Falcon Filtration Robot Assistant

## Bringing Intelligent Vision to Filtration and Washing

FALCON

FALCON FILTRATION • ROBOT ASSISTANT

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Scientists looking to gain increased process understanding of their downstream processing operations now have an eagle-eyed, robotic chemistry technician that can help them!

Our Falcon filtration robot assistant focuses on filtration and washing. This state-of-the-art platform collects all the data you need to deliver understanding of your filtration and washing processes by combining real-time machine vision with robotics. Repetitive tasks are performed day and night with high levels of precision and accuracy.
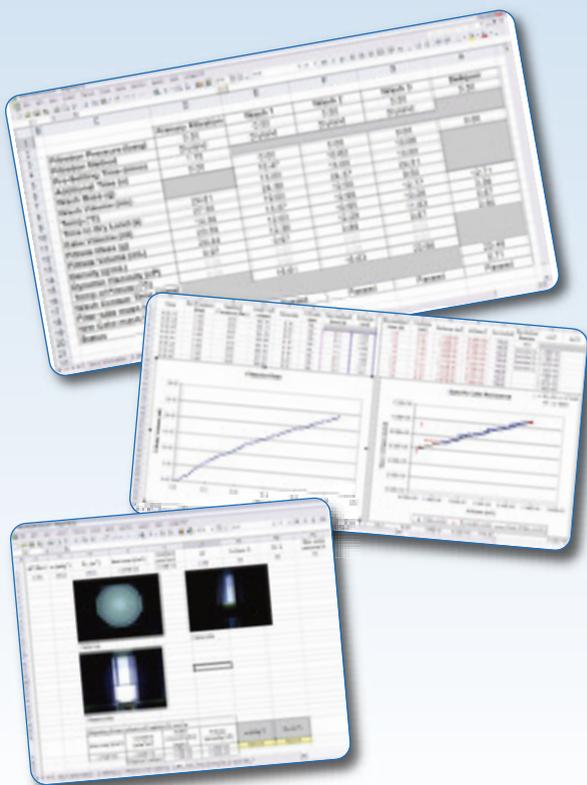
Introduction

Isolation of solids is well known to be a major bottlenecks in many production processes. Filtration studies can be performed to provide information on cake resistance, cake compressibility and liquor viscosity in order to optimise the isolation procedure, predict processing times on scale-up and aid equipment selection.

Washing studies generate additional process understanding by identifying effective and efficient wash regimes for removal of impurities whilst minimising product loss and solvent usage. Optimisation of the final wash solvent composition can reduce the impact on the drying process.

The combined outcome of these studies is improved processes, better scheduling and minimised bottlenecks.
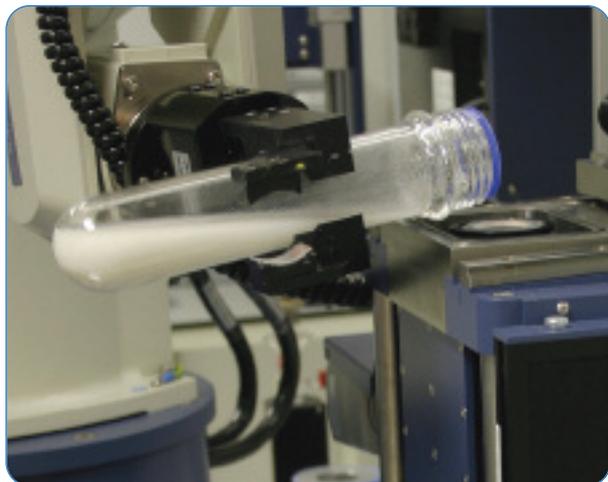
The Falcon filtration robot assistant offers both the capability and the capacity needed to fully investigate the parameters affecting filtration and washing processes.

Where the Falcon adds value

The Falcon carries out all the tests you need to determine filtration characteristics under diverse processing conditions. This can be used in a range of studies to add value to your processes:

Filtration under controlled identical conditions to

- Compare batches from different crystallisation conditions
- Compare batches prepared using different input source material

- Determine the effect of scale-up on product formed. (Lab vs scale-up vs pilot plant batches)
- Benchmark plant equipment

Predict filtration on scale-up

Determine optimum filtration and washing conditions

Troubleshooting

- Sub-sampling from plant to compare actual vs proposed conditions

Other potential uses

- Isolation and efficient washing of catalyst
- Removal of solid residues
    - By-products
    - Silica, alumina or charcoal purification aids
    - Clarification of solutions

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Falcon Filtration 'Robot Assistant'

The platform provides:

Filtration & Washing of:

- Up to 50ml slurry
- Up to 6 washes, with different wash composition
- Multiple samples

Variable Parameters:

- Pressure (0.2-1.8 Bar)
- Temperature (10-50°C)
- End-point selection – dryland or breakthrough
- Up to 15 solvent choices
- Pause for cake sampling
- Time factors

Data collection:

- Settling test
- Online viscosity
- Filtrate mass vs time
- Cake volume and depth
- Images of slurry, filter cake (top and side) and filtrate
- Automated sampling and dilution of filtrates for analysis
- Segregation and weighing of all filtrates; retains filter cake

Integrated automated reporting of data collected

Heath and Safety

- Fully contained platform
- Automatic shutdown in event of ventilation failure
- CE and UL marked

Our Falcon gives you the capability and capacity to gain insight into the parameters affecting your filtration and washing processes thus facilitating process improvement and delivering the process understanding you need.

If you would like to speak to a technical representative please call us on 01954 252522, e-mail sales@crduk.com, or alternatively you can visit www.crduk.com for further information.

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Cambridge Reactor Design Ltd

Unit D2 Brookfield Business Centre Cottenham, CB24 8PS England, UK

T 0044 (0)1954 252522   F 0044 (0)1954 252566   E sales@crduk.com   W www.crduk.com

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