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[Wastewater heat utilisation and reuse of process heat at Munich university hospital "Klinikum rechts der Isar"](#)

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The Munich university hospital "Klinikum rechts der Isar"

"Klinikum rechts der Isar" is the university hospital of TU Munich (TUM). There is an intensive cooperation between the university's research facilities and the clinical centre. About 5,000 employees dedicate themselves to the care of sick, research and science. Every year, about 60,000 patients profit from residential treatment and 245,000 from ambulatory treatment at the highest medical level.

With about 30 clinics and departments and about 1,100 beds the hospital is a house of supramaximal care which covers the whole spectrum of modern medicine. Due to the close cooperation between the medical and research institutions patients profit from new findings in scientific studies at a very early stage.

From 2012 to 2014, a new central sterile supply department (ZSVA) was built where medical products such as surgical instruments are cleaned and disinfected and come back sterile-packed. Safety of patients and personnel has top priority. The ZSVA unit is designed for a cleaning and sterilisation capacity of 90,000 sterile supply items per year.

The Munich planning office PLANUNION designed the plant on the basis of the following parameters:

Operating hours	4,000 h/a
Flow rate	2.8 m ³ /h
WW inlet to heat recovery system	50° C
WW outlet from heat recovery system	34° C
ΔT of wastewater	16° C
Efficiency of heat recovery system	96 %



Flanged version of a HUBER RoWin Heat Exchanger, optimally installed in a confined space.

The installation space required for the heat exchanger is 6.5 m². The big challenge was the complicated integration into the existing building – the heat exchanger was divided into three sections, flanges were mounted and the sections reconnected on site. Another challenge for the planning office generally is control engineering and the definition of interfaces.

Since November 2014, the energetic potential of the effluent from the ZSVA's dishwashers is used by the heat exchanger to preheat the demineralized water that is needed to operate the cleaning and disinfection devices. The temperature raise of the demineralized water cycle can be up to 20 °C. Through connection of the sensing devices to the building control system the temperature raise can be retraced any time. Also the volume flows can be controlled and documented this way. The plant has operated without interruption since the 4th quarter of 2014, ensuring the reliable utilisation of the energetic potential of the effluent from the ZSVA's washing equipment. In 2014, the degree of capacity utilisation of the ZSVA was 65% – the plant will have paid off after about 8.5 years on this basis. The plant has however been designed for the actual capacity expected for the next years. The fact that the capacity utilisation increases year by year has a positive effect on the economic efficiency of the plant.

You are welcome to get an impression of this innovative and sustainable installation with your own eyes!

Visit us at the IFAT in Munich: Join our **free tours of the wastewater heat recovery plant at the hospital "Klinikum rechts der Isar" on Thursday, 2nd June!**

We will also be pleased to welcome you on our stand (No. 351 in hall A2) where we present a comprehensive range of products and solutions for wastewater treatment, heat recovery, sludge treatment and drinking water supply.

Related Products:

- [HUBER Heat Exchanger RoWin](#)

Related Solutions:

- [HUBER Solutions for Green Buildings](#)
- [Wastewater Heat recovery: HUBER Solutions for Local and Short Loops](#)

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