

# Use of a microfluidic disc in Point-of-Care applications

Workshop „Medical Microtechnology“

February 22, 2023

Benjamin Albrecht – Dialunox GmbH

Use of a microfluidic disc in Point-of-Care applications

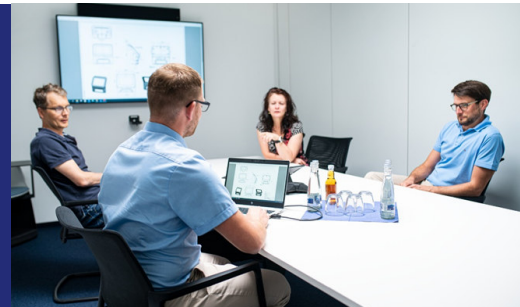
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- Different fields of application

## DIALUNOX @ a glance



- CDMO (Contract Development and Manufacturing Organisation)
- Engineering Services for optical measurement instruments
- Contract manufacturer for instruments



- Located in the south of Germany
- Founded 1997
- > 80 employees
- Since 2010 part of QIAGEN



- One-Stop-Shop for customers from all industries
- Broad expertise in engineering (Software, mechanics, optics, electronics)
- State of the art production facility
- ISO 9001 & EN13485 certified

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## DLX Product Portfolio

### OEM Instrument Supply



Sold > 20.000 units

- 5 different instrument platforms

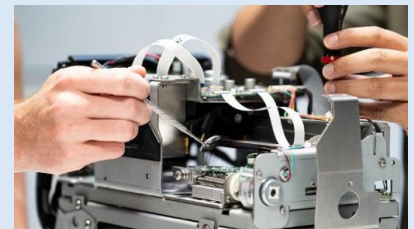
### Optical Detector



Built > 40.000 Units

- Unique highly sensitive fluorescence detector

### Engineering Service



25yrs experience

- Starting point of all business/customization tasks

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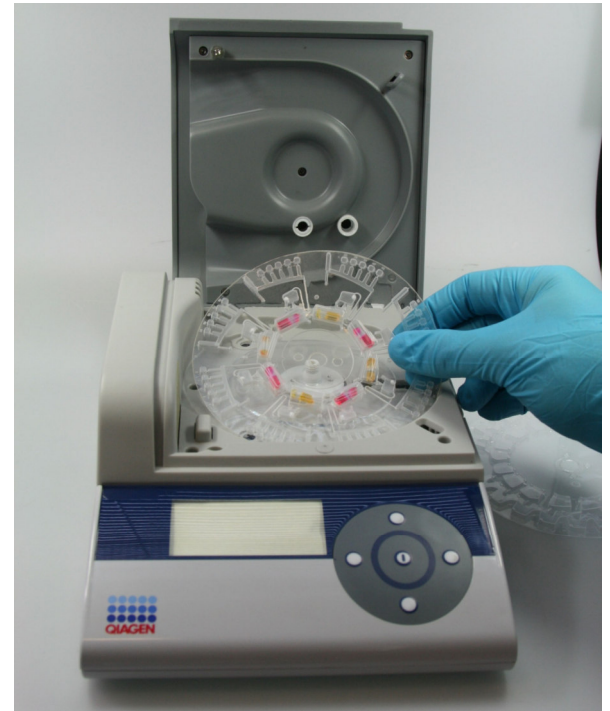
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## Development of the discreader platform

- BMBF and EU funded project, started in 2012
- Record player for a fast diagnosis
- For Immunoassays as well as PCR



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## Development of the discreader platform

- Development Project started in 2017
- Triangle project
- Initial plan: MRSA -> Covid
- Increase of test portfolio

