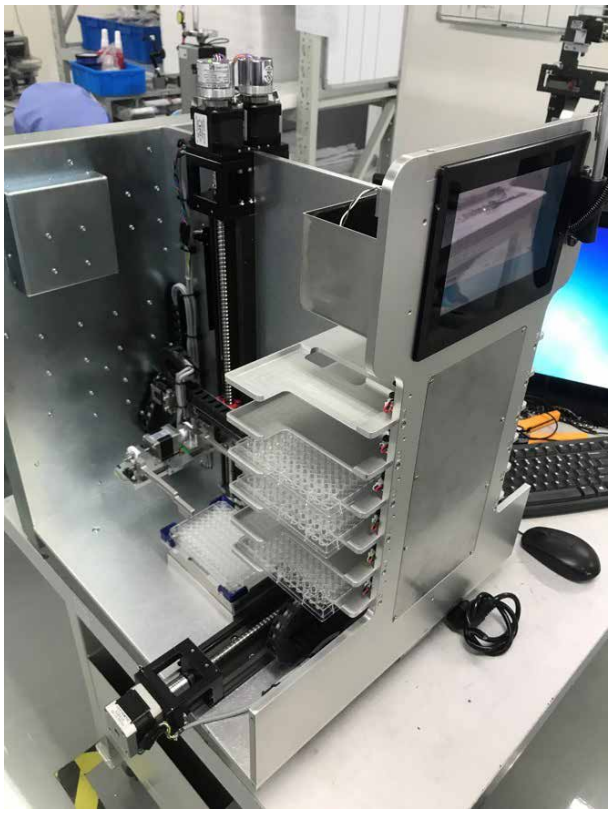
WACHENDORFF
The Encoder Experts

In vitro diagnostics
with Wachendorff encoders

DEVELOPED AND
MADE IN GERMANY
5 YEARS WARRANTY

wachendorff-automation.com/awb

Save time with reliable sensor technology
High resolution for accurate positioning
Compact laboratory equipment thanks to compact encoders
Process repeatability with proven technology



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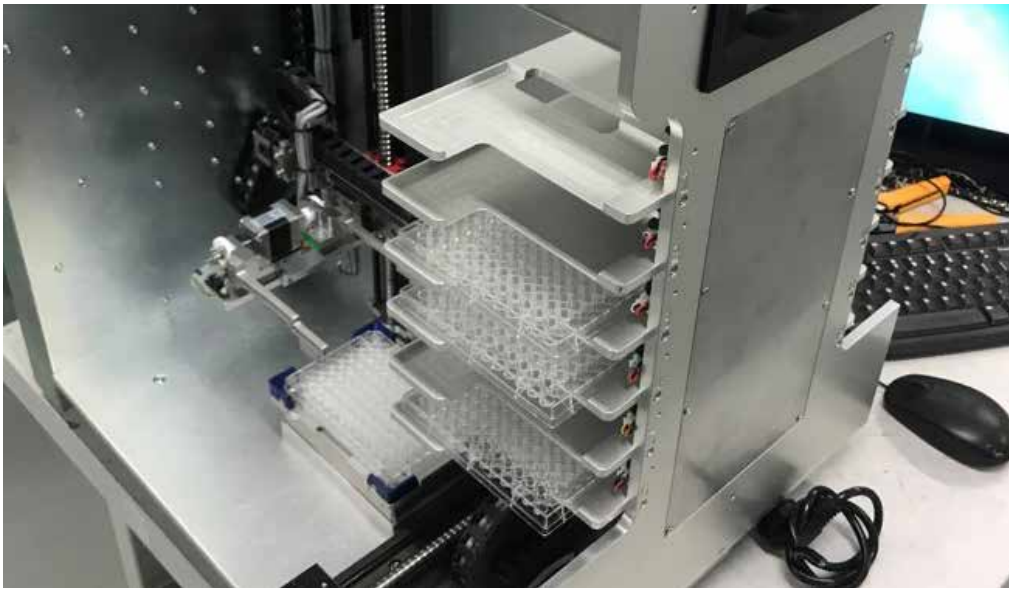

In vitro diagnostics
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Human life expectancy is constantly increasing. While 100 years ago the average expected lifetime was 57 years, it has now risen to 80 years. The reason for this is not only increasing prosperity, but above all progress in medical technology. Diagnostics, for example by analyzing samples, has become very important. As a result, diseases can be detected more quickly and treated in time. People's reactions to medication can be monitored more closely. Analyses are performed automatically, allowing the system to operate 24/7.

