

Scalable production of lab-on-a-chip cartridges

We accompany you from the production of prototypes through to small-scale pilot production of lab-on-a-chip systems.

Hahn-Schickard relies on scalable process chains, which include micro-structuring, reagents storage, and capping. Our newly-automated pilot line allows fast and flexible small-scale pilot production up to 200,000 parts per year.

The scalable processes include micro-structuring, reagents storage, and capping. All systems were designed with the goal of high flexibility and quick product changes.

The lab-on-a-chip prototype can be produced via hot stamping, micro injection molding, or the company's proprietary micro-thermal forming of films.

Storage of required reagents can be performed in a liquid phase in aluminum stick packs or in a solid phase in the form of insertable lyophilisates.

For storage of dryable reagents, a filling machine is available that can pipette magnetic bead suspensions and up to 16 further reagents, as well as applying a local Teflon coating. Due to the flexible system design, prototype loading can be adapted quickly to other applications.

After a drying step, automated capping is also performed. Using platen sealing, adhesive films



Fig. 1: Adaptable machine concept for up to 200.000 LabDisks / year (single shift). The operation of the pilot line in a clean room following the category 10,000 (ISO 7) guarantees optimum quality of the produced prototypes. Credit: Atelier Lünig for Harro Höfliger.

Your benefit

- One-stop-shop: your product development is in good hands from idea to market entry
- You can validate your product without a final investment decision regarding manufacturing infrastructure
- Hahn-Schickard is your second source for manufacturing

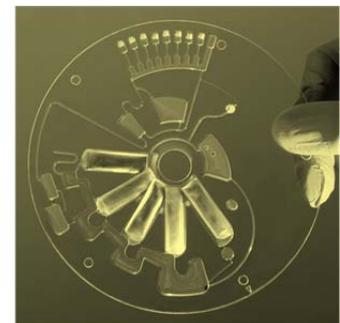


Fig. 2: Thermoformed LabDisk with prestored reagents in aluminium stick-packs. Up to 16 different reagents can be filled automatically.

and thermal sealing films can both be applied automatically to the prototype. Required ventilation holes are cut flexibly and accurately using lasers.