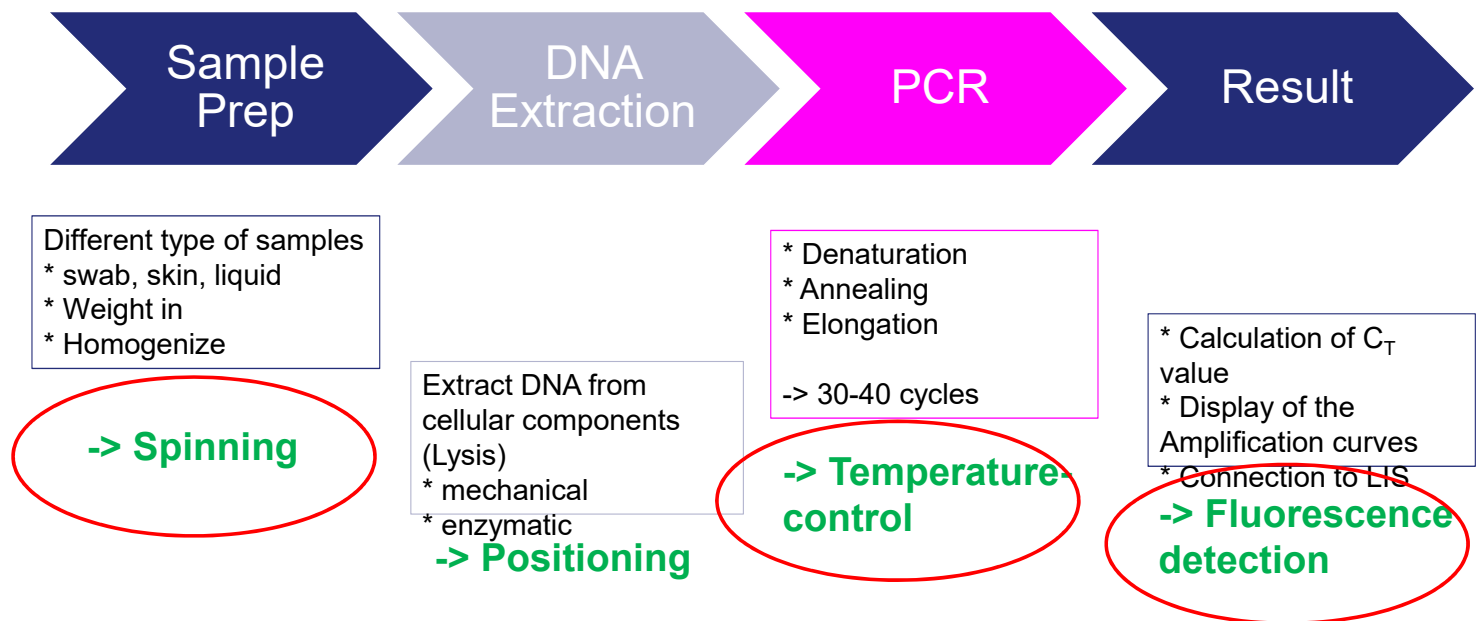


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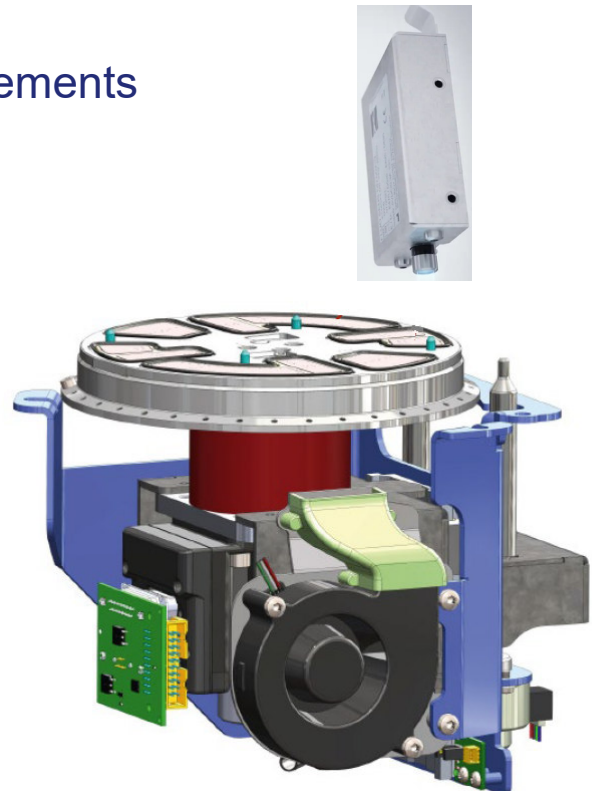
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## From the Application to product requirements



## From the Application to product requirements

- **Spinning -> Up to +/- 60Hz to create the correct centrifugal force**
  - Pumping liquid from one chamber to the next
  - Rehydration of reagent in the stickpack and release
- **Heating and Cooling Unit**
  - Different zones for independent temperature control
  - Fast heating and cooling rates for good TimeToResult
  - Good heat transfer from heating plate to liquid
- **Fluorecencs detection**
  - 4 channel Multiplexing
  - Fast measurement frequency





## Different fields of application



### Spindiag (2016)

- Molecular diagnostics at point-of-care for infectious diseases



### Dermagnostix (2020)

- Identification of inflammatory skin diseases through molecular diagnostics



### Endress+Hauser BioSense (2021)

- Rapid on-site molecular analyses for bacterial or viral contamination in water and beverages as well as genetic changes in food

## Contact

DIALUNOX GmbH  
Bodenseeallee 20  
D-78333 Stockach  
+49 7771 9166-0  
info@dialunox.com



Thanks for your attention!



Benjamin Albrecht  
+49 7771 / 9166 - 236  
benjamin.albrecht@dialunox.com