

Process Waste Systems

The Validatable System for Collection, Lifting, Equalisation, Treatment and pH Neutralisation of Process Waste



Overview

The Suncombe Validatable Systems for Collection, Lifting, Equalisation, Treatment, and pH Neutralisation of Process Waste is a comprehensive range of solutions designed to efficiently manage and treat waste generated during industrial processes. By employing these systems, companies can minimize their environmental impact while maintaining efficient and reliable waste management practices and focusing on ensuring compliance with environmental regulations and maintaining a sustainable approach to waste management.

Available in a wide range of capacities and configurations, with every system individually designed to suit each client's specific requirements, with a dedicated Project Team, who will co-ordinate throughout the project lifecycle and agree approval prior to construction.

Using robust, proven design principles, the Suncombe Collection, Lifting, Equalisation, Treatment, and pH Neutralisation of Process Waste uses a combination of processes designed to efficiently and effectively manage process waste.

Systems include a user-configurable recipe based control system and are pre-assembled and fully tested with operating utility supplies in our works to minimise risk and optimise installation and validation time on-site.

Systems comply with all applicable regulatory standards and are accompanied by a comprehensive suite of documentation covering all aspects of installation, operation and maintenance.

Applications

Process Liquid Waste Handling including:

- ✓ Collection
- ✓ Lifting
- ✓ Sump Pump Transfer
- ✓ Equalisation
- ✓ Treatment
- ✓ Neutralisation
- ✓ Cooling
- ✓ Discharge

Sectors

- ✓ Biologics
- ✓ Laboratories
- ✓ Pharmaceuticals
- ✓ Processing Facilities
- ✓ Research Institutions
- ✓ Mobile Operations
- ✓ Hospitals & Clinics

Construction

- ✓ Thermoplastics and 316 stainless steel, drainable, material & weld traceability
- ✓ Control and instrumentation to GAMP5
- ✓ Robust, reliable, Safe, Repeatable Operation

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Key Features	Benefits
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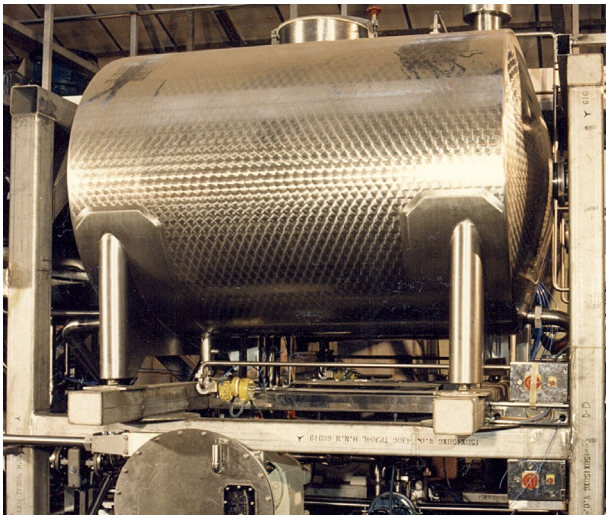
Modules	<p>Collection: The system starts with the collection of liquid process waste from various sources within the facility. Proper collection methods and equipment are employed to ensure safe handling and containment.</p> <p>Lifting: Lift stations are used to transport the waste to a higher level to the treatment and neutralization stages efficiently. Sump pump stations can also be used for more local collection.</p> <p>Equalisation: In this stage, the collected waste undergoes equalization to homogenize its composition and characteristics. The equalization process ensures that the waste does not vary significantly in terms of pH, temperature, or chemical composition, which facilitates more effective treatment.</p> <p>Treatment: The waste is subjected to treatment processes tailored to its specific characteristics and the regulatory requirements. Treatment methods can include physical and chemical processes.</p> <p>pH Neutralization: Many industrial processes generate acidic or alkaline waste streams, which can be environmentally damaging. The system can include pH neutralization processes that adjust the acidity or alkalinity of the waste to a more neutral pH level.</p> <p>Validation: A critical aspect of the system is the validation process, which ensures that the entire waste management system is operating effectively and within regulatory compliance. Regular monitoring, testing, and analysis are performed to verify that the collected waste is properly treated, neutralized, and meets the required standards.</p>
Thermoplastic and 316L stainless steel construction and components	Systems are constructed with 3.1/2.2 material traceability and welding dossier. This ensures a fully validatable waste environment.
Fully automated processing	Suncombe's Suite3000 software enables fully automated handling and treatment of waste and safe release to drain.
Continuous monitoring of key parameters	Waste process is highly repeatable and validatable.
Safety	Alarms, interlocks and fail-safe design encompasses scenarios such as power loss and under-temperature events.
Siemens PLC and 12" colour HMI with options for additional HMIs	Control hardware is industry standard and supported worldwide by Siemens/Rockwell. Ethernet interface included for transfer of critical operating variables to other systems. Designed to enable integration to third party equipment or higher level control system. Versions also available with remote I/O for control by clients control system.
Suncombe Suite3000 software	Control software specification has been developed and proven over many years for dosing applications and includes a wide range of user or administrator configurable parameters to enable customised dosing, including water flow, pressure, time, temperature, chemical concentration and many more. User passwords, Active Directory, Audit Trails, Electronic CIP batch reports for local or network storage are possible. User interface screens and process visualisation is simple, intuitive, clear and comprehensive. Remote access options are possible if required. Software complies with FDA 21CFR and EU GMP regulations.
Plug 'n' Play	Fully integrated with comprehensive in-house testing to ensure fast start up on site
Fully automated batch report	Electronic pdf reporting included – printed report optional
Instruments	Instruments of Endress and Hauser/Mettler Toledo or equivalent with full material and calibration certification.
Configurable	Based on standard modules, we can supply individual units custom designed for your specific requirement.

