



# Hemodialysis Case Study

19 years of reliability – Durable solution  
for water treatment in a kidney centre  
in Heidelberg

“We have been relying on Herco’s system technology for 19 years now and can testify to the reliability of the system technology and Herco’s service.

During this time, not a single membrane change has been necessary on the reverse osmosis system.

This is possible thanks to the unique dead-zone-free design of the reverse osmosis system, the reliable maintenance and the particularly good quality of the sophisticated technology.”



**Christian Kalbrunner**

Head of Building Services + Energy Management,  
Heidelberg Kidney Centre

**System:** Reverse osmosis for the production of  
ultrapure water for hemodialysis

**Capacity:** 2,500 l/h (2.5 m<sup>3</sup>/h)

**Launch:** May 2005

## Hemodialysis:

Durable system technology –  
Herco means efficient  
water treatment



### Requirement

#### Focus on people’s health

19 years ago, the kidney centre in Heidelberg, Germany, approached Herco Wassertechnik GmbH with the request for a water treatment system that would supply high-quality ultrapure water for dialysis. At that time, the importance of good water quality in combination with the dialysis fluid for the health of the patients was recognised.

The key factor was that the solution offered should sustainably and efficiently eliminate endotoxins and germs in the water in accordance with European regulations and international standards.



#### Realisation

## A two-stage reverse osmosis system for **continuous water supply**

Herco proposed a two-stage reverse osmosis water treatment system, focussing on providing top quality pure water for patients.

The system uses the Herco water-saving circuit to minimise water consumption. In addition, the reverse osmosis system and circular pipeline are designed for optimum efficiency to maximise throughput while meeting the strict quality standards required for dialysis procedures.

To ensure reliable operation, the Heidelberg system is equipped with a sub-loop ring main including double connection systems.

This system is free of dead zones and ensures a continuous supply of water to the dialysis stations. Long running times reduce operating costs - the high membrane service life also increases sustainability.

#### Solution

## > **19 years without chemical or thermal disinfection** – reliable and safe water quality

The outstanding feature of the water treatment system delivered to Heidelberg was its dead-zone-free design. As a result, it was possible to deliver microbe-free water over a long period of time without the need for chemical or thermal disinfection. This breakthrough was achieved by utilising the double connection system and sub-loop system in the ring main, as well as end-port pressure pipes in the reverse osmosis.

## > **19-year lifespan of the membrane** – maximum efficiency and minimum maintenance

The durability of this Herco technology is particularly remarkable. The membranes have not needed to be replaced in 19 years. This is a proof of the high quality of the materials used and the careful construction.

## > **Unique water-saving circuit** – sustainable recovery of the concentrate

The exceptionally long service life of the membranes achieved in this way contributes to the sustainability of the plant and reduces operating costs, while ensuring uninterrupted operation.

Summary

## **/ Sustainable engineering for the Heidelberg dialysis centre –** long running times for maximum efficiency and lower operating costs

The Herco water treatment system at the Heidelberg Kidney Centre offers a sustainable, high-quality solution to ensure reliable operation with optimum hygienic properties. We are proud to contribute to the well-being and safety of patients while meeting the highest standards in healthcare.



**Are you interested in our solutions?**

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