The importance of Lab-on-Chips

Microfluidics deals with handling small amounts of fluids e.g. for point-of-care applications. The miniaturization of analytical systems leads to major improvements like shortened analysis times, less reagent consumption or higher mobility. Therefore so called lab-on-chips are gaining more and more importance.

Our Markets

- Point-of-Care tests and molecular diagnostic
- Life Science
- Food- and Environmental analysis
- Forensics
- Microchemistry
Microfluidic in polymers

Since the first microfluidic devices in the early 1990s polymers have found their way into lab-on-chip applications. Compared to glass, polymers have the advantage of low-cost mass production possibilities. Plastic disposables for diagnostic use can reduce cross-contamination issues and bring the lab to the patient. Some polymers like PMMA or polystyrene are traditional materials for labware and offer good biocompatibility.

CDA's microfluidic

With its strong background in optical media production CDA is a reliable partner when it comes to injection moulding of microstructured surfaces. Based on one master high volumes are manufactured with constant quality. Working with different mastering techniques typical structure sizes for microfluidic applications are replicated. We offer inhouse services like mastering, moulding, singulation, coating and many others.

By injection moulding as well as compression moulding structures in the sub-µm range can be realized. The features range from complex channel systems over pillars and wells to microstructured surfaces for cell culturing. Depending on the application different polymers like polycarbonate, PMMA, COC, COP, etc. can be used to obtain optical quality or biocompatibility.

Certifications

An example of combined features included into a microfluidic chip can be viewed at:

- DIN EN ISO 9001
- DIN EN ISO 14001
- TS 16949

Combing Technologies

One important aspect in developing micro-functional solutions is the integration of different smart features in one device. Examples are electrodes in fluidic channels or optical elements in point-of-care devices. CDA covers the areas of microfluidics, microoptics and printed electronics and brings them together in unique products. For example we print conductive paths, electrodes and passive elements or integrate optical components like beam shapers or diffractive lenses can be integrated into the fluidic system.

Working with CDA

Whether you want to test your ideas, have your first prototype at hand or are looking for mass manufacturing CDA could be the right partner for you. With flexible production processes we can support you in each phase of your way. We offer customized solutions that fit the needs of your project.

1. Your Idea
   - Consulting
     - Development
   - Design

2. Rapid Prototyping
   - Mastering
   - Electroplating
   - Replication
   - Separation

3. Volume Production
   - Molding
   - Coating
   - Singulation
   - Assembly
   - Packaging

4. Readiness for the Market
   - Serial Production
   - Mass Manufacturing

5. Packaging & Logistics
   - Finishing
   - Packaging
   - Logistics
   - Labelling
   - Warehouse
   - Global Shipping
   - Distribution

6. Quality Management
   - Certifications: DIN EN ISO 14001, 9001, TS 16949
   - ROHS
   - REACH
µPESI = An intelligent disc with best references

The Medium-Sized Business Initiative of Huber Publishing House for New Media annually awards a prize to the best industrial solutions. In 2015, the Diagnosis Disc – a joint project with some of CDA’s partners – has made it onto the much coveted list of top industries.

The importance of lab-on-a-chip and intelligent embedded diagnostic systems for applications in medicine, eco technologies or life science is growing steadily. CDA’s one of the leading manufacturers of these complex systems. A Diagnosis Disc made of polycarbonate, which was developed in a joint project with a Finnish partner, has now entered the Medium-Sized Business Initiative’s Top Industry List 2013 in the category of biotechnologies.

The polycarbonate Diagnosis Disc contains 60 individual chips as well as a number of printed conductive tracks. Its integrated micro-structural components do not only guarantee a cost-efficient production process, but they also offer a number of additional functionalities. By intelligently combining different technologies, the disc is highly suitable for mass application, e.g. in medicine or eco technologies.

What the Finnish Think Tank had already invented has been complemented and driven to marketability with some new ideas of CDA as part of the project. The Huber Publishing House for New Media’s Initiative does not only award the Top Industry Prize every year. Its Top Industry List actually shows the most innovative ideas and solutions in its 15 categories. As a navigator for industrial decisions, the Top Industry List is an important criterion whenever and wherever decisions are made on orders to be placed.

Our Products

- Lab-on-Chip
- Cell-container
- Microarrays
- Structured microscopic plates

What can we do for you?

Design

Basic design description

Number of layers

Sizes (with tolerances)

Channel depths

Channel widths

Outer dimensions (length x width x thickness)

Roughness

Preferred material ○ PC ○ PMMA ○ CDC ○ COP ○ other ______

Application

Fluids

Solvents ○ no ○ yes

Pressure

Temperature range

Coating

Detection method

○ Optical

○ VIS ○ NIR ○ Fluorescence ○ other

○ Electrochemical

The target annual production and price target are required to choose the best solution.

Please don’t forget to fill in your contact details.

Company: Name contact person:

Phone: Email: