

FLG AUTOMATION  
YOUR EXPERTS IN  
**FILTER ASSEMBLY**

## FLG assembly lines for dialysis and filter technology



# Your partner for complete solutions to dialysis filter assembly



If you are looking for reliable automated solutions individually tailored to your needs for production facilities in the field of filter technology, then look no further than FLG. We are a single source supplier of complete turnkey solutions for the assembly of dialysis filters. We plan the equipment according to your requirements, construct and assemble it in our manufacturing plant in Germany, and install it directly on site using our specialist team. We also support you with the commissioning of the equipment, the training of your personnel and with the procurement of the raw materials required for manufacture.

Our equipment is a benchmark for reliability and efficiency. Our highly motivated team of experts invests much time and effort in the development and construction of our systems, combining state-of-the-art technologies with longstanding experience. We provide a full range of production

facilities, from fully automated complete systems to equipment with a high degree of manual operation. Having installed numerous systems for well-known pharmaceutical manufacturers worldwide, we are familiar with the specific demands of these markets and fulfil the strictest requirements as regards the production environment and the validation of computerized assembly and production lines.

What we do for you, we do with passion. This begins with listening, asking and analysing. It is this mutual partnership that is critical in providing a solution that perfectly reflects your needs. With this vision to guide us, we support both national and international companies with reliable and productivity-enhancing systems in the broad field of filter technology. And it certainly pays off, as we provide customers with unparalleled quality and the well-deserved label, Made in Germany.



# Your specialist for the whole production process

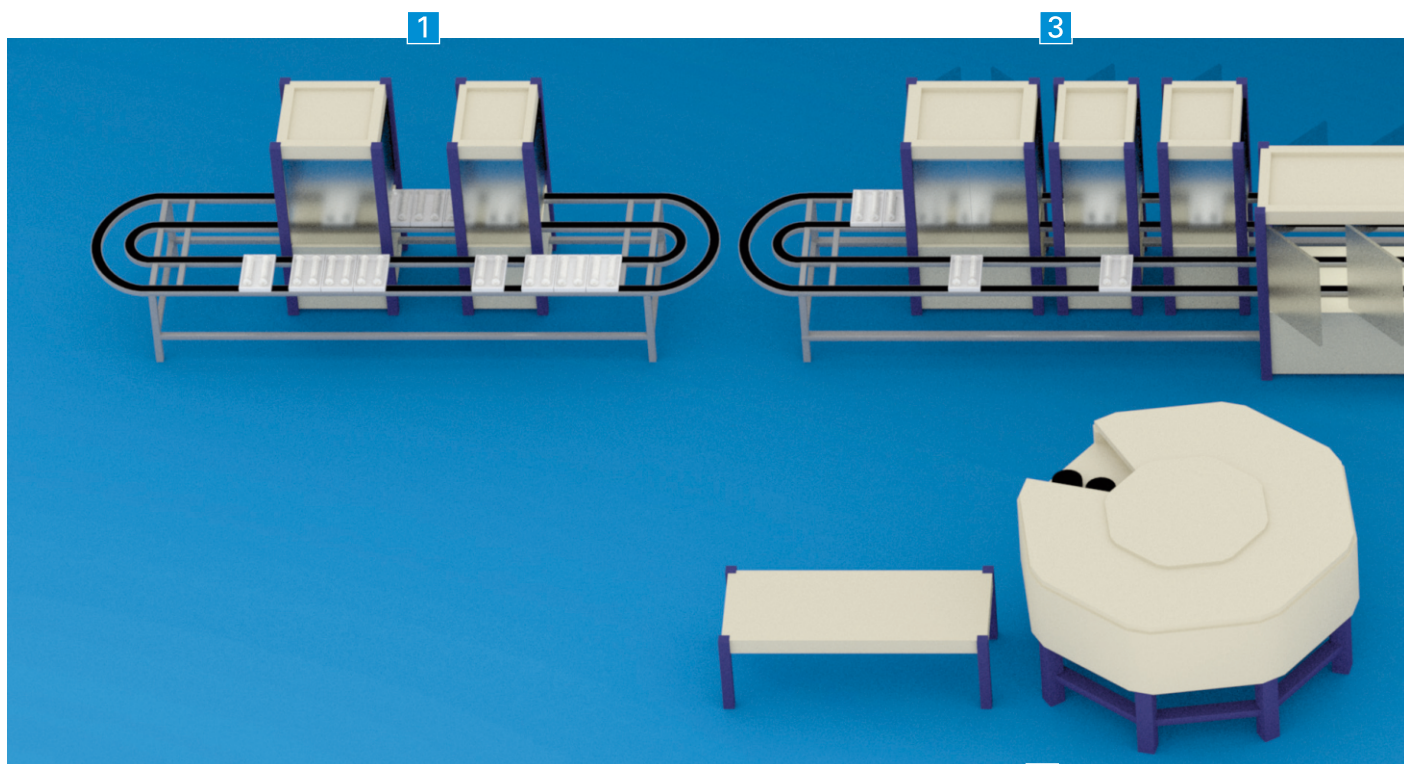
The flexibility and intelligence of our transport systems with stand-alone modular stations make our assembly lines stand out.

