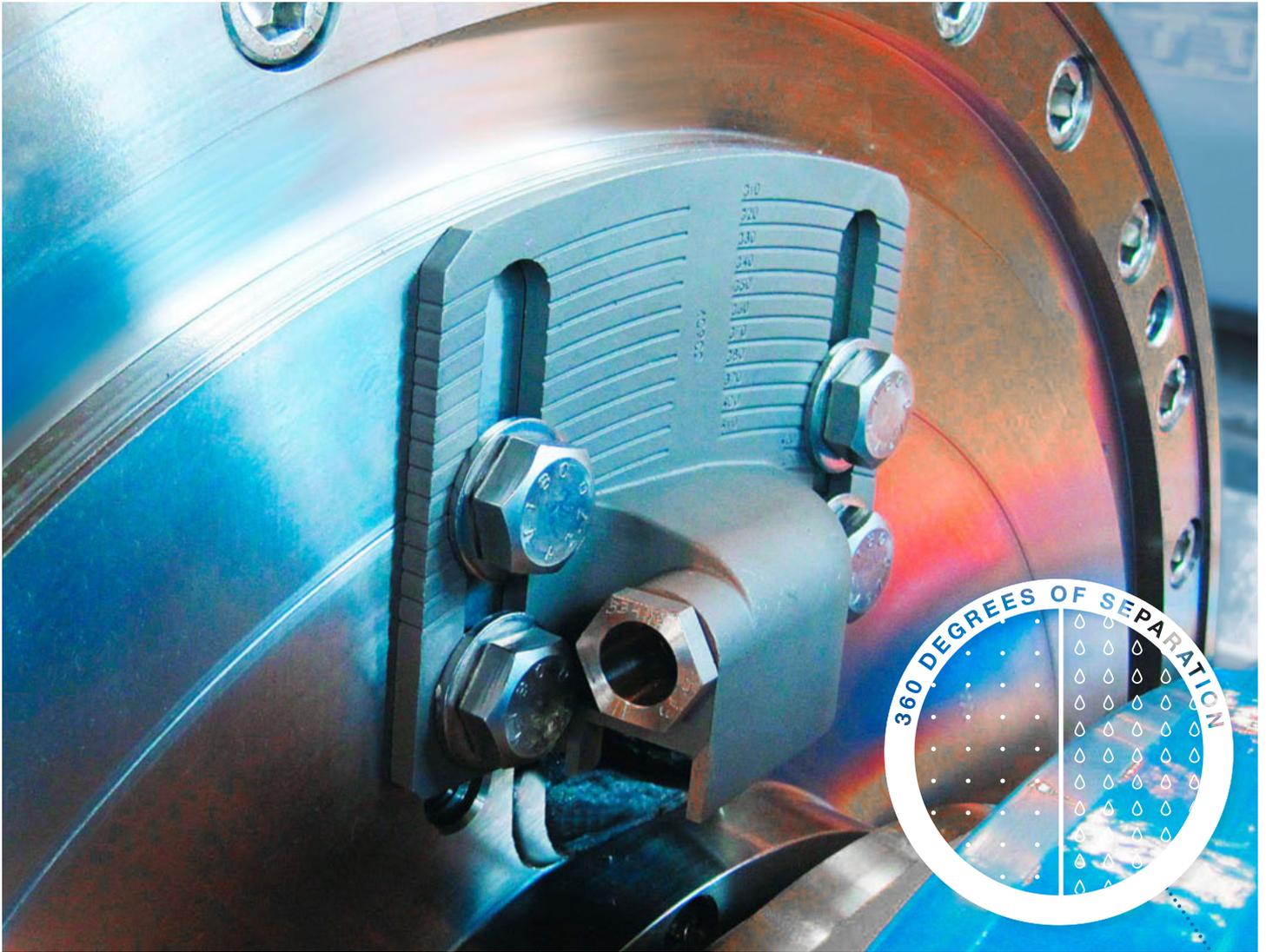


Innovative energy efficiency technologies for Steyr wastewater treatment plant

SUCCESS STORY:
D-SERIES DECANTER FOR
SLUDGE DEWATERING AT
RHV STEYR, AUSTRIA



▲ TurboJet weir plate

The challenge: Coping with increasing effluent in line with legislation

RHV Steyr, a community environmental association serving the city of Steyr (Austria) and several neighboring villages, enlarged and modernized its sewage treatment facility to cope with the ever increasing requirements of more stringent legislation in the face of rising effluent levels and thus, increasing amounts of sludge. The city has benefitted from its experience in heavy industry and production of various commodities, always seeking the

