

Bespoke Engineered Systems

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Pollution and Process Monitoring is a leading manufacturer of water quality instrumentation but also recognises the need to deliver fully supported engineered systems.

Since the formation of the company in 1990, the supply of bespoke monitoring solutions has significantly contributed to the company's growth. The ability to supply **fully equipped walk-in analyser kiosks** (or towable trailers) that are pre-wired and plumbed, complete with instrumentation, sample delivery systems, data recording and communications have proved popular. Where existing buildings can be utilised, the supply of pre-formed instrument panels has also been very successful.

The benefits of this approach cannot be overstated. Who better to complete the installation process than the manufacturer (or distributor) who will understand specific instrument requirements? Sometimes what may be perceived as only a minor consideration can have significant impact on the quality of the installation. Additionally, the ability to pre-engineer systems allows for complete testing before delivery, reduces time on site and therefore also reduces installed cost.

Projects span a variety of end users including utility, construction and manufacturing industries. The Bran Sands effluent monitoring kiosk, was supplied to Northumbrian Water and sized to accommodate four ProAm ammonia monitors (complete with sample preparation) and to allow space for additional instruments. All of the sample distribution was pre-formed using stainless pipework. Fused spurs were provided to each analyser and signals were wired to a common signals enclosure. The installation has been supported by PPM service engineers attending site on a scheduled interval, to complete routine servicing.



The analyser kiosk engineered for BP at Hull, is an example of a bespoke system engineered to a very high specification including stainless steel sample pipework which provides sample distribution to the Total Organic Carbon (TOC) and pH instruments, in addition to automatic composite sample collection.



The latest analyser kiosk containing the two **Protoc Spyder TOC analysers and a Web controller**, was employed to continuously monitor and limit discharge from the site treatment facility. This new position is down-stream of the individual production areas that are already continuously analysed for TOC and pH.



The surface water monitoring project completed for Redrow Homes required PPM to integrate a wide range of instrumentation into a walk-in analyser kiosk equipped with sample preparation, lighting and frost protection. The analysers continually measure water quality (**Turbidity, pH, Oil, Phosphate, Nitrate and TOC**) and these values are communicated daily and also instantaneously on-alarm, to a third party who can take appropriate action if required. Regular site visits have been scheduled to maintain chemicals and provide preventative maintenance.

The installation at Bray WTW for SE Water also demonstrates how PPM can work alongside other contractors to deliver a project. The pollution monitoring kiosk was engineered to an agreed specification to accommodate continuous measurements of ammonia, DO and oil, at the abstraction point on the River Thames. The need for simplified maintenance and the quality of measurement were important factors in choosing the correct instrumentation. PPM needed to



coordinate the build with another contractor tasked to communicate signals into an existing telemetry and control system. A common signals box formed a simple point of demarcation between the two contractors.

Engineered systems have also been supplied overseas. Where possible the enclosure is kept as small as possible to reduce transportation costs. Our French distributor – Proanatec secured an order to supply a compact monitoring kiosk to a fine chemical plant in the north west of France. The instrumentation comprises two "paired" Web analysers providing **100% data collection** onto a Spyder controller to ensure surface water is free from hydrocarbon ingress. Alarm signals were connected to a control room and if activated can also engage an audible and visual beacon installed on the roof of the analyser kiosk.

With increased automation, the correct instrument selection and style of installation are very important considerations. Furthermore, scheduling regular chemical deliveries and tailoring service contracts to provide an adequate level of support can further simplify the ownership of these instruments. The investment can then positively impact without burdening operational staff with additional work.



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