

Reference Standards with Quantos

For internal Quality Assurance

Application

Quality monitoring and quality assurance play a decisive role in modern GXP laboratories. The purity, concentration and composition of product batches need to be examined with the widest range of analytical methods such as HPLC and GC-MS. These methods employ the use of known reference substances as standard in order to gain traceable results from the evaluation. The greatest of precision must be exercised when adding standards to the samples. And this is where Quantos comes into its own.

A challenging task

As a general rule, a limited quantity of 20 to 50 reference standards are required for analytical methods. The price of these standards varies between €50 and €1,000 per gramme, whereas the quantity of standard dosings depends on the number of batches to be analysed and the analytical method applied. The target weight tends to be within a range of 3 to 250 mg. If the substances can be weighed into the target vessel directly, with a volumetric flask, for example, the risk of substance loss is substantially reduced during the sample transfer. As a consequence, both the precision and reproducibility of the analytical method are increased significantly.

The Quantos solution

Each Quantos dosing head must initially be filled with the required reference substance. Once filled it can be inserted into the Quantos dosing system to prepare standards and then stored for subsequent dosing needs.

The target vessel (volumetric flask or vial) is positioned directly under the dosing head. Automatic dosing of the reference material is



XML file.

triggered via the touchscreen display once the target weight has been entered.

An automatically generated label, which features all the data required for the analytical method, guarantees uniqueness and traceability. What's more, all relevant data can be saved using the software and is provided to the LIMS in the form of an

Another major benefit of Quantos is that the required quantities of both reference materials and solvents (e.g. acetonitrile, DMSO) can be significantly reduced.

Quantos doses the reference material to a tenth of the initial weight at the same precision as the manual initial weight.

Example: The target concentration is 500 mg/L; if a user weighs in 50 mg to a sufficient level of accuracy, he/she will need 100 ml of solvent. Quantos doses 5 mg with the same degree of precision with just 10 ml of solvent consumed. Consequently, 90% of valuable substances and solvents can be saved.



Automation and Safety

The QS30 Autosampler can be used to automate up to 30 dosings. Thanks to a wide selection of vial adapters, integrating Quantos into your work processes is a seamless procedure. As such, the maximum degree of automation can be achieved for your analytical methods.

The QSE1 safety enclosure has been specially developed with the handling of toxic substances in mind. The complete workstation for sample preparation ensures that you hardly ever come into contact with toxic substances and their aerosols during the dosing process. As a result of this, risks which are hazardous to health can be minimised.

Summary

Precise dosing of low target weights is an absolute must when it comes to preparing samples and standards for numerous analytical methods. Indeed, Quantos not only reduces raw material consumption, but also ensures fast and reliable dosing of reference substances at a maximum dosing speed.



The Quantos solution and options

HPLC Standard and sample preparation

The components listed below make Quantos an overall solution.

The essential components are listed under the Quantos system.

The options extend the degree of automation, while ensuring workplace safety or facilitating data tracking.

Quantos System



QUANTOS QB1 (including dosing unit, QD206DR balance, anti-static kit, Netcom kit, ethernet option, cable box and the EQ pac)



Dosing heads QH075B and QH250L for 75 and 250 dosing cycles



ErgoClip for fixing the vial and vial adapter

Options



AutoSampler QS30 with QB1



Safety Enclosure QSE1



Label Printer CLP631



Protocol Printer RSP-25



USB barcode / matrix scanner to track and match substances and targets



Software LabX direct quantos

www.mt.com/quantos

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