Eagle Extraction "Robot Assistant"

Bringing Intelligent Vision to Liquid-Liquid Extraction

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

Our Eagle extraction robot assistant focuses on liquid-liquid extraction. By combining real-time machine vision with robotics, this workstation performs repetitive tasks 24/7, with high levels of precision and accuracy, recognises motion, takes video images - and does not talk back at or argue with management personnel!

Overview

- Delivers functionality to optimise liquid-liquid extraction

- Choice of aqueous solutions and organic solvents

- Performs pH adjustments

- Collects and prepares samples for analysis

- Automatic detection and processing of emulsions and difficult interfaces using our Eagle intelligent vision system

- Produces quality Distribution Ratio data

- User friendly software for easy operation.

CRD **CAMBRIDGE**
REACTOR DESIGN

# Eagle Extraction "Robot Assistant"

Robot in motion

Solvent dispensing station
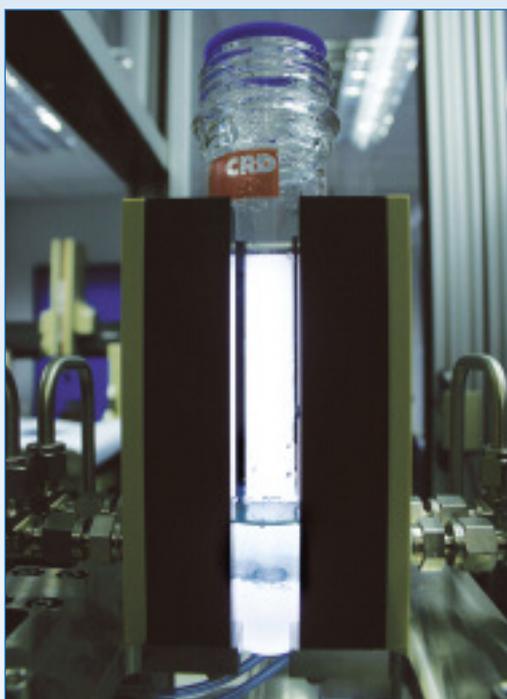
Separation Station
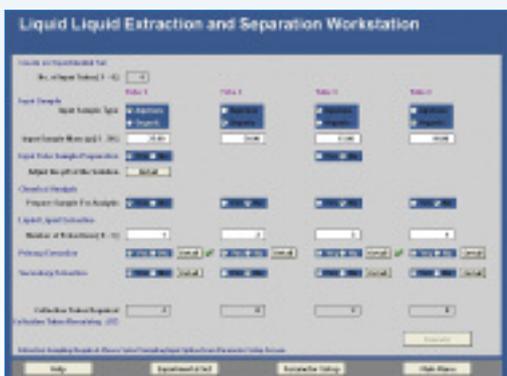
Eagle Extraction Software

Introduction

Downstream processing operations, such as liquid-liquid extraction, provide an opportunity to effect purification and often lend themselves to process improvement. Choice of extraction media, pH and temperature used, quantity of solvents and number of washes/extractions are all areas that can be optimized. Such investigations are usually resource intensive, tedious and slow. Provided a fit for purpose lab process is available, extensive investigations are rarely carried out.

The Eagle extraction robot assistant offers process R&D groups both the capability and the capacity needed to fully investigate the parameters affecting liquid-liquid extraction processes.

Our Eagle can easily handle all your liquid-liquid extraction testing. As well as facilitating continuous process improvements, Eagle provides the information you need on quality, productivity, the environment and waste treatment costs, and delivers the process understanding demanded by Quality by Design.

What is it?

The Eagle is a fully automated, robotic chemistry technician designed to perform a range of extraction tasks, 24x7. It operates repeatedly and reliably to give the accuracy and precision you need, from dispensing the solvents through to separating the layers and preparing samples for analysis. Integration of the robotic actions with machine vision offers the end user flexibility with safety.

What does it do?

The Eagle carries out all the tests you need to determine solvent choice, aqueous media, quantity of solvents and number of washes required. Of course the contacting and disengagement parameters can also be investigated. In addition, the system can carry out precise pH adjustments, giving you the information you need to leverage the potential for purification during your extraction processes.

Machine vision is used in a variety of ways within the system. As well as capturing images of key procedures the data gathered is used for critical real-time decision making, whereby the next steps in the process are determined via automated feedback loops. This capability comes into its own in the separation step, enabling appropriate handling of all outcomes, from clean separation, through messy interfaces, to emulsions.

Conclusion

Our Eagle gives you the capability and capacity to gain insight into the parameters affecting your liquid-liquid extraction 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 +44 (0) 1954 252522, e-mail sales@crduk.com, or alternatively you can visit www.crduk.com for further information.