With its modular construction and flexible configuration possibilities, the assembly line can be easily adapted to the degree of automation required and the specific layout requirements of the site.

Taking into account the nature and amount of space available, manual work stations can be replaced with fully automated ones as production figures rise, leading to an increase in productivity and quality.

The workpiece carrier based transport system not only transports the filters but also acts as a reservoir and buffer system. As a result of the human factor, variations in cycle time quite often arise at manual work stations.

In interlinked systems without a buffer, these are then passed on directly to subsequent stations. This inevitably results in a fall in total production of the line, causing a lower production performance.



This picture shows by way of example a semi-automated assembly line for dialysis filters.



Keep an eye on production data transparency and traceability of the products from the start of the production line to the customer.

With the application of modern RFID technology, the system offers not only guidance of materials flow but also the opportunity for seamless tracking and storing of process data. At the same time, the number assigned to each and every filter remains the same throughout the whole production process and beyond.

With corresponding archiving on the part of the customer, the process data for each individual filter can be traced over the whole lifespan of the product, thereby ensuring maximum transparency and customer confidence.

#### Stages in the layout

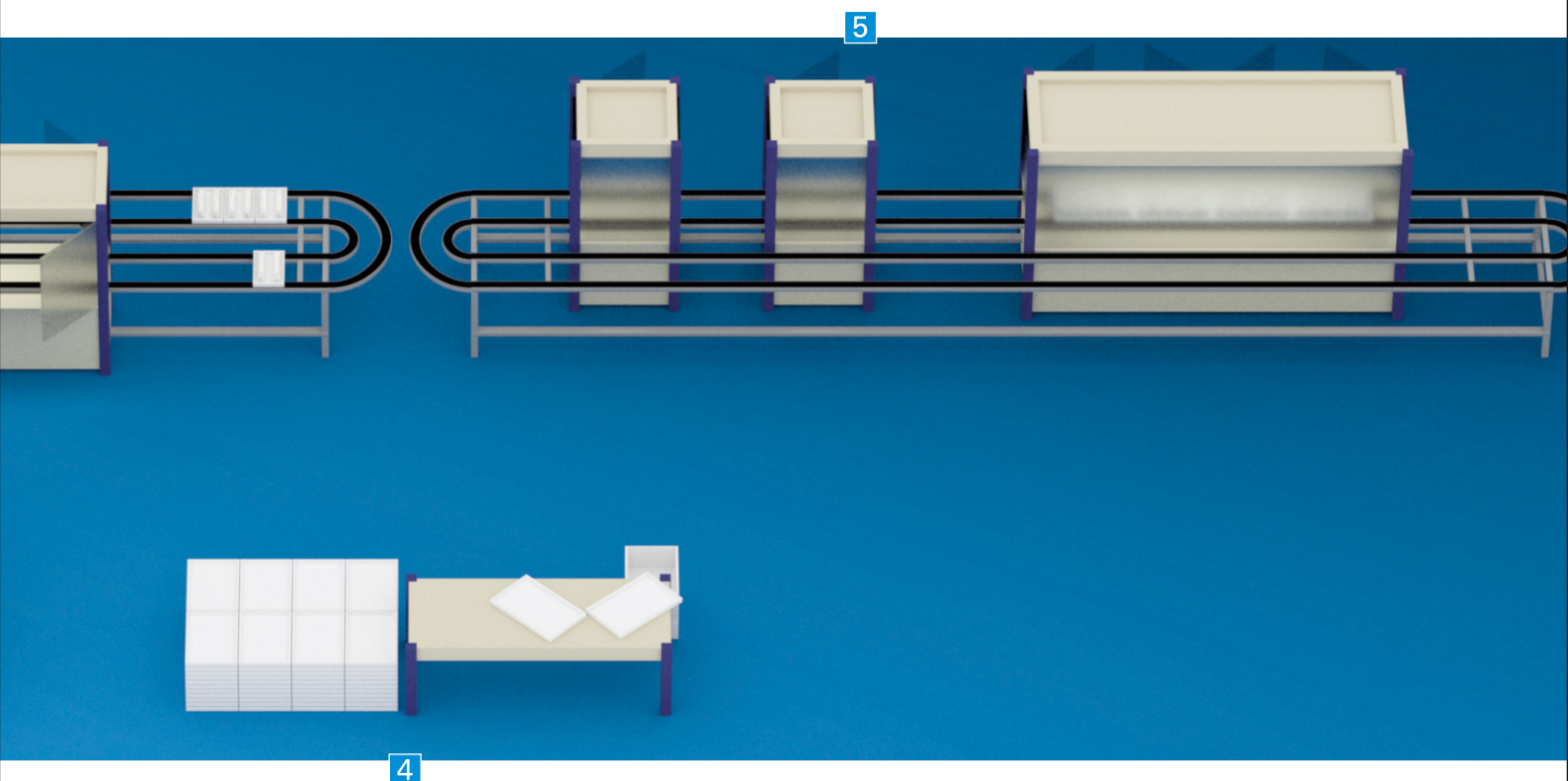
- 1 Feeding and collection of fibre bundles, sealing of fibre ends and preparation of housings for potting.
- 2 Automatic single-stage potting of fibre ends using 2K casting resin (PUR) and subsequent hardening process.

