



CHEMSPEED

FLEX SWILE for NMR LCMS Sample Prep

End-to-end NMR and LCMS sample preparation

Innovation with Integrity

Step-change in end-to-end NMR and LCMS sample preparation - gravimetric pick & decision dispense of solids / matrix-to-matrix reformatting, dissolution and online / offline NMR and / or LC-MS (incl. applications in GMP environments).

Solution Overview

The preparation of NMR and / or LC-MS samples is often still done manually and binds highly qualified resources to a very time-consuming, tedious and error-prone tasks.

The SWILE technology enables automated true one-to-one gravimetric "pick & decision dispense" of solid compounds directly from source vials. The scheme at the bottom of this page displays the simplified SWILE workflow including the precision "pick & decision dispense" step. The technology backbone is based on Chemspeed's proprietary overhead gravimetric dispensing tool design in combination with a second analytical on-deck-balance.

In order to exclude any risk of cross-contamination disposable glass tips are used which are stored and provided by the automated SWIN dispenser. The SWINs are available in different sizes (diameter) and can be adjusted according to the desired target amount to be dispensed. Additionally, a tilt / shake rack is used to loosen up and tilting the powder prior to pick-up.

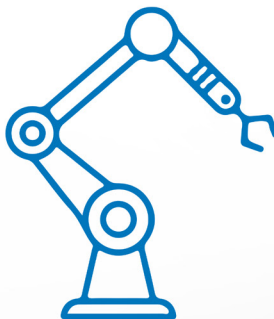
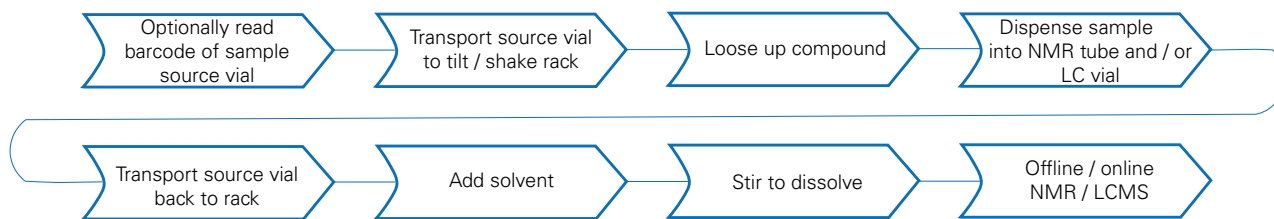
- Revolutionary accuracy & precision due to decision dispensing
- Dispensing range from 100's ug to about 5 mg with +/- 10 ug resolution with additional on-deck balance
- No cross-contamination
- No dead volume
- Fully inert (glass)
- Unattended operation

Key advantages & features

- Proprietary robotic tool exchange interface.
- Ventilated hood for safety and conditioned atmosphere.
- Optimized footprint (3X3 (t, 90x90 cm) versus capacity - all while reducing costs and maximizing return on investment.
- SWILE Robotic Tool can be combined with other tools to accommodate multiple workflows such as on-deck balance, tilt / shake rack, barcode reader, multigripper.
- Automated sample dispensing into NMR tubes and LC vials (optional on-deck balance for +/- 10 ug resolution).
- Gravimetric and / or volumetric. liquid handling for e.s. dissolution combined with e.g. tumble stirrer, shaking modules.
- AUTOSUITE SOFTWARE - drag & drop experimentation with easy interface (e.g. python custom device) to e.g. LIMS, ELN, data analysis, Bruker sample case.

Example Workflow

Chemspeed solutions can be configured to your exact workflow; here is an example of our end-to-end-nmr-and-lcms-sample-preparation workflow.



Accelerating your existing workflows

This example solution showcases one possible workflow using Chemspeed's technologies, but the possibilities are almost endless. Building your ideal platform has never been simpler with Chemspeed. From powder dispensing to chromatography, our configurable solutions are modular and constructed to suit your exact needs.

Combine a Chemspeed base platform, robotic tools from our extensive library, reactors, vessels, racks, vials and software to create a system that compliments and enhances your workflow.

Platforms

House your chemistry instrumentation in a solid platform. The nature of your project will decide the scale of system you require. Chemspeed offer three highly-versatile platforms as the basis for every possible instrumentation to be housed in: SWING, FLEX and FLEXSHUTTLE.

Software

Quickly design, execute, analyze and report experiments with our AutoSuite software. Coordinate and orchestrate larger laboratory workflows with ArkSuite, or even digitalize your entire workflow, including manual tasks, using ArkSuite Sofia.

Tools

Chemspeed's extensive tool library contains more than 70 robotic tool-features that can be integrated with Chemspeed's unique robotic tool exchange technology, including unrivalled overhead gravimetric dispensing, which can operate while mixing, heating, refluxing and cooling. Virtually any combination of these robotic tools is possible.

Automate and digitalize your laboratory with our Chemspeed solutions.

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