

Dynamic Liquid Classification

Upgrade your Microlab STAR's intelligence



- ▶ **Classification of liquids based on physical properties**
- ▶ **Improved pipetting precision and accuracy of unknown liquids**

Discover the possibilities

Dynamic liquid classification is a tool to enable your Microlab STAR to classify liquids by comparing pipetting pressure curves generated during a test pipetting with a data base. Based on this classification, it allows the system to make dynamic decisions during the run of the method. The decision can reach from dynamic choice of the right pipetting parameters for pipetting to individual downstream treatments of different liquids based on their classification.

Key benefits:

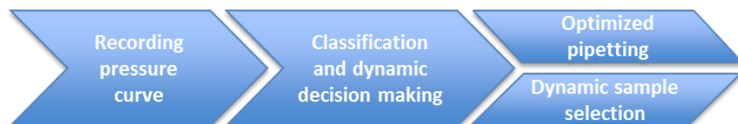
- ▶ Increases reliability and reduces variability: Enables adaption of pipetting parameters according to liquid used
- ▶ Increases throughput: Allows reliable and reproduceable automated handling of unknown liquids or mixtures of liquids
- ▶ Enables new functionalities: Screening of liquids according to pipetting parameters possible

Typical applications

- ▶ Quantitative analysis of mixtures of liquids
 - ▶ Formulations in biopharma industry
 - ▶ Testing of effects of preservatives
- ▶ Quantitative analysis of unknown liquids or liquids with unknown properties
 - ▶ Natural substances in food testing
 - ▶ Chemical reactions
 - ▶ Bacterial cultures, DNA or protein preparations
- ▶ Screening for desired physicochemical behavior
 - ▶ Screening for microbial growth or secreted substances
- ▶ Pipetting control of liquids
 - ▶ Verification of right liquid class for new batches of liquid

Function

- ▶ Classification of liquids by test pipetting
- ▶ Dynamic decision making based on classification, e.g. choice of pipetting parameters, individual downstream treatment of samples

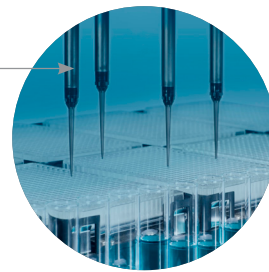


Classification and dynamic decision making

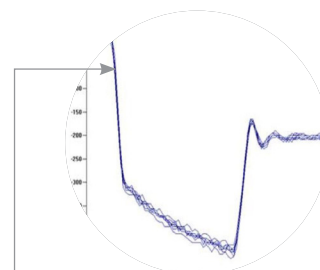
- ▶ Pressure curves are recorded and evaluated using different algorithms
- ▶ The derived values are compared to a data base with predetermined data points
- ▶ The liquid is classified to the closest data point and a dynamic decision is triggered
 - ▶ Choice of specific pipetting parameters to improve pipetting precision and accuracy
 - ▶ Different downstream processing for different kinds of samples

Venus compatibility

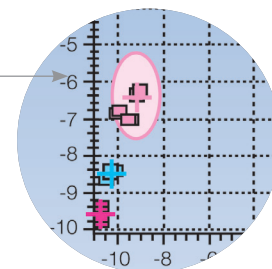
Dynamic Liquid Classification is a software upgrade for Hamilton Venus software. It is compatible with all Venus software versions starting from Venus One. No additional hardware is required.



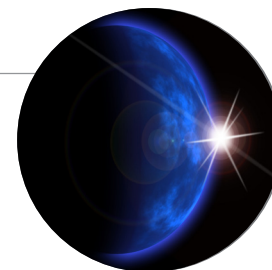
Test pipetting



Recorded pressure curves



Classification of liquid



Compatible with Hamilton VENUS software

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HAMILTON

Web: www.hamiltonrobotics.com

USA: 800-648-5950

Email: infoservice@hamiltonrobotics.com

United States
Tel: +1-775-858-3000

United Kingdom & Ireland
Tel: +44 (0)121-717-0199

Brazil
Tel: +55 (11) 9677-4093

China
Tel: +86-21-6164-6567

France
Tel: +33 (01) 69751616

Italy
Tel: +39-39-689-33-93

Denmark, Norway,
Sweden, Finland
Tel: +46 (0) 8 410 273 73

Germany, Switzerland,
Austria, Benelux
Tel: +49 (0) 89 552649-0

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