

Cubis[®] *individual* with Q-App for Standard Preparation



Q-Stat
High Voltage Ionizer





The New Standard in Automated Preparation of Reference Materials

With Cubis[®] individual for Standard Preparation your analytical testing results will reach a new level of significance and validity never realized before.

Imagine the following future scenario: You need to prepare reference material (RM) for your highly sensitive analytical method. You simply start the application 'Standard Preparation' over your lab balance display. You select the compound and solvent from the Apps library. Immediately, your balance shows you a precise workflow following your Standard Operating Procedure (SOP). The step by step guide confirms the target weight to be prepared. Already corrected for purity of compound. The App shows you how much of the reference compound you need to weigh in. Even if realizing exact target weighing to the 5th place is rarely achievable: No need for corrections or worry. The App will simply recalculate the volume of solvent that needs to be added to still meet the target concentration. The App automatically makes corrections for density and temperature of the solvent. The exact volume of solvent you need to add to your compound will now be automatically aspirated, and may easily be dispensed by you. With the highest possible precision. You will be 100% sure that the reference standard exactly meets your target concentrations. Realize your target concentration with accuracy and precision independent of, and unaffected by, analyst technique. This time, and every time you prepare your standard in the future.

Forget about cumbersome, time-consuming, and error-prone manual preparation of questionable reference standards by using volumetric glassware. Sartorius sets new standards in the future preparation of RM for your highly sensitive analytical testing: With Cubis[®] individual and Q-App for automated Standard Preparation.

In analytical chemistry the use of RM's and standards is the means by which we may have confidence that the measured values we realize are accurate. The method by which we determine the measured value, our SOP, should ensure that the value is accurate and precise.

In collaboration with ESSLAB, Sartorius managed to combine our high-accuracy weighing with Hamilton high-accuracy liquid handling, producing an innovative system for fully automated gravimetric standard preparation. Perform your standard preparation with 100% confidence in accuracy, consistency, traceability, in compliance with international regulations.

Cubis[®] individual with Q-App for Standard Preparation

The mark of good analytical technique to realize precision and accuracy without question

- Perfectly integrated system: High-precision balance plus high-accuracy liquid dispenser connected through an intuitive process driven balance user interface
- Integrated standard preparation software: No separate computer, maximum space-saving
- Fully automated preparation of reference standards: Maximum efficiency and time-savings without compromising accuracy and precision
- Proven valid results: final RM volume and concentration validated through density and temperature correction
- Standardized RM preparation processes: 100% adherence to SOP
- Workflow control: 100% consistency in standard preparation, independent of analyst
- System function validation and documentation: optimal support during validation processes (IQ, OQ, PQ)
- Flexible: Create your individual library of standard or novel compounds, with reference to purity, batch, lot, or supplier, along with internal Q|A- Q|C references

Standards Preparation easy as 1, 2, 3 ...



