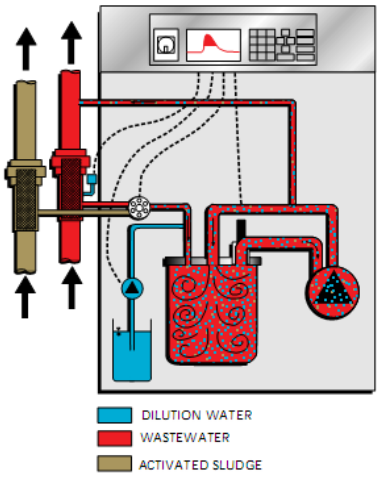
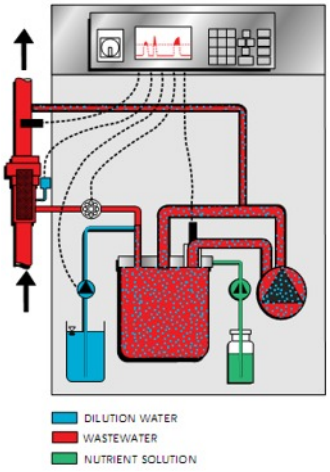
On-Line Toxicity detection

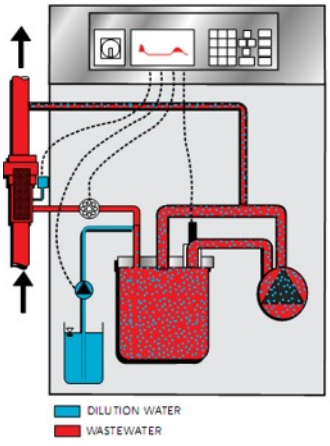
Tox-Sys: Stip



StipTox adaption B
For wastewater use. Utilises Mixed liquor as the culture



StipTox adaption Norm
For wastewater use, adapted to specific nutrients



StipTox adaption W
For wastewater use

Features:

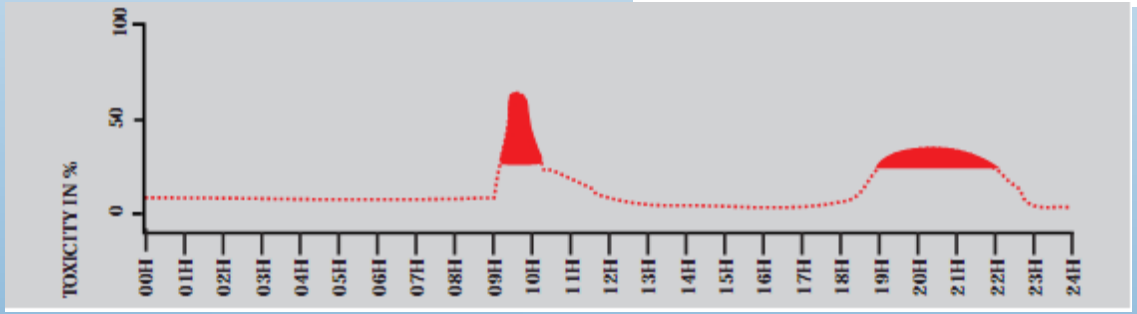
- Data Logging
- Graphical display
- Auto backflush filter
- Analogue & digital alarm outputs
- Uses self grown biomass acclimated to your process
- Only one DO sensor
- Auto-calibration & cleaning of sensor
- Diskette for extended logging periods

Benefits:

- Long lifetime due to robust nature
- Continuous measurement
- Rapid response 3-15 mins
- Low operational and maintenance costs
- Real time and historic data display
- Only responds to toxins not tolerated by your process

Applications:

- Wastewater monitoring
- River monitoring
- Process protection



Typical toxicity graph

ToxSys: Stiptox is a cabinet analyser for the continuous measurement of % toxicity in wastewater. Sample is continuously pumped through a fast flow loop, from which a subsample is drawn through an auto-cleaned cross-flow filter by means of a variable speed peristaltic pump. This sample stream is diluted with oxygen saturated clean water by a variable speed gear pump and the mixture delivered to the bioreactor, where microorganisms grow inside small plastic cylinders kept in suspension by a fast recirculation loop. The loading rate is kept relatively high to prevent the kinetics becoming substrate limiting. Hence only suppression of respiration rate will result in an increase in DO level of effluent. The mixing ratio of wastewater and dilution water, together with the oxygen difference, is used to calculate the toxicity reading. The biomass may be “normalised” to specific substrates by constantly adding this material as in the “adapt Norm”. If wished the biomass may be supplied from an existing ASP rather than grown in situ, as in “adapt B”

System Specification

Operational Principle:	**Suppression of oxygen consumption by toxins when applied to acclimated fixed bio-culture on plastic supports or of Mixed liquor from ASP.**
Range:	**0-100%**
Repeatability:	**3%**
Response Time:	**3-15 minutes**

Transmitter/Controller Specification

Mechanical Construction:	**Dimensions wxhxd**	**757 x 1090 x 400 mm, including sample loop**
	Weight:	**70kg**
	Weather Protection:	**IP54 according to DIN 40050**
	CE:	**Compliant**
	Testing method:	**DIN/VDE 0701**
	Protection class:	**1 IEC according to 1010**
	Immunity from Interference voltage:	**EN 50022**
	EMV-Interference Messages:	**EN 50081-1 12/96**
	EMV-Immunity from 85 distortion:	**EN 50082-2 12/96**
Outputs:	**Data interface:**	**RS 232C for data output & remote maintenance**
	Keypad:	**21key, 13x13mm**
	Display:	**LCD graphic display 16 lines x 40 characters Backlit. 6hr graph + current value with 5 digit resolution. 14 days internal data storage**
	Analogue out:	**0/4–20 mA isolated, 500 ohm max, 10V**
	Limit value alarm:	**dry contact relay – NC, max 0.2A &50V, for high/low/slope value**
	Diskette drive:	**3.5” diskette (optional)**
	Monitoring:	**Logging of warnings, malfunctions, limit value alarms and calibrations for last 4 weeks (90 days with diskette drive), alerts for leakage, deficient dilution water, deficient wastewater, incorrect reactor temperature, incorrect oxygen reading, broken membrane on oxygen sensor**
Power requirements:	**Supply voltage:**	**230VAC at 50 Hz**
	Load:	**3.6 Amps (average) 8.15 Amp (max)**

Ordering Information

When placing an order it is important to indicate the following requirements to our sales staff:

1. **What adaptation is required?**
2. **Is fast sample loop and filter required?**
3. **Is a pumped delivery system to be provided?**
4. **Please indicate if optional floppy disc drive is required.**
5. **Please indicate where and how analyser is to be mounted, e.g. wall mount or table mount**
6. **Is a weather proof enclosure required or will it be sited inside?**

Supplied by: **Envitech Ltd. Unit S7, Capital Business Park, Parkway, Cardiff, CF3 2PU**
Tel: 02920 364252, Fax 02920 369876, E-mail: sales@envitech.co.uk

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