

SCOPE OF SUPPLY

Wallace & Tiernan's scope of supply ranges from the chemical dosing pumps to full turn key contracts including:- controllers, tanks, kiosks and complete site installation and commissioning.

Alternatively complete prefabricated systems up to 30m³ and housing the above can be supplied which reduce the amount of on site installation work and ensures that pre-tested systems are delivered to site.

Aftersales service contracts can also be arranged to suit individual requirements.

TECHNICAL SPECIFICATIONS

| | |
|-------------------------------|--|
| Mains Supply: | 115V AC ±10%, 50/60Hz, 18VA or 230V AC ±10%, 50/60Hz, 18VA or 24DC, 18W |
| Fuse (F1): | 115V - 315mA (T), 5 x 20mm, 250V 230V - 160mA (T), 5 x 20mm, 250V 24V - 1A(T), 5 x 20mm, 250V |
| Relay Outputs: | Max. switching voltage 250V AC / 220VDC Max. switching Power 1250VA / 150 W |
| Digital Inputs: | For use with external potential free contacts only, Voltage supplied by ChemSept (24V DC nominal) |
| Analogue Inputs: | 4..20mA, not isolated, loop powered by ChemSept |
| Analogue Outputs: | 4..20mA, not isolated, maximum impedance 600 Ohms |
| Interface: | RS422/RS485, not isolated. |
| IP Rating: | IP66 |
| Operating Temperature: | 0°C to +50°C |
| Storage Temperature: | -20°C to +50°C |
| Dimensions: | 360mm x 290 x 90mm (W x D x H) |
| Mass: | 3 Kg (including packaging) |
| EMC Compliance: | Complies with Generic Standards EN 50081-1 and EN 50082-2 |
| Safety: | EN 61131-2 |



WALLACE & TIERNAN PRODUCTS

CHEMSEPT

CONTROLLER

SB.40.410.GE



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MEETING QUALITY STANDARDS

In the continued development and improvement of our products certain specifications may be altered without prior notice.



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INTRODUCTION

Wallace & Tiernan have over 30 years experience in treating and preventing septic Sewage. This experience extends to the use of Chlorine, Hydrogen Peroxide, Sewage Conditioner A, Calcium, Ferric and Sodium Nitrate dosing.

Today's concerns are centred around optimising treatment and reducing chemical costs. For this reason Wallace & Tiernan have designed the **ChemSept** controller. **ChemSept** is designed to work in conjunction with a variety of chemicals and is supplied as a stand-alone controller or as part of a complete chemical dosing system.

The choice of chemical will depend upon the design of the sewage network and the operational conditions. Chemical injection may take place at the beginning or the end of the network. The chemical selected may be used to treat the septicity once it has been formed or part of the preventative measures.

CONTROL OPTIONS

The **ChemSept** control system offers the user the choice of two unique software options that enables versatility of control to suit any of these applications or chemicals.

• ChemSept B Software

The chemical dosing pumps and **ChemSept** are wired to stop/start in conjunction with the main wet well pumps. The system can be configured so that the dosing operation commences when the wet well pumps run, or when they have stopped. In either sequence, the pumps will run for a predetermined period of time which is set by the **ChemSept** controller. The dosing pumps and base time sequence are selected

• ChemSept E Software

The **ChemSept E** software option was developed to provide versatility in treatment and compatibility with Energy Management Pump Control Systems.

The controller has three control options.

a) On/Off Control.

With manual override to enable dosing to be run continuously or inhibited.

b) Selective Rate Control.

The software assigns a dosing value to the sewage volume being pumped irrespective of the volume in the wet well or which sewage pump is being used. Further adjustments can be made in the setting to allow for

to provide a dose of chemical to the volume of effluent in the wet well. The dose rate is then automatically modified by information received from temperature probes, residence time, or feedback analyser if selected.

This method of control is ideally suited to treating septic sewage arriving at the pumping station by treating the sewage as it enters the wet well.

sewage strengths at different flow rates and the propensity to generate hydrogen sulphide.

c) Flow Control.

Chemical dosing can also be flow related for use with wet well pumps using variable speed control.

In all three modes during storm water conditions, the controller can be configured to inhibit chemical dosing. In selective rate or flow control modes, there is the option to hold dose rates at specific values or carry on proportional dosing.



Total System Control

ENHANCED CONTROL



ChemSept Control Section

FEATURES

Both software control systems can be further enhanced by temperature compensation and adjustments for prolonged periods between pumping intervals. Both of which can significantly affect the dose of chemical required. In addition, feedback control from a Redox, Nitrate or H₂S analyser is available in **ChemSeptB** and in **ChemSeptE** selective rate control options.

Another feature in both sets of software is the ability to dose chemical in accordance with a profile.

a) A daily profile in which the pump dose

rate is entered in 6 data points. Each data point covers a 4 hour period.

b) The second option relates to a weekly (7 day) period in which the pump dose rate is entered to cover 24 hourly periods per day (168 data points). A copy facility can be used to copy one day's data to another.

The profile can be entered into the controller either manually or downloaded from a PC. The **ChemSet** software and accessory leads required to perform this function are supplied as an optional extra.

- Modern user-friendly micro-processor technology with interactive menu assistance
- Automatic duty pump cycling
- Automatic pump changeover on pump failure alarm
- 2 line x 16 character Luminescent display with adjustable display contrast
- Security access code

- LED Indicators providing operation information
- Enclosure IP66
- RS 485 interface
- Diagnostic menu to assist maintenance and installation
- 2 Language options
- Ergonomic membrane keypad with 6 keys

SYSTEM FACILITIES



Dosing Pump Compartment

ChemSept is not only designed to carry out the control functions but forms part of the dosing system.

LED Indicators are provided for the following:-

Tank low - Indicates low level alarm in the bulk storage tank. This alarm will also inhibit the dosing pumps to prevent them running dry.

Bund Flood - Indicates bund flood condition. This alarm will also inhibit chemical dosing.

Pump Duty - LED's indicate which duty pump is operating.

Pump Running or Failed - LED's indicate whether pump is running or has failed.

Automatic or Manual Pump selection

Duty cycling - **ChemSept** includes the facility to set the duty pump rotation automatically on a 50/50 daily or weekly rotation or a 60/40 option.

Pump failure - **ChemSept** will also changeover to the standby pump on an alarm generated by a flow switch.

Signal Input Failure Alarm - Any sensor input signal alarm is detected and an error message displayed.

Security - Each sequence can be selected to be accessed through a security code if required.