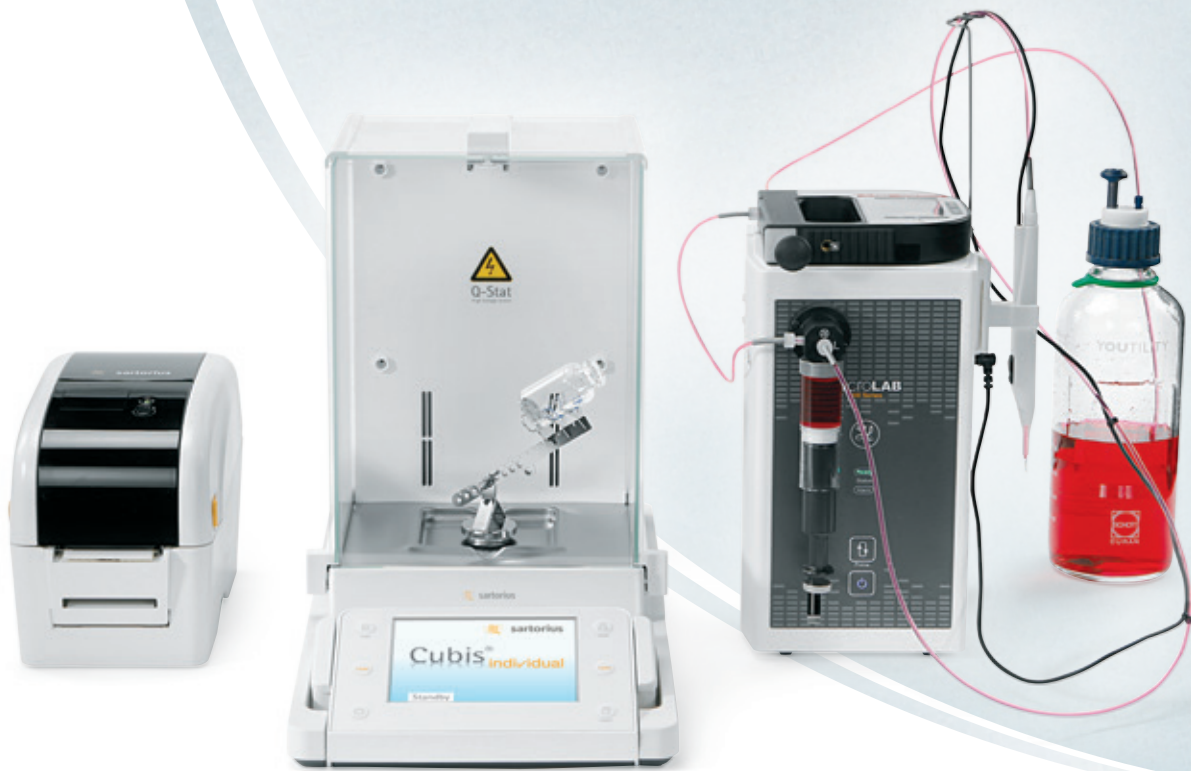
Step 1: Weighing of the compound



Step 2: Measure the density of solvents



Step 3: Dispense the exact



- Audit trails for analytical routines: automated documentation and complete traceability in compliance with GLP and accredited procedures
- Fully traceable: The MicroLab app features a multipoint performance check of the balance performance against fully traceable OIML weights, which have expressed uncertainties, providing absolute confidence that the weighed values derived from the balance have the highest level of traceability
- Cost and time-effective: no more high-maintenance glassware, no unnecessary waste of solvent and compound, much faster performance by automated processes
- Configurable Printout: select between GLP and Standard record, and RM label printout, with "unique reference identification"



amount of solvent



Step 4: Check the achieved results gravimetrically



Step 5: Print the results in GLP or label form on self-adhesive paper

Cubis[®] individual for Standard Preparation

The made-to-measure system for producing accurate and highly consistent reference materials

Sartorius Cubis[®] MSA Balance: High-precision gravimetric measurements



- Premium Semi-Micro Balance: high-precision weighing to performance levels of five places
- ISOCAL 10 intelligent calibration system: 100% assurance that the balance is adjusted correctly at all times
- Verification function: 100% confidence that correct value has been realized by identification of full traceability through use of OIML weights
- Ergonomic features: convenient operation through touch-free automated draft shields
- Q-Grip Sample Holder: easy and secure handling of test tubes and reaction vessels