latest innovations and advanced technologies in order to streamline its business solutions. Based on its history, it was not surprising to hear that RHV Steyr was looking for the best possible concept to implement its plans, given the following constraints:

- Increase sludge treatment capacity to handle a volume of 140,000 PE (population equivalent)
- Controlled energy consumption

- Controlled operating costs (maintenance, polymer, and dumping over a period of eight years)

At the request of RHV Steyr, extensive independent testing was performed on both similar and different equipment, comparing multiple suppliers using the same technology. The ANDRITZ SEPARATION solution proved to be superior.

Our solution: Minimize energy consumption while maintaining constant performance

ANDRITZ SEPARATION's decanters, featuring the TurboJet weir plate solution and CentriTune (centrifuge control system) to minimize electricity consumption while ensuring best possible performance in terms of polymer consumption and solids dryness, had convinced RHV Steyr and come out top in the evaluation. Two parallel sludge processing lines are equipped

with ANDRITZ SEPARATION D4L decanters for a capacity of 600 kg dry solids/hr of sewage sludge.

Besides the TurboJet liquid discharge feature for lowest energy consumption, the decanter is equipped with the latest high-performance scroll ensuring lowest polymer consumption with high solids dryness at

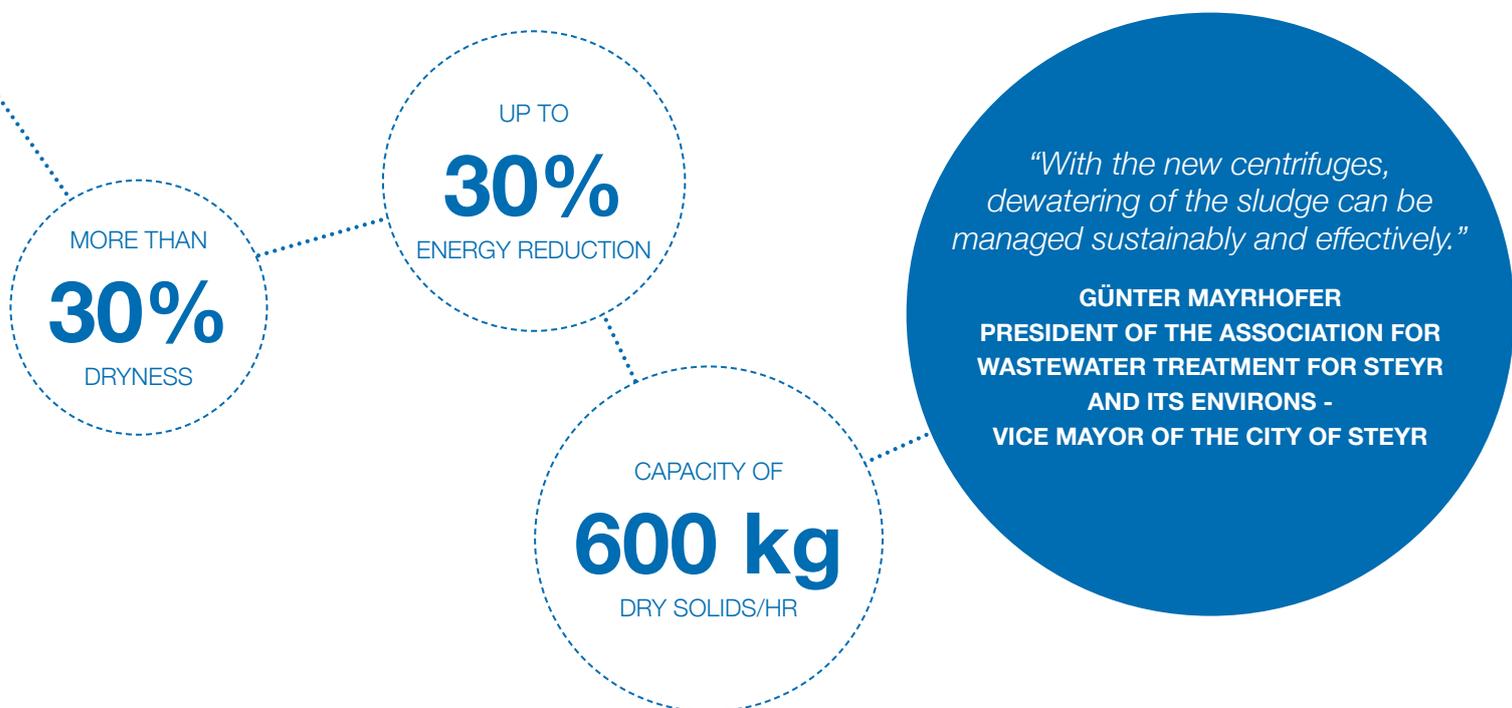
the discharge. The plant furthermore comprises a system to fill the dewatered sludge into truck containers. Operations and control are fully automated, including monitoring of the solids height in the container. If a container is full, the next container is activated automatically for filling.

