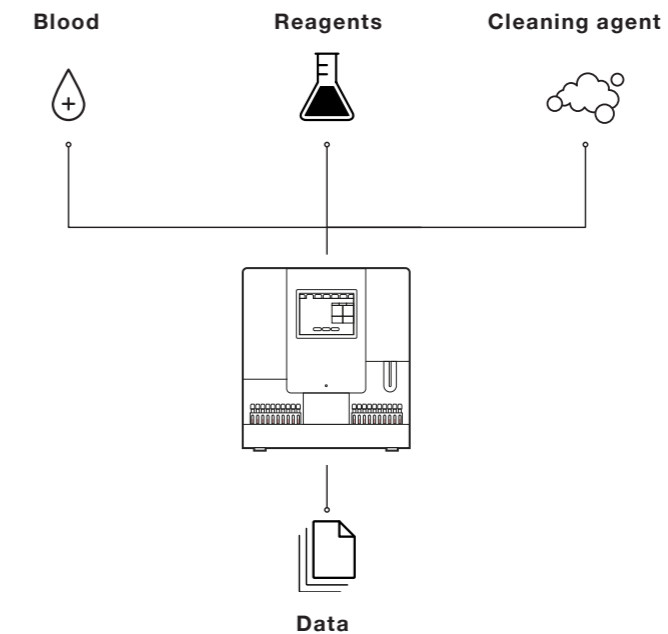


Optimised processes for greater efficiency in the laboratory

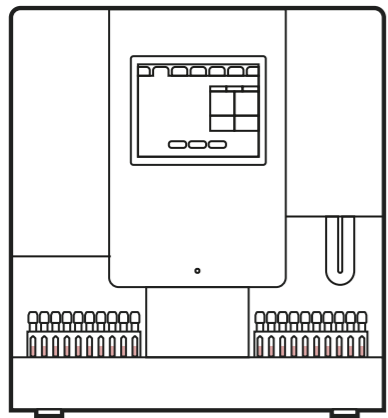
/ Increasing capacity utilisation efficiently and reliably / In the laboratory, samples are analysed using various methods such as flow cytometry or electrical impedance measurement. Accurate test results are crucial in this context. To achieve this, the ability to control media, e.g. an electrolyte solution, needs to be just as reliable as the actual analysis process. We help you to increase the reliability and capacity utilisation of your analysis device and to save space in the laboratory.

In the area of **in-vitro diagnostics**, the analysis of samples and reagents places high demands on analysis devices. Be it in the field of haematology, clinical chemistry or immunology: Reliability and precision are the top priority. At the same time, laboratories must be able to handle high sample throughputs in a short period of time in order to work cost-effectively.



Do you want to analyse samples precisely and economically? Find out on the following pages how to use your analysis devices more efficiently and increase the throughput in your laboratory.

/ Break all analysis records / How do you combine economic pressure with best possible quality in the laboratory analysis? Using the example of flow cytometry, a measurement method used in haematology, we shed light on typical challenges – and how Bürkert solutions can help you master them.