Cubis[®] Display and Control Unit: One interface for full system operation

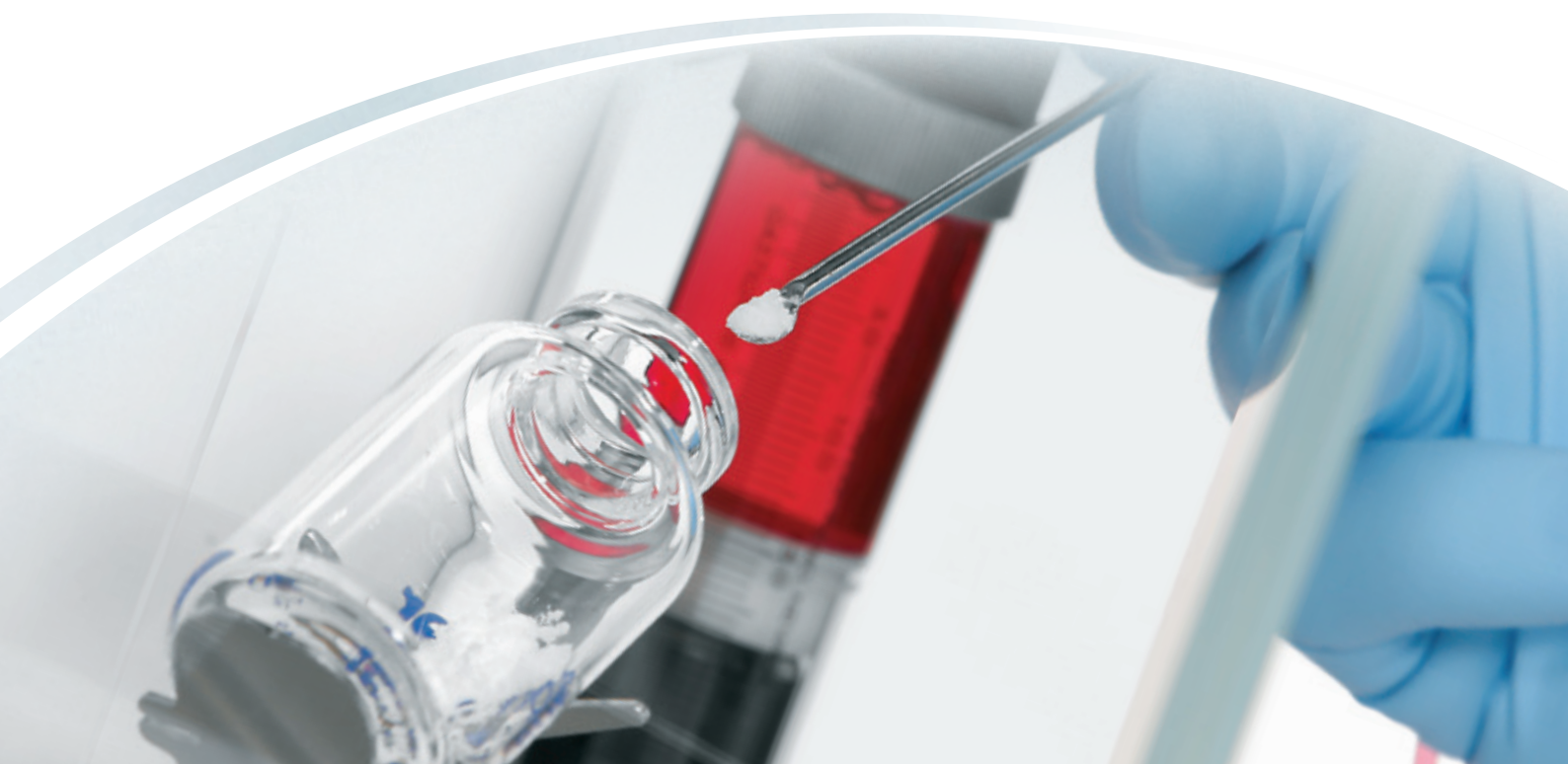


- Cubis[®] Control Unit: connective interface to unite the Sartorius balance and Hamilton dispenser into one made-to-measure standard preparation system
- Integrated Cubis[®] individual Q-App for Standard Preparation: built-in high-performance firmware that makes separate computers dispensable
- Cubis[®] high-resolution color touch screen display: simple and convenient operation of the whole system

Cubis® individual Q-App for Standard Preparation: guaranteed consistency and complete traceability



- Sartorius high-performance firmware: proprietary embedded into the control unit of the Cubis® individual balance
- Highly sophisticated standard preparation software: application particularly developed for automated production of reference materials with the Cubis® individual for Standard Preparation system
- Automatic corrections made for purity of compound, temperature, and density of solvent during RM preparation process: 100% proven valid results
- Standard Q-Guide:
 - Safe and secure operation of the complete standard preparation system
 - secure and reliable guidance through the automated standard preparation process
- Ensures predefined SOPs are observed at all times: 100% consistency in standardized preparation of RM
- CFR21 compliant control: Company, department, and analyst identification for complete traceability
- Audit trails for systematic control and documentation of each standard preparation process: 100% traceability in compliance with GLP and Accredited Procedures
- Direct data transfer: 100% accurate record generation, error-free printing, no labelling errors



Hamilton MICROLAB 600 Single Syringe Dispenser: automated, consistent, and reliable liquid handling



- Dispenser and diluter in one: simple and efficient preparation of solutions
- Automated liquid handling: highly consistent and 100% reliable
- High-performance 48.000 step per stroke syringe drive:
 - high-accuracy aspiration and dispensing of fluids
 - high-precision in handling even very small volumes, as well as volatile, viscous, and dense liquids
 - solvent volume based on sample weight: assures accuracy and precision reducing expensive analytes use and solvent waste
- Borosilicate glass PTFE fluid line, robust and compatible with harsh chemicals and solvents
- Use with 'virgin' disposable containers:
 - no contamination risk from any source of interference
 - cost-effective: no expensive glassware, no costly cleaning and decontamination necessary
- SCAT Solvent protection system quality assured solvent use reducing exposure of analyst to substance

Sartorius Printer YPD 30: perfect record printout for documentation and full traceability



- GLP compliant adhesive label printer
- Configurable Printout: select between GLP and Standard record, and RM label printout, with unique reference identification
- Directly connected to Cubis® individual balance interface: digital data transfer, error-free transcription and labelling, accurate record generation

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