



The ExCeL Exhibition Centre, London's newest exhibition venue, comprises over 120 separate lettable zones and 50 franchised areas. The complex, situated in the Capital's regenerated Royal Docklands, was opened in late 2000. ExCeL started as a 'brown field' Docklands site in 1995 and employed Energy Control Consultants Ltd (ECCL) to develop the energy supply strategy for the site. This was accomplished using detailed building computer modelling techniques. ExCeL wished to concentrate on "core" exhibition business and brokered a Contract Energy Management deal with

Scottish and Southern Energy to build and operate the venue's Energy Centre to supply electricity, heat, and chilled water. ECCL also designed and planned ExCeL's Automatic Utilities Auditing strategy and their sister company, Energy Metering Technology (EMT), won the contract to install the DATA BIRD based Automatic Utilities Auditing system.

EMT is now retained by ExCeL to manage their Automatic Utilities Auditing and advise on energy management. This includes the monthly production of "hour by hour" predictions of the electricity, heat and coolth demands for a rolling 2 year period utilising the original building computer simulation model. This is done by feeding into the building computer model, the latest "tenancy planner" which is supplied electronically by ExCeL's Marketing Department. The demands predicted by the model represent "theoretically perfect" management of consumption and peak demands by the 120 lettable zones and 50 franchised areas.

Strategically placed meters to monitor actual utility usage, supply actual consumption data via DATA BIRD and, using DYNAMAT software automatically audits the actual consumption against the model predictions. This immediately highlights anomalies and pinpoints where problems have occurred that may require remedial action.

Scottish and Southern, who own and operate the plant, also receive EMT's "hour by hour" energy prediction enabling them to plan plant availability and organise maintenance during less sensitive times. Through the DYNAMAT software "shadow bills" are also created for contract energy supply. These are used by ExCeL for comparison purposes against Scottish and Southern's actual monthly bill.

The automatic utilities auditing regime relies on accurate energy metering. To measure export heat and coolth from the Energy Centre, EMT recommended to Capita, the detailed design consultants for Scottish and Southern, that they use Micronics Ultraflo 2000 heat meters.

Capita realised that the Ultraflo 2000, "clamp-on" heat meter system offered a cost effective solution to the problem of monitoring the main heat and coolth Energy Centre export pipes. Installation costs were minimal as the units are strapped to the outside of the pipes, making the Ultraflo 2000 extremely cost effective for large pipe applications and high-pressure systems. Any future failure would not require the draining and opening up of the pipes for repair or replacement making future maintenance both easy and much less costly. Generally the capital cost, including installation, is considerably less than an in-line heat meter for pipes above 150 mm diameter. Because the Ultraflo 2000 is clamped on to the outside of the pipe, it has no affect on circuit resistance and therefore produces substantial energy savings over the lifetime of the installation. The overall lifetime cost of the meters suggested that they were the ideal instruments for the job. EMT has installed many Ultraflo 2000 meters and continues to recommend their use where they are cost effective. EMT's sister company ECCL were perhaps the first company in the UK to use clamp-on portable meters for energy audits and energy conservation work and, as in this application, they continue to use the Micronics PORTAFLOWTM MKII and PORTAFLOW 300 to determine heat and flow loads for all types of design and monitoring purposes.

Ultraflow 2000

- Simple set-up menu.
- High temp. Transducers-option.
- Current, pulse or set point outputs.
- Energy meter version.

Electronics:- ABS housing with clear polycarbonate front panel waterproof and dustproof to IP66.
Temperature Range:- +5°C to + 60°C.
Keypad:- 16 key panel for set up, Diagnostics. Access password protected
Display: 2 x 16 LCD. Backlit.
Power Input:- 110/240VAC +/-10% 50/60Hz @ 50watts 24VDC +/- 10%, 6 watts.
Outputs:- Flow proportional 0/4 – 20mA Active opto isolated into 1000ohms. Bi-directional; 5v Pulse or set point relay. 5A- SPDT. Selectable rate and totaliser to 12 digits.

Transducers:- A, B, C or D sensors factory selected based on flow rate.
Range:- 0.5m/sec to 10m/sec.
Operating Temp. -20°C to +125°C Optional hi-temp to 175°C
Accuracy:- < +/- 3% of reading or +/- 0.02/sec whichever is the greater
Repeatability:- < +/- 1% with unchanged Transducer positions.



Micronics Limited. Knaves Beech Business Centre, Davies Way, Loudwater, High Wycombe, Buckinghamshire, United Kingdom, HP10 9QR.

Telephone: +44 (0) 1628 810456 **Facsimilie:** +44 (0) 1628 531540 **E-mail:** sales@micronicsltd.co.uk **Web-site:** www.micronicsltd.co.uk