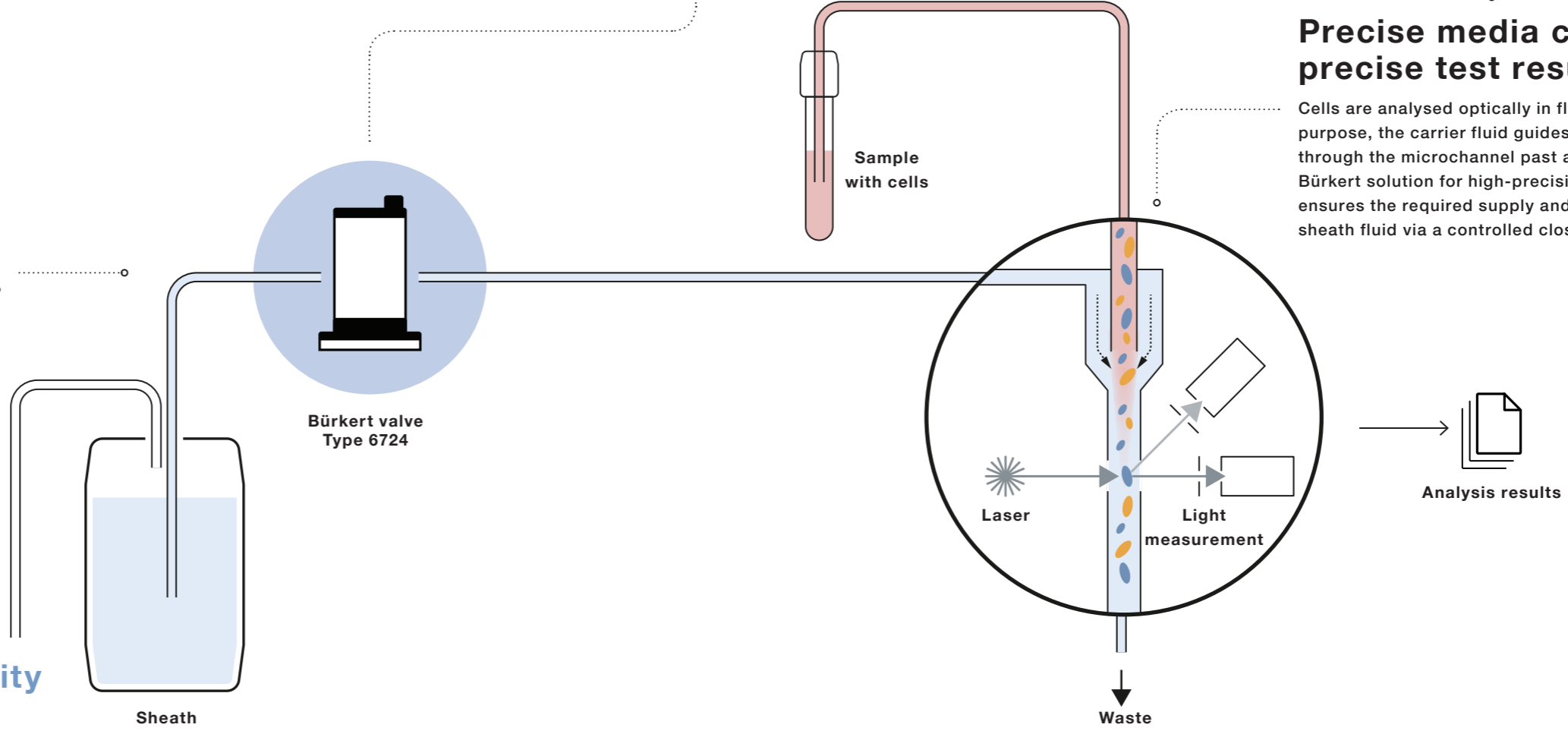


Analysis device at full capacity

You need smooth and reproducible processes without unplanned downtime caused by overheated components, etc. Equally important for efficiency: Ultra-tight valves.

Less space required

Compact analysis devices with a wider range of functions allow you to set up more devices in the laboratory and to perform more tests. Ideal for this: small sized valves that deliver a maximum flow rate.



Hydrodynamic focus

A very steady flow in the fluid chamber enables a laminar flow. For this you need to control media precisely based on a constant switching time and excellent repeatability.

Precise media control for precise test results

Cells are analysed optically in flow cytometry. For this purpose, the carrier fluid guides cells individually through the microchannel past a laser beam. The Bürkert solution for high-precision media control ensures the required supply and regulation of the sheath fluid via a controlled closing valve.

Continuous analysis

Bürkert micro-valves have a 100% duty cycle. This means that they do not overheat even during continuous operation.

Accelerate analysis processes

Bürkert media-separated valves (e.g. Type 6724) can be actuated proportionally, thus allowing a continuous flow variation of liquids in the process. For example, in less critical processes – before and after the analysis of a sample – the flow rate can be increased.

Space-saving system solution


Bürkert allows you to combine numerous valves with various functions on one block. This saves space in the device and enables either more compact analysis devices or a greater range of functions in devices of the same size. The result: Greater flexibility for device manufacturers and laboratories.

