

NEWS 2019



Interview between HILLER and Zeiss!



HILLER's
6,000th Machine!



HILLER Trainees at
Excursion!

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6,000TH HILLER DECANter - A REASON TO CELEBRATE!

In November HILLER had every reason to celebrate: the 6,000th HILLER decanter had been manufactured and sent to the USA. The decanter in size DP574 now is in service in Florida for the purification of waste water.

What makes us particularly proud is that this is already the second HILLER decanter on site. The customer was so satisfied with the first decanter that he expressly requested HILLER as supplier of the separation technology for the expansion of the city. On site, the decanter will be integrated into a compact plant.



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STATE-OF-THE-ART SEPARATION TECHNOLOGY AT SEWAGE TREATMENT PLANT IN SPREMBERG (GERMANY)

The Spremberg Water and Wastewater Association cleans about 1,200,000m³ of waste water annually by means of its five sewage treatment plants. The focus here is on the safe supply of drinking water to the population and industry as well as environmentally friendly wastewater disposal.

In order to ensure comprehensive and sustainable water protection, the association uses state-of-the-art separation technology for wastewater treatment. Since the end of 2018, a HILLER DP45-422 decanter has been used for sludge dewatering.

With the new decanter, it is possible to dewater up to 450kg dry solids per hour. The conversion was carried out under the condition that the existing facility be utilised as far as possible. Existing concrete foundations and the supports for the discharge system were thus reused.

Sludge dewatering is now energy-efficient and economical

The Spremberg sewage treatment plant is highly satisfied with the new decanter. Due to the high dewatering capacity, the environment is protected, but at the same time disposal costs are reduced. The high cake dry solids content of more than 28%, for example, considerably reduces transport costs, but the new technology has also significantly reduced the need for auxiliary materials such as polymer.

In addition, the use of new types of energy-saving weir plates, which recover the kinetic energy of the centrate, and the use of electric motors of the highest energy efficiency class also reduce electricity costs.

Association data:

Own purification capacity:	57,930 P.E.
External cleaning:	35,000m ³ /a
Amount of Wastewater:	1,199,000m ³ /a
Sewage treatment plants:	5
Small sewage treatment plants:	5
Pumping stations:	66
Total connected inhabitants:	34,804
- of which central waste management:	25,755
- of which decentralised waste management:	9,049
Degree of connection:	74.00%
Length of sewer network:	223km



TWO NEW MSE HILLER MOBILE SLUDGE DEWATERING DP66-422 UNITS ARE LAUNCHED

MSE HILLER have built and launched another two brand new mobile sludge dewatering units to add to their fleet of centrifuges in the UK.

The units which are built to the usual high standard specification and incorporating a high level of process automation and control offer capacities of up to 90m³/h.



The machines are fitted with their own onboard progressing cavity feed pump, macerator, Flowmeters, automatic liquid polymer make-up and dosing system, starter control panel with remote monitoring connectivity and all the pipework valves and fittings in high grade stainless steel.

During recent proving trials cake dry solids of 28 - 33% were achieved with polymer dose rates as low as 6kgs/t dry solids.

On industrial applications the cake solids have been as high as 72 - 78% dry solids.

Recovery rates of 98% have been reported.



In addition to the mobile dewatering units a complete range of ancillary equipment is also available to hire including inclined trailer loading cake conveyors, pipework, electrical generators and MDU units, centrate tanks, transfer pumps, macerators screens etc. Smaller (the range starts at 200 litres/ hour) and larger (100 - 120m³/hr) capacity units are also available to hire.



Contact

MSE Hiller

Chesterfield Derbyshire

Phone: +44 (0) 1246-861166

info@mandse.com

HILLER GMBH TRAINEES VISIT THE PASSAU WASTEWATER TREATMENT PLANT

On 01st September 2018, six young people began their training at HILLER GmbH in the professions of industrial mechanic, mechatronics technician and industrial clerk. In order to get to know each other better, an excursion day with all trainees was held on 04th September.

The young HILLER team started with a very impressive guided tour through the wastewater treatment plant in Passau, which has already been working very successfully with a HILLER decanter for several years. The plant manager, Martin Grimbs, described the route of the waste water from its arrival at the sewage treatment plant to its return as clean water to the adjoining Danube.

There was also a cultural highlight for the trainees at the Passau wastewater treatment plant. The „Burgus“ excavation site, a watchtower built in late antiquity, is located directly on the site of the plant. This is - next to the Boiotro fort - the only visibly preserved Roman ground monument in the Passau city area.

In the afternoon, the prospective specialists took a boat trip on the River Inn starting from Auggenthal near Neuhaus in the direction of Passau. On the way back, the group stopped at the monastery of Niederaltaich to end the day in a relaxed atmosphere.



HILLER GMBH DONATES MATERIAL FOR NON-PROFIT ORGANISATION „FALA“

The non-profit organisation “Freiwilligen Agentur Landshut”, short “fala”, devotes itself to the support of volunteers in the city of Landshut (Bavaria). One of the numerous projects of the fala team is to help refugees to repair their bikes. Spare parts and operating resources come from donations. The volunteers are not only available for helping with the repair works but also for informative and friendly conversations. So they contribute enormously to the integration of the refugees.