Results: Lower polymer consumption and higher dryness

The D4L decanters were started up in June 2014 and, in the following evaluation period, the performance guarantees were met or surpassed. In fact, the polymer consumption was lower than guaranteed

and cake dryness was surpassed at the same time. The high dryness in the cake ensures lowest possible annual dumping costs for the sludge. The outstanding performance with more 30% dry-

ness in sewage sludge solids at the discharge is especially pleasing for the management of RHV Steyr.





Key equipment



▲ D-series decanter

Benefits of the D-series decanter:

- No need for prior thickening, therefore no double flocculation (direct dewatering immediately downstream of a clarifier or aeration pool)
- No operator supervision (automatic operation)
- Simplified civil engineering (very compact installation)
- Clean, efficient, and water-saving technology
- Reduced and easy maintenance

Benefits of the TurboJet weir plate:

- Reduces power consumption by 10 to 30% depending on flow rate, pond depth, and bowl speed)
- Can be fitted to ANDRITZ SEPARATION decanters (ANDRITZ, Guinard, Bird, KHD, etc.) and can also be retrofitted to nearly all brands of decanter
- Does not affect cake dryness, capture rate, etc.

Benefits of the CentriTune centrifuge control system:

- Easy-to-operate machine interface
- Can be installed at existing decanters, on ANDRITZ SEPARATION machines or not (as upgrade)
- Easy integration into existing or new dewatering lines/plants, ensuring a short start-up period thanks to full factory pre-testing
- Well proven and verified control package for all centrifuge-related functionalities

AFRICA

ANDRITZ Delkor (Pty) Ltd.
Kyalami, South Africa
Phone: +27 (11) 012 7300
separation.za@andritz.com

AUSTRALIA

ANDRITZ Pty. Ltd.
Carrum Downs, Australia
Phone: +61 (3) 8773 4888
separation.au@andritz.com

EUROPE

ANDRITZ S.A.S.
Vélizy-Villacoublay, France
Phone: +33 (1) 39 26 05 50
separation.fr@andritz.com

SOUTH AMERICA

ANDRITZ SEPARATION Ltda.
Pomerode, Brazil
Phone: +55 (47) 3387 9100
separation.bra@andritz.com

ASIA

ANDRITZ Singapore Pte. Ltd
Singapore
Phone: +65 (6512) 1800
separation.sg@andritz.com

CHINA

ANDRITZ (China) Ltd.
Foshan, China
Phone: +86 (757) 8258 6802
separation.cn@andritz.com

NORTH AMERICA

ANDRITZ SEPARATION Inc.
Arlington, U.S.A.
Phone: +1 (817) 465 5611
separation.us@andritz.com

www.andritz.com