

Passing the Test

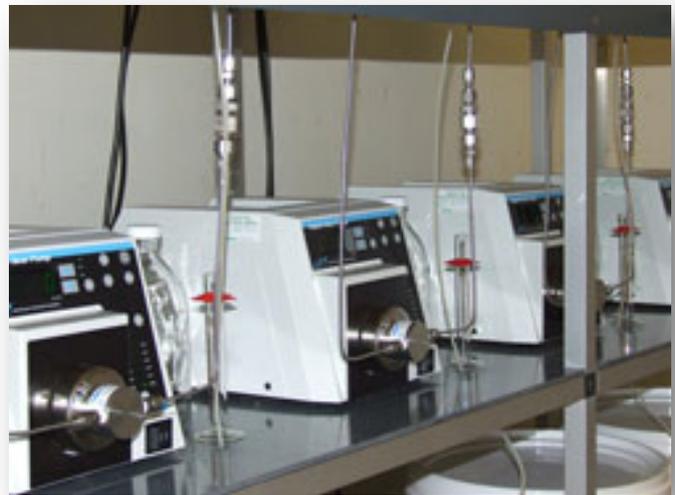
Cole-Parmer's Gear Pump systems used for feeding "spiked" water as the Water Research centre expands its GAC testing facilities

BENEFITS

- Pulseless, accurate and repeatable flow
- Flow rate insensitive to changes in back pressure
- Low maintenance
- Run continuously for extended periods

SYSTEM

- Cole-Parmer Gear Pump System 230VAC (74014-05).



WRc's GAC test rig, using four Cole-Parmer Gear Pump systems

With clients including the European Commission and UK government agencies, The Water Research centre (WRc) provides consultancy services for the water, waste, and environmental sectors.

A growing area of interest for WRc's clients is the removal of pesticides and other micropollutants potentially harmful to the environment from water being treated. This includes conducting continuous flow tests with activated carbon (Rapid Column Tests). Partially treated water from specific sites is "spiked" with a range of pesticides or other regulated chemicals or nuisance micro-contaminants (such as Geosmin).

In WRc's Rapid Column Tests, the flow of the spiked water is critical. The flow rate of the water is usually low (5 to 10 ml/min), needs to be pulseless and relatively insensitive to changes in back pressure, which occur as the differential pressure increases across the carbon in the columns.

A Cole-Parmer Application Specialist collaborated with WRc to specify Cole-Parmer's Digital Drive Gear Pumps. Gear pumps proved to be the best pumping technology for the application, as they deliver smooth, pulseless, accurate, and repeatable flow. They can be run for long periods between maintenance, making them suitable for continuous duty applications.

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WRc's test rig allows the spiked water to be pumped at a fixed rate through a column containing Granular Activated Carbon (GAC), until the contaminant breaks through in the treated water. Samples of the treated water are then collected and analysed for the contaminants of interest.

The test results assist water companies and consultants in the design of new GAC treatment facilities and provide a basis for optimised operation of existing facilities. The test rig simulates GAC performance spanning one to two years at full scale by operating it in a period of two to three weeks at a small scale. Due to an increasing demand for these tests, WRc recently expanded the original test facility, adding four more rigs.

Robert Camm, WRc's Laboratory Manager, said, "When we started planning to expand our test rig we chose Cole-Parmer's gear pump systems as previous Cole-Parmer gear pump systems have provided excellent performance and reliability."

Cole-Parmer's Area Sales Manager Dee Gill added, "Because Cole-Parmer offers a wide range of pumps using various technologies, we were able to find the most appropriate pump technology for this application. Collaborating with WRc has been an excellent opportunity for Cole-Parmer. WRc's industry knowledge is unsurpassed and we are proud to be able to support their activities."



Cole-Parmer's gear pump systems, analogue, digital and modular drives available

Cole-Parmer Gear Pump range benefits:

- Gradual, one-second acceleration offers **smooth control of drive speed** and repeatability
- Calibrate, copy, and dispense features produce precise, **pulseless batching and dispensing.**
- Insensitive to back pressure
- Continuous-duty operation with Micropump® A-mount pump head, offers **reliable operation with minimum maintenance**