

[Home](#) ■ [HUBER Report](#) ■ [Sludge Treatment](#) ■

[HUBER Screw Press Q-PRESS® with world premieres at STP Sargans - High level of user-friendliness increased even further](#)

HUBER Screw Press Q-PRESS® with world premieres at STP Sargans

High level of user-friendliness increased even further

In Sargans, Switzerland's first HUBER Screw Press Q-PRESS® Q 800.2 was installed in 2017 for dewatering digested sewage sludge. The latest generation of screw press could win the competition against other systems due to its very high operational reliability and user-friendliness, complete stainless steel construction and very low operating costs.

The demands on the system are extremely high. An essential factor is the required DR concentration in the dewatered sludge of over 30% with simultaneously clear filtrate quality. Furthermore, fully automatic operation is of great importance for the efficient use of the plant.



Screen basket of the screw press before cleaning / decalcification



Screen basket of the screw press after cleaning / descaling

After the usual system optimisations had been implemented in the first year, the operator expressed the wish for further automation options, especially with regard to decalcification. The reason for this was that the machine had to be descaled every quarter due to the hard water (around 25 °fH or 14 °dH hardness). Along with the planned automatic decalcification, the concept of a torque control for the targeted increase of the DR concentration was also developed. Both questions clearly aimed for an even higher efficiency in operation with optimised personnel deployment.

Fully automatic decalcification

The deposition process of lime precipitates and other substances that are difficult to dissolve on the screen basket surface and in the filter gaps is gradual. As a result, the freely available surface of the filter basket is continuously reduced, which has a direct effect on the performance of the machine. Since manual descaling is a significant time and cost factor, this operation should be reduced to a minimum.

The fully automatic descaling is implemented by using the new rotating spray bar system, which is applied for the standard cleaning of the outer surface of the filter baskets. At a freely selectable interval, a descaling agent is dosed into the water supply line to the spray bar and allowed to take effect for a certain time. In the case of Sargans, this is done at an interval of one week and with a reaction time of about one hour before the system is rinsed normally with service water and then filled with sludge.

The fully automatic decalcification achieves the following objectives:

- Regular descaling of the filter baskets without manual operations
- Avoid thicker deposits, which would be even more difficult to remove
- Ensure stable and optimal operating conditions for dewatering
- Increase the service life of downstream units (impeller of filtrate pump)
- Reduce downtimes for costly cleaning work.

Since the installation of the descaling station at the beginning of 2019, no manual descaling of the HUBER Screw Press Q-PRESS[®] Q 800.2 has been carried out in Sargans and the condition of the filter basket as well as the performance of the plant are constantly at a very high level.

Load-dependent machine control

Due to the high requirements on the DR in the dewatered sludge, the screw press is operated at high load. To ensure the machine would not be overloaded during normal operation, the operating parameters were set conservatively and closely monitored by the staff. With this mode of operation, on the one hand, part of the capacity was not utilised at all and, on the other hand, the effects of the manual interventions were only effective for a short time as the dynamics of the process could not be sustainably influenced by them.

With the load-dependent control system for the HUBER Screw Press Q-PRESS® Q 800.2 implemented in Sargans for the first time worldwide, the operating parameters are adjusted continuously to ensure optimum operation without jeopardising operational safety.

The optimised control system enables:

- Smooth and continuous control of the sludge and flocculant feed and the screw press
- Operation of the machine in the optimum load range to achieve the best possible DR content in the sludge
- A simple and extremely effective optimisation option for the operator
- A shorter automatic start-up of the plant up to the optimum operating point

A big “thank you” goes to the constructors at the Saar Wastewater Association and especially to the managing director Peter Müller for supporting the implementation of the presented innovations.

A member of the HUBER Group

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