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Process Waste Collection, Lifting, Equalisation, Treatment and pH Neutralisation of Process Waste
Suncombe Process Waste Collection, Lifting, Equalisation, Treatment and pH Neutralisation of Process Waste systems can be configured with custom configurations to reflect the optimum waste methodology. Some example graphics are shown below.



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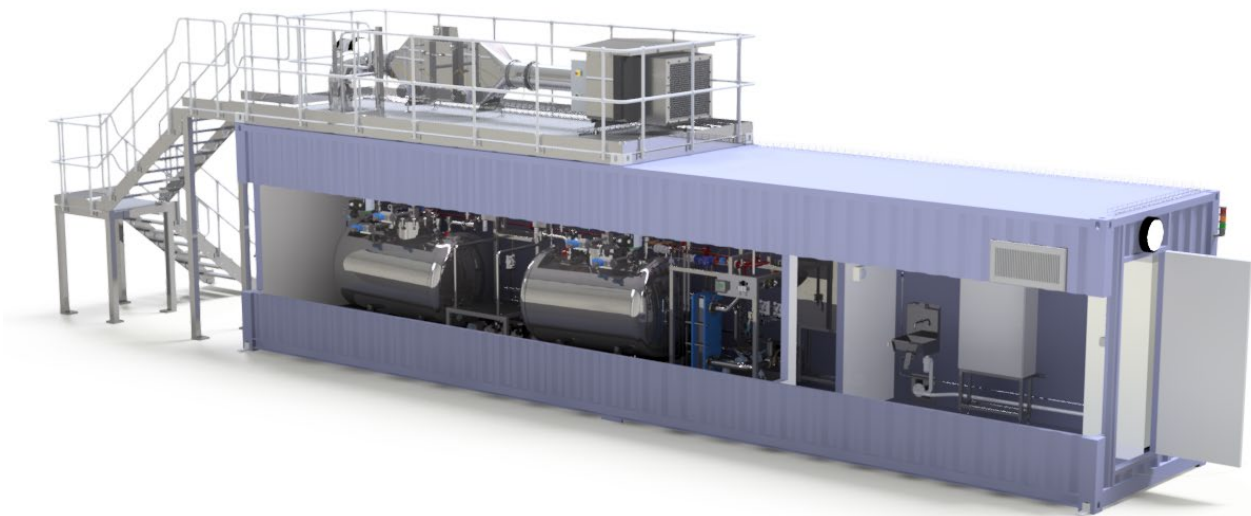


Containerised Process Waste Handling

Suncombe Process Waste Handling Systems, are also available as containerised versions mounted in shipping containers. Containerised units can improve space utilization and reduce the commissioning, validation and maintenance durations as the modular equipment is supplied in a “ready to operate” state, needing only utility connections on site. Containerised units can speed up projects and substantially reduce capital costs, by minimising the infrastructure requirements, whilst they also allow relocation in the case of changing operations.

Available in 3, 6, 12 or 12m high cube containers, the containers are modified to provide an internal clean space using epoxy or stainless flooring. The containers are pre-configured with pipework, electrics, lights, heating and application specific items such as Emergency doors, knock out panels, HVAC, showers, dunk tanks, access steps, roof mounted equipment etc.

For larger projects multiple containers can be used which can be located side by side or vertically, to provide the spacial requirements for the equipment/ applications within these containers. Designed and manufactured in house at Suncombe Ltd facilities close to London in the United Kingdom, the containerised units are supplied worldwide.



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Control and Automation System

Renowned for their ease of operation and versatility, Suncombe systems are designed and manufactured for reliability, repeatability and longevity, whilst complying with the highest international regulatory standards. With dedicated in-house automation personnel for control design and software, Suncombe engineers have tremendous experience in incorporating a broad range of control solutions to suit your specific control requirements.

Developed to the GAMP 'V' model (Verification and Validation), system life cycle approach, which links the three main qualification activities (installation, operation and performance) back to the design process, the system software is produced in house by qualified software engineers, encompassing software development standards, quality control systems and change



Standards and Guidelines

- ✓ GAMP Guidelines
- ✓ FDA 21CFR11 Compliance
- ✓ ASME BPE
- ✓ EU Machinery Directive
- ✓ EU Low Voltage Directive
- ✓ EU cGMP Guidelines
- ✓ EU EMC Electromagnetic Compatibility Directive
- ✓ IEC 61131 for PLCs
- ✓ EN 60204 Safety of machinery
- ✓ EN 60439 Low Voltage Switchgear
- ✓ CE and UKCA Marks