The examination of samples from the human body that are analyzed outside the body is called in vitro diagnostics (IVD). Examples include blood and tissue analysis.

The aim of increasing automation and technical progress is to reduce the workload on laboratory staff. To achieve this, IVD equipment must be able to operate autonomously and reliably. Maintenance-free and dependable.

The use of different sensor systems is essential for this. Among the sensors used in IVD equipment are rotary encoders. Wachendorff specializes in the development of encoders „Made in Germany". As a medium-sized, owner-managed company based in the Rheingau region near Frankfurt, Wachendorff has a strong focus on this area.

For efficient stacking, storage and exact positioning of blood samples during analysis, WDGA 36 absolute encoders with CAN interface are used. The K6 cover variant is particularly space-saving.

The compactness of the laboratory equipment makes the small and lightweight absolute encoder perfectly suitable for this application.

The CANopen interface sends information about the position and speed of the blood sample carrier to the control system, which ensures automatic operation.
The exact position is determined using the high-precision QuattroMag single-turn technology. A patented calculation algorithm and four Hall sensors are used to accurately determine the position of a magnetic absolute encoder. A cross-correlation is performed between the measured value and the reference value to obtain a stable result value. By properly calculating the magnetic field, generated by a diametrical magnet, possible interferences from the Hall sensors are eliminated. This allows magnetic singleturn technology to be used successfully in dynamic and high-precision applications. Both singleturn and multiturn absolute encoders are available. Singleturn encoders provide an accurate position within one rotation, while multiturn encoders can also indicate the exact number of rotations.

Thanks to Endra's patented technology, Wachendorff is able to produce encoders without batteries or gears. These encoders can reliably detect and record rotation even in a de-energized state. This is made possible by the proven Wiegand effect.
Reliable speed control is also essential for accurate blood analysis. With the WDGA 36 CANopen, an accurate speed value can be determined and appropriate control can be provided.

Wachendorff encoders are highly accurate, flexible to install, light and compact. Their robustness and high vibration resistance make them very reliable. Due to their technical properties, they are ideally suited as sensors for the reliable use in IVD equipment.

Absolute encoders WDGA from Wachendorff
... highly precise and highly dynamic, robust

With their patented EnDra® and QuattroMag® technologies, the single and multiturn absolute encoders of the WDGA series from Wachendorff have new, outstanding features:

- Wear-free, since no gearbox and designed for the highest bearing loads
- Environmentally friendly and maintenance-free, as no (buffer) battery
- High energy efficiency due to low power consumption
- Space-saving design
- Highest accuracy and dynamics