- 3 Highest degree of precision in quality relevant multi-stage cutting of hollow fibre ends, visual control with the most up-to-date image processing/digital microscope technology, header cap assembly with reproducible torque, leak-tightness test of the housing, logging of the reference weight of the filters.

- 4 Preassembly of the header caps with subsequent magazining (manually here).

- 5 Leak test, wetting of the hollow fibres in preparation for the subsequent leak test of the fibres. Defined drying of the filters and calibration of the remaining moisture content of the fibre bundle.

- 6 Control of the remaining moisture by reweighing, assembly of protective caps for Hansen and Luer fitting, labelling of filter casing, delivery of the filters and tubular bag packaging/thermoforming packaging.



We configure and deliver the assembly according to your requirements and match the production capacity and the degree of automation to your specific needs. We help with the selection of the necessary components and give support with production start-up. As an integral

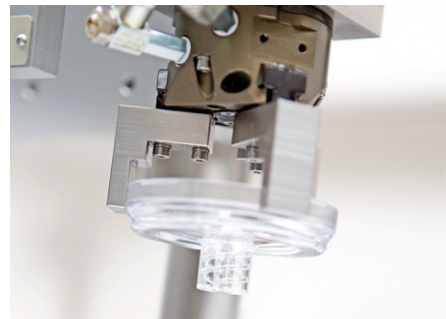
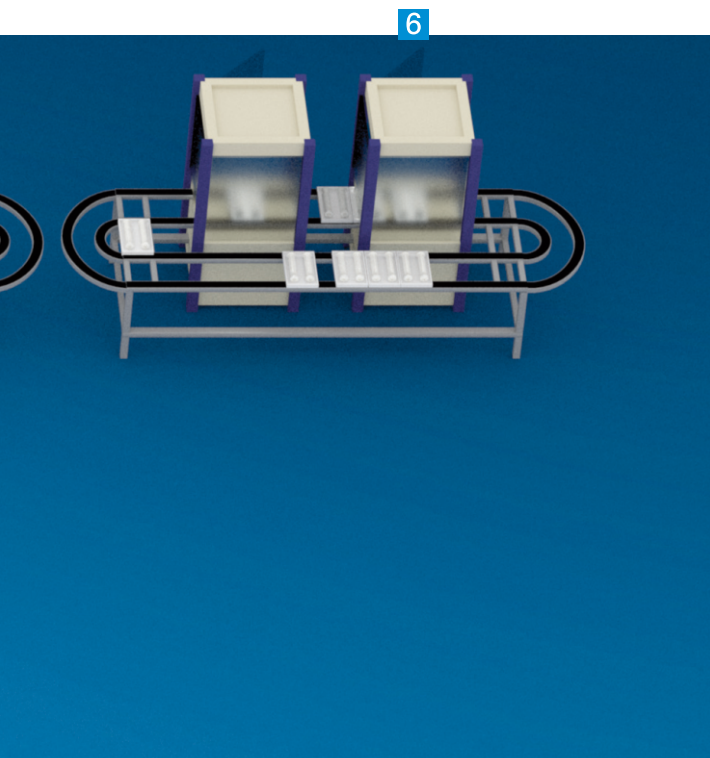
part of an efficiently operating production line, we offer training for your personnel and can also assist with setting up systems for performing service and maintenance tasks during production if required.

## Your experienced contact for qualification and validation

As a competent and experienced manufacturer of medical technology equipment, we possess the necessary expertise to validate the equipment and to draw up the respective qualification documentation.

To this end, we carry out the qualification process and draw up the necessary qualification documentation in accordance with the internationally recognised GAMP (Good Automated Manufacturing Practice) guidelines.

We supply the respective qualification documentation for DQ, IQ and OQ as required and perform the test and sample runs necessary for qualification either on your behalf or together with you.



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