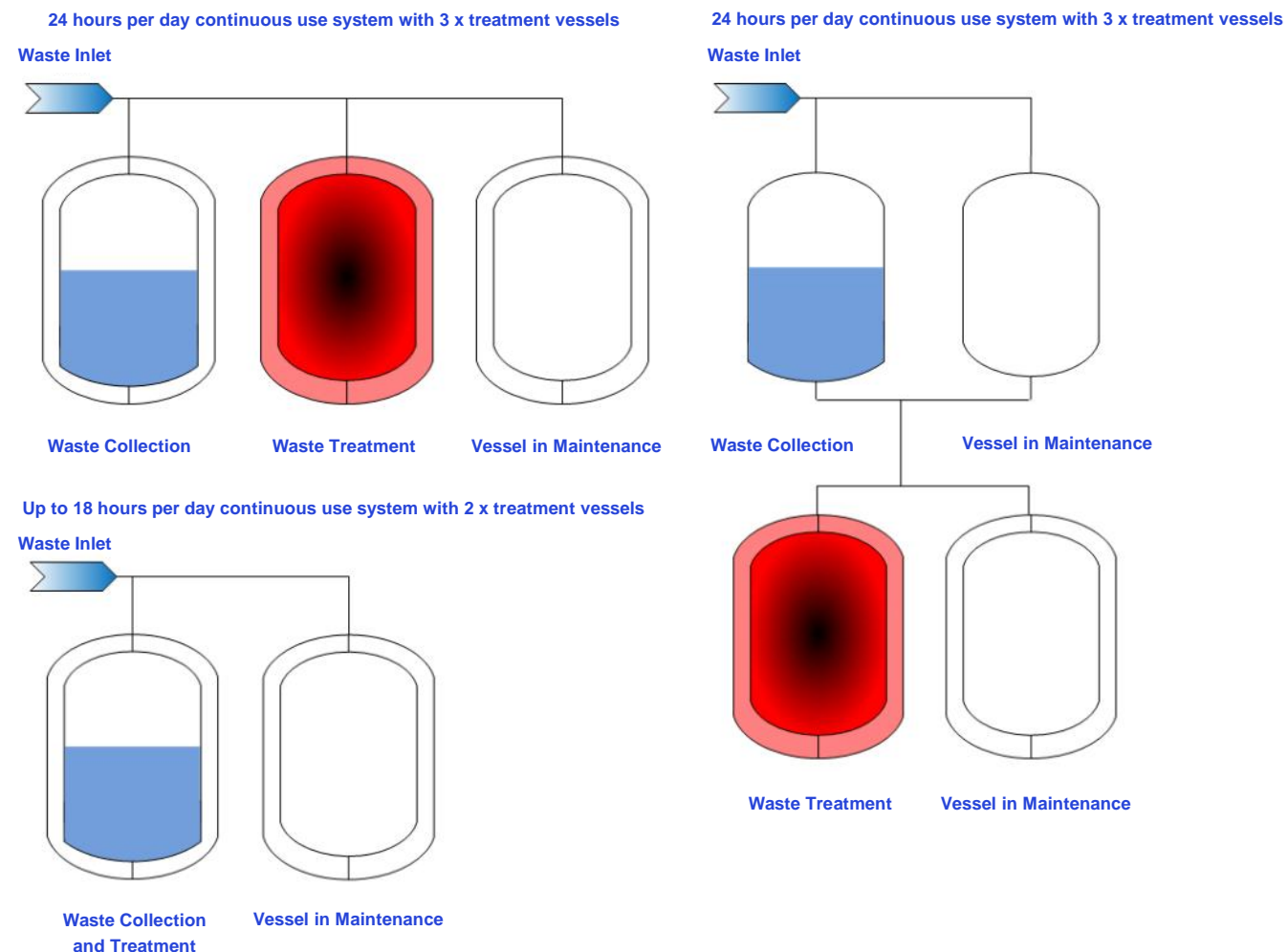
Development

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 System



Typical Configurations



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 manner 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. Safety interlocks in the software and with hard wired backups prevent the 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.



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 methodology also eliminates any downtime associated with routine maintenance.

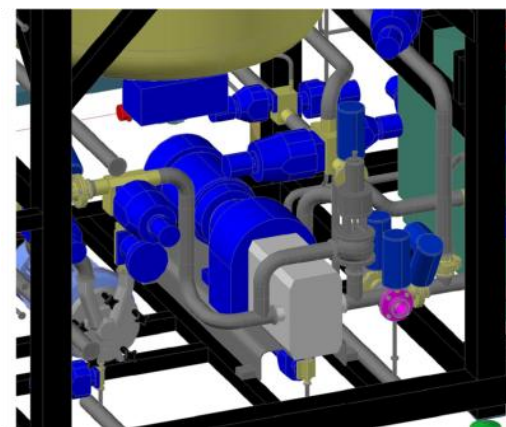


Maintainability

The schemes are configured so that any vessel can be taken out of service for maintenance, whilst still running the remainder of the system.

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 0.01 micron will be used for all vessels. The filters are steam sterilisable and can be cleaned and sterilised in-situ prior to replacement. Twin filters are included for dual redundancy in case of a filter failure.

Automation

A dual redundancy PLC driven control system is included using two identical PLCs, connected in parallel, to ensure continuous operation. Optimum software operation including continuous self-diagnostics is included with hard wire interlocking for critical functionality.



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

The use of the busting disk and pressure relief valve arrangements allows the positive full flow venting associated with bursting disks. In the event of a pressure excursion the burst stream is ported to a relief vessel. This relief vessel is treated in the same manner as the treatment vessel. Burst disc failure is monitored and this mechanism allows processing to continue prior to burst disc replacement.



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.