Liquid dosing unit LDU 25

Modular dosing system for the DCAT series

dataphysics
Understanding Interfaces

Not only temperature or humidity influence the surface tension of a given liquid, but also the concentration of interfacially active compounds like surfactants is a key factor.

A tensiometer of the DCAT series, upgraded with a **liquid dosing unit LDU 25**, is able to measure a sequence of surfactant concentrations in an automated manner.

Hence, with a special software module the **critical micelle concentration (CMC)** can be determined in a series of experiments during which no manual user intervention is required.

The liquid dosing unit LDU 25 can be equipped with up to four DataPhysics Instruments syringe modules (**ESr-LDU**) performing independent dosing operations. This allows to dose different solutions individually.

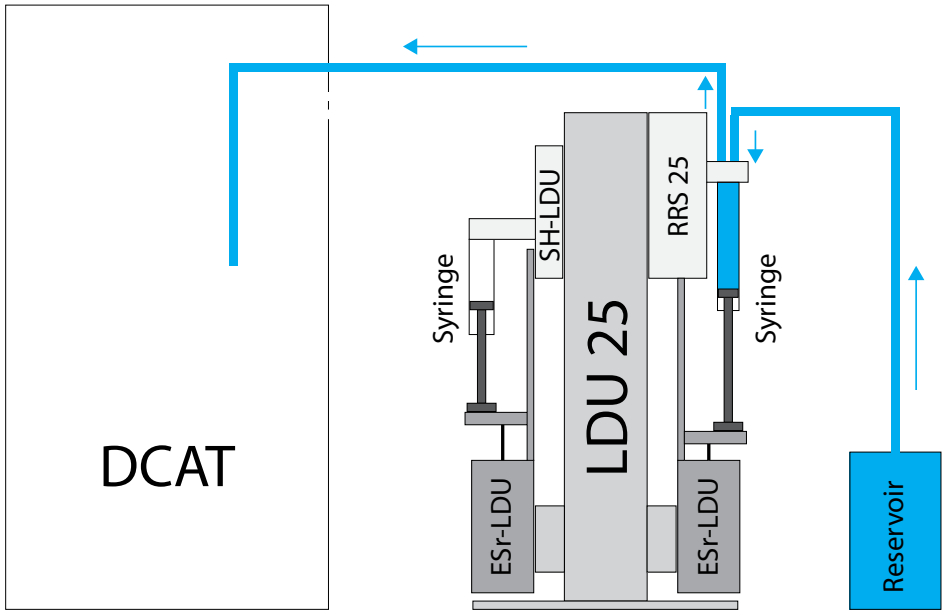
A common way of taking advantage of the four dosing modules is to use one syringe module for extracting liquid from the vessel and the other three to dose different liquid solutions.

There are two options available for dosing: The first allows for a (direct) dosing of the syringe content (**SH-LDU**) while the second one connects to a liquid reservoir via an additional valve (**RRS 25**) in order to refill the syringe.

Due to its modular design, the liquid dosing unit LDU 25 can be adapted to a large variety of applications and, for example, even synergy effects of different surfactants can be analysed while maintaining a constant liquid level in the sample vessel.

For convenience two pre-configured packages are available:
The **LDU 25 R1 package** consists of one LDU 25, one syringe module ESr-LDU and one refill and rinse system RRS 25.
The **LDU 25 R2 package** consists of one LDU 25, two syringe modules ESr-LDU and two refill and rinse systems RRS 25.

LDU 25 with two ESr-LDU, one syringe holder SH-LDU and one refill and rinse system RRS 25

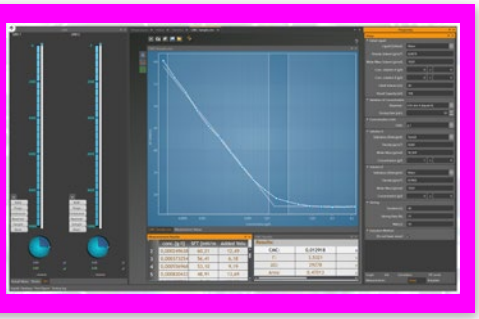


Schematic structure of a LDU 25 with two ESr-LDU, one SH-LDU and one RRS 25.
The flow of liquid is indicated in red for the SH-LDU and in blue for the RRS 25.

DCATS 33 — CMC

With the DCATS 33 software module the critical micelle formation concentration (CMC) can be determined automatically with a tensiometer of the DCAT series and a LDU 25.

The DCATS 33 software module controls the LDU 25 and the DCAT according to individually customisable measuring procedures. The software module can automatically determine the surface tension via the Du Noüy ring or the Wilhelmy plate method, perform the dosing operations with the LDU 25 and mix the solution with the magnetic stirrer.



DCAT 15 with LDU 25, one ESr-LDU and one syringe holder SH-LDU

Technical data

Dosing speed:	• 0.005 µl/s ... 100 µl/s
Dimensions (L x W x H):	• 220 mm x 152 mm x 460 mm
Weight:	• 5 kg (LDU 25) • 0.5 kg (RRS 25) • 0.75 kg (SH-LDU) • 0.5 kg (ESr-LDU)
Power supply:	• by DCAT system

For more information please contact us. We will find a tailor-made solution to your surface chemistry requirements and will be pleased to provide a quotation, obligation-free, for your instrument system.

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