

# The Watermark

The Newsletter From

**Automated Water & Effluent Ltd**

Autum 2010

## New Laboratory

### At Automated Water & Effluent Ltd

During the summer of 2010 we have invested in a new laboratory to be run by our customer support manager Bill Washbourne.

Many of our customers are requesting ready made up calibration solutions preferring not to mix their own from our existing sachets of buffer powder. So we have installed a demin water system the quantity of the demin water being of coarse monitored by one of our conductivity controllers.

This allows us to carry out wet testing and calibration of a variety of instruments and carry out some development work for new products and QC testing on existing ones.

New are our ready made up pH buffer solutions supplied colour coded red for the 4 pH green for the 7 pH and blue for the 9 or 10 pH solutions which also have a preservative to prevent the growth of mould in the buffer solution.

Redox calibration solutions are supplied

as 650 mV solutions and conductivity calibration solutions can be made up as 1000 $\mu$ S, 1431 $\mu$ S 2000 $\mu$ S or 10,000  $\mu$ S all solutions are supplied in 250 ml containers.

Our old favourite the box of pH buffer powders are still available from stock as values 4, 7, 9, and 10 pH values each box has 5 sachets and each sachet when dissolved in demin water makes 500 mls of buffer solution

a small container of the indicator / mould inhibitor is supplied with each box of buffer powders, still the most cost effective buffer solution if you have the time to make them up.

We are well known for pH and conductivity instrumentation but our involvement of residual chlorine measurement and dosing is growing



Bill in the Lab

With many of our customers drawing water for their process from boreholes which often require chlorinating involving more work checking and calibrating residual chlorine sensors.

## We are Exhibiting Again this time at The WWEM Exhibition 10 & 11th Nov 2010 At The Telford International Centre Shropshire

We are pleased to announce Automated Water & Effluent Limited will be exhibiting at the Waste Water and Environmental Exhibition (WWEM) at the Telford exhibition Centre, Telford Shropshire on Wednesday November 10th and Thursday November 11th

If you need tickets please contact Mrs. Vera Young by telephone or e-mail [vyoung@awe-ltd.co.uk](mailto:vyoung@awe-ltd.co.uk).

We will be exhibiting items from our range of instrumentation and process control equipment.

New on the stand will be the CL7635 Residual Chlorine Controller and the OD 7685 Optical Dissolved Oxygen Controller

If you haven't already had a copy of the OD7685 data sheet, then please contact Mrs. Vera Young by telephone **01785 254597** or e-mail [vyoung@awe-ltd.co.uk](mailto:vyoung@awe-ltd.co.uk).



# Technical Tips

## Conductivity Control

Electrolytic conductivity has been an important measurement for water treatment for in excess of 100 years with one of the first ever conductivity instruments on display in the Birmingham science museum (well it was the last time I visited). This consisted of two electrodes immersed in the drinking water storage tank on board a ship originally connected to a warning lamp and later a moving coil meter in series with the ship's electrical supply. Potable water has a lower conductivity than seawater so the system was used as a warning for the ingress of seawater into the drinking water storage tanks.

How our instruments have improved over the last few years our latest C7635 and C7335 conductivity controllers have selectable ranges covering 0 – 200

$\mu\text{S}$  to 0 – 200 mS (practical limit 100 mS with  $K = 1.0$  cells). With selectable cell constants of  $K = 0.1, 1.0$  and  $10.0$  automatic temperature compensation with selectable base temperature and adjustable slope and a switched mode power supply so the instrument will work on a supply voltage from 86 to 260 VAC.

At last we can ship a conductivity controller knowing that the customer will not be returning the controller asking for a range change or supply voltage change. This is of course subject to having a cell suitable for the application and able to withstand the solution temperature and pressure and capable of covering the required measuring range.

Changing the instrument's measuring range is simply a case of selecting the



### Ranges For C7335 Conductivity Controller

Input From Two Electrode Cells			
k	0.1	1.0	10.0
Range	2.000 $\mu\text{S}$	20.00 $\mu\text{S}$	200.0 $\mu\text{S}$
	20.00 $\mu\text{S}$	200.0 $\mu\text{S}$	2000 $\mu\text{S}$
	200.0 $\mu\text{S}$	2000 $\mu\text{S}$	20.00mS
	2000 $\mu\text{S}$	20.00mS	200.0mS
	10.00mS	100.00mS	1000.0mS

desired range and cell constant in the setup menu. No more damaged instruments returned where 240 volts have been applied to an instrument configured for a 110 volt supply.

## THE GRAPEVINE

We helped a major manufacturer of components for the aerospace industry with a new control panel for their new effluent plant. We first carried out routine servicing for this customer in the early 1980s (remember we have been in this business a long time) when they had a modular effluent plant to treat Cr6 and Cyanide, which was at the end of its useful life.

Last year the decision was made to replace the plant by this time cyanide was no longer used but the volume of hexavalent chrome had increased. The customer decided to design build and install the plant in house. With our help in designing the instrumentation controls and chemical dosing the treatment system selected was the



traditional system using acid and bisulphate to convert the Cr6 to Cr3 pH neutralisation and settlement.

The system was designed to record the discharge pH and flow using the SM500



(see Autumn 2009 issue of the Watermark) which data logs the pH, instantaneous flow, and flow totals on to a smart card for downloading to a PC for the production of monthly graphs.

Remember, you heard it on the AWE grapevine.

# Automated Water & Effluent Ltd

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**AWE**