Analysis results

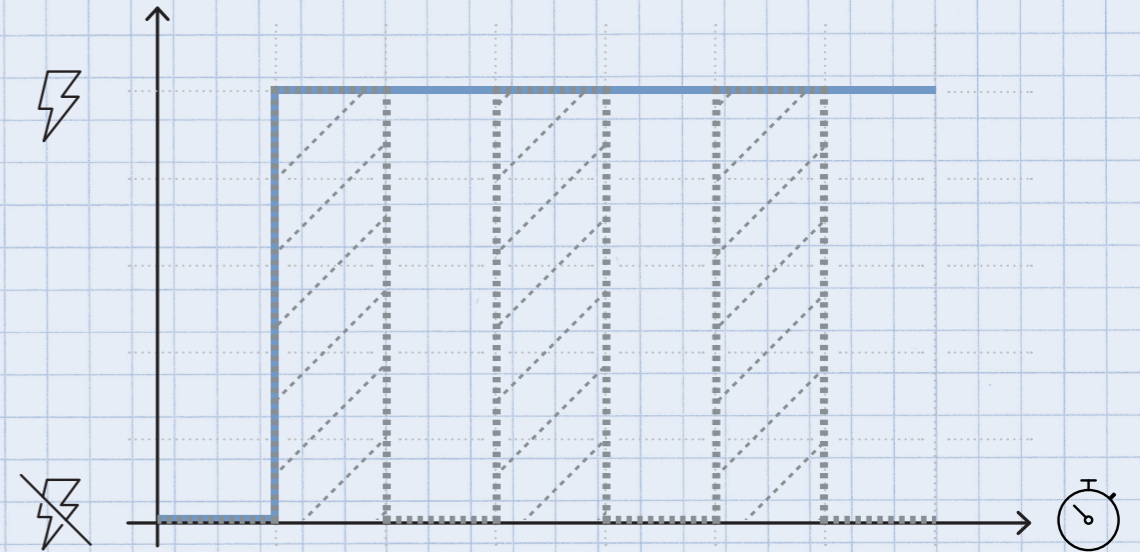
/ Analysing continuously / Bürkert provides you with media control components or system solutions to ensure your analysis processes run as efficiently as possible. In flow cytometry, the Bürkert valve (e.g. Type 6724) controls the sheath fluid as required. The fluid ensures that the cells are guided individually through the channel. Another special feature guarantees continuous processes: all Bürkert valves have a 100% duty cycle – twice as high as many other valves available on the market.



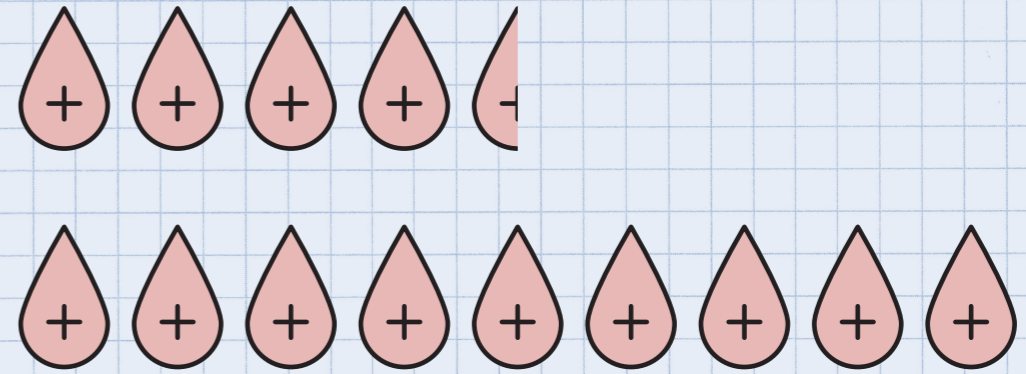
**Bürkert valve
Type 6724**


**Example
calculation**

100% duty cycle = 100% yield
Assumption: The analysis device processes 900 samples an hour, i.e. one sample every four seconds. If the duty cycle is only 50%, the valve must pause for at least four seconds after each sample before the next analysis. This corresponds to a total time of eight seconds per sample.

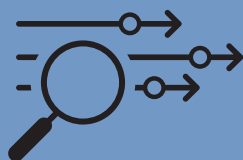


With a Bürkert valve, you can analyse 900 samples in the same time a competitor valve takes for just 450 samples.



 **+100%** sample throughput

You can thus double the capacity utilisation rate of your analysis device – and achieve a 100% increase in efficiency and revenue for your laboratory.



Analysis

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