More details under
www.wachendorff-automation.com/wdga

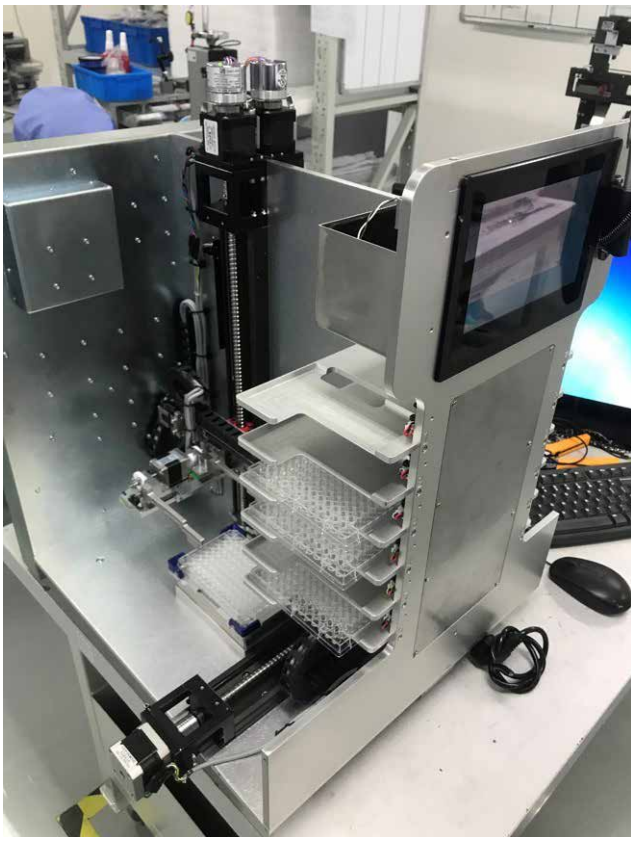

Image 1:
Tray Magazin

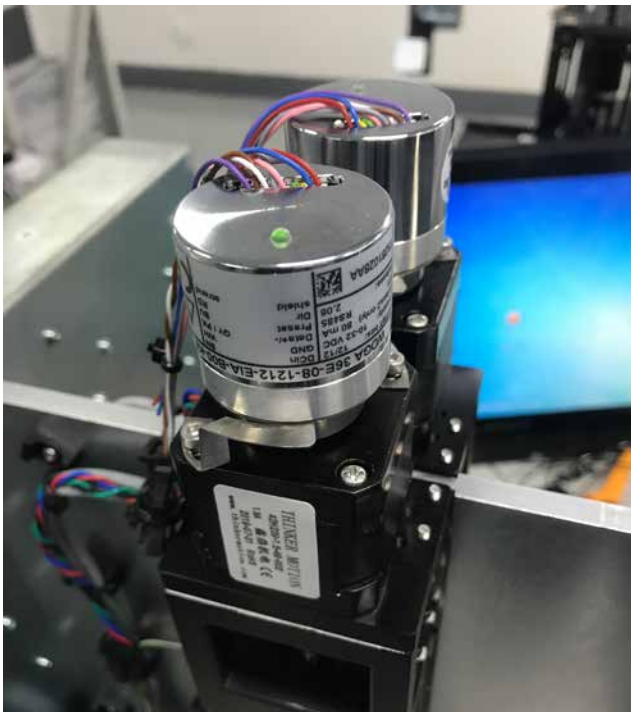

Image 2:
Encoder WDGA36 CANopen particularly compact, for clear and precise positioning

Image 3:
Encoder WDGA36 CANopen
for the organisation of the carrier plates

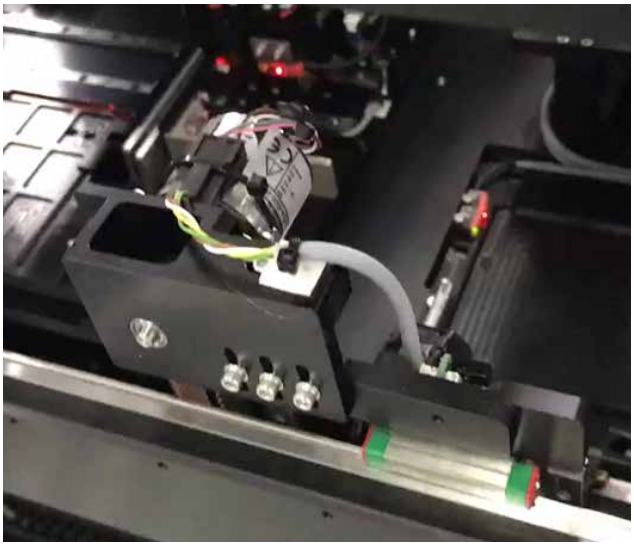

Image 4:
Position and speed measurement WDGA 36 CANopen

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