HILLER likes the idea of so much engagement and we are happy to support such a great project with several donations. For more information concerning the fala organisation and its several projects please follow this link: www.freiwilligen-agentur-landshut.de



PRECISION LANDING FOR SUSTAINABLE WASTEWATER TREATMENT AT MARTIN BAUER

The Martin Bauer Group works with customers in the global food, tea, phytopharmaceutical and animal nutrition industries to develop plant products tailored to the needs of their product applications.

HILLER GmbH has been accompanying this successful group of companies on its path of continuous expansion since 2014. HILLER centrifuges are used on the company's own wastewater treatment plant directly after the biological process for the mechanical dewatering of the resulting product.

The dewatered material can be used for agricultural purposes, but it is still economically necessary to reduce the volume by means of mechanical dewatering in order to reduce transport costs. The separated centrate is returned to the waste water circuit. With fine particle sizes in the sludge and the requirement for mechanical dewatering without synthetic flocculants, a high degree of separation must be achieved in order to prevent the accumulation of fines in the treatment system. Therefore, the dewatering process runs under online control by means of an installed HILLER Centrate Monitoring and Control Unit (HCC), which was developed with the Martin Bauer Group. This monitors the centrate quality optically by means of an object sensor and reacts to deviations according to predefined parameters.

Dewatering by means of decanter centrifuges saves costs

A steady increase in production volumes also led to a corresponding increase in the capacity of the waste water and sludge produced, which could no longer be handled even in the 24-hour operation of our dewatering centrifuge.

HILLER was entrusted with the task of jointly developing and implementing a sustainable solution.

Within a few weeks, the capacity of the dewatering system was to be more than doubled. A task that presented HILLER with a challenge in a highly cyclical phase. For the available delivery time of a few weeks, it was necessary to install an interim solution with a mobile plant, to work out a detailed plan for the installation of a second HILLER centrifuge including plant periphery under confined space conditions and then, subsequently, to design and provide specific plant components. All in all, this was a very demanding task in terms of resources and production capacity.

Short-term delivery times and mobile dewatering as an interim solution were the prerequisites

Due to close cooperation with the Martin Bauer Group and its contractual partners, it was possible to successfully implement the commissioning of the plant on the planned date. The success of all parties involved was apparent when the first dewatered material was discharged from the new HILLER centrifuge. Since then, the increased sludge quantities can be processed reliably.

Looking back, this is of course a very positive project experience, which could only be achieved with the great personal commitment of all those responsible - both on the part of the client and the contractors.

We are already looking forward to the next „exciting“ tasks from the Martin Bauer Group!



DEVELOPING PROCESSES TOGETHER WITH THE CUSTOMER

New laboratory ensures optimized processing.

Research and development are always the basis for the optimal solution of the tasks that our customers set us. High-quality laboratory work according to professionally recognized standards has always been of the highest importance for HILLER GmbH. The relocation of the laboratory to new, larger premises in the headquarters in Vilsbiburg was therefore an important and logical milestone.

Laboratory evaluations are usually at the beginning of every major sales project and also serve as initial contact with the customer, enabling the possibilities of our decanter technology to be evaluated. The laboratory analysis serves, for example, to assess whether a decanter is suitable for a separation process or not.

Staff courses and user training can now also be carried out in the HILLER laboratory and processes can be developed or optimised together with the customer. Even after machine acceptance, customers can send laboratory samples to HILLER. These evaluations form the basic framework for process optimisation, which in turn can reduce the customer's operating costs.

In the new premises, up to four laboratory technicians can now carry out evaluations and analysis simultaneously. Thanks to the new equipment and optimized workflows, processing is now even more focused and time-saving.

Should you have any questions regarding our laboratory evaluations, please do not hesitate to contact Mr. Michael Falterer from the HILLER Laboratory.



Test / Laboratory

Mr. Michael Falterer
Schwalbenholzstraße 2
84137 Vilsbiburg
Germany

Phone: +49 8741/48-161
michael.falterer@hillerzentri.de

HILLER DECANTER TAKES OVER WATER TREATMENT IN THE CLEANING OF PET PLASTIC BOTTLES

PET bottles are one of the most commonly used beverage packages in Germany. For environmental reasons, the recycling of PET bottles is becoming increasingly important, on the one hand to avoid waste and on the other to reduce emissions of climate-damaging CO₂.

Since 2008, Pet Recycling GmbH has been recycling around 13,000 tonnes of PET beverage bottles annually in 3-shift operation into PET flakes, which are then returned to the production cycle. State-of-the-art processes and technologies ensure the highest



purity and quality of reusable recyclates. Prior to this recycling process, the bottles are collected and sorted and then cleaned of dirt, beverage residues, labels and adhesive residues.

Water treatment in batch operation

The washing water produced is then separated from the solids produced in the cleaning process in batch operation. One batch contains the cleaning of dirt or beverage residues from the bottles: Solids are separated from the water by a HILLER Decanter DP31.

In the second batch, the water used to remove the labels from the bottles is purified. The process water is heated and the dissolved adhesive of the labels must then be cleaned from the water. This is also done with the help of the HILLER decanter and an additional filter, which is used after the decanting process.

The washing water cleaned by this process can be returned to the process circuit. This protects the environment and reduces production costs.



The PET cycle ensures economical and environmentally friendly recycling

The cleaned bottles are then used to produce the so-called PET flakes. These recyclates can then be reused to produce new bottles or processed into a wide variety of products such as films, packaging, fillers, etc.

HILLER DECANTER AS PART OF INNOVATIVE ENERGY GENERATION IN THE NETHERLANDS

The fact that waste water treatment does not necessarily consume energy but can even produce it is a new, innovative approach that is already being implemented in Hengelo, the Netherlands.

The Vechtstromen wastewater association is responsible for wastewater treatment, flood defence and surface water quality in 23 municipalities in the east of the Netherlands (Drenthe, Overijssel and Gelderland). That alone is a big task. What distinguishes this association from others, however, is that it generates more electricity than it consumes through state-of-the-art technology and innovative processes in wastewater treatment at the Hengelo wastewater treatment plant.

Sustainable energy generation ensures cost savings and environmental protection

One of the first steps in plant optimization was the consolidation of almost all wastewater treatment plants belonging to Vechtstromen. The next step was a thermal pre-treatment of the sludge, which enabled considerable optimizations in the digestion process.

This in turn significantly improves the dewatering properties of the sludge and reduces the volume of sludge to be removed. A total of 500 truckloads less sludge are transported annually.

In addition, biogas is produced in the course of this process, which in turn is used to generate electricity. This saves costs on the one hand and generates revenue from the feed-in of electricity on the other. At the same time, the production of green energy and reduced transport also protect the environment.

HILLER decanter ensures reliable sludge dewatering

The dewatering of the digested sludge will be carried out by a HILLER decanter type DP574 from the start of 2020. The capacity here is 1,100 kilograms of dry matter per hour.

HILLER is proud to be a part of this key reference. The competition for this project was correspondingly high. After initial technical assessment by the client, there were still four well-known decanter manufacturers in the running. The contract was awarded on the basis of both an economic evaluation and on-site tests. Further decision bases were the cost of sludge processing, as well as polymer consumption and future maintenance costs (prerequisite was a 5-year maintenance contract). In the end, HILLER GmbH from Vilsbiburg was able to excel in all the areas mentioned above. In September, two decanters of the DP574 series will be delivered to Hengelo. One of the two decanters will go into operation immediately, while the second will serve as a reserve to ensure uninterrupted operation in 24-hour service.

Generation of around 16 million kWh of electricity after completion of the plant

When the plant is completed in the course of 2019, approximately 6 million kWh of electricity will be produced by this plant. Only a third of this electricity will then be used to treat the wastewater, the rest being fed into the grid.

This extraordinary project can certainly be called a lighthouse project, which achieves great results for mankind and the environment through a combination of state-of-the-art technology and innovative processes and thus attracts a lot of international attention.



DECANTING FOR MAXIMUM OIL ENJOYMENT

- EXCERPT FROM THE INTERVIEW BETWEEN THE COMPANIES HILLER AND ZEISS -

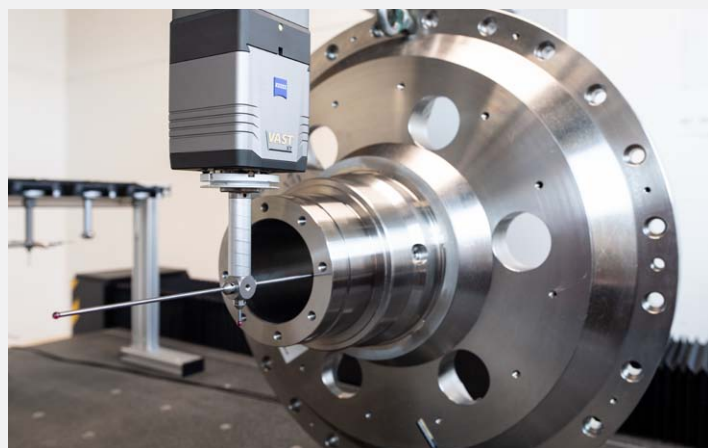
Decanters from HILLER GmbH in Vilsbiburg are in demand worldwide. They separate solid and liquid substances, for example for the production of olive oil and wine or for waste water treatment. The machines, which weigh several tons, owe their unrivalled high yield to uncompromising precision.

Dietmar Heller and Josef Pichlmair from HILLER GmbH talking to Zeiss.

HILLER decanters are regarded as the best on the market. They separate mixtures into their liquid and solid components: Olive mashes in fragrant oil, water and pomace, waste water in water and less fragrant solid excreta. The company's success is based on superior technology and uncompromising quality.

Measuring around the clock

An important component of this is the measuring room, which is part of Josef Pichlmair's responsibility. The engineer has a new favourite: a brand new ZEISS ACCURA 9/16/8. It runs almost around the clock. The employee who leaves the measuring room last in the



evening places several components on the measuring machine and starts the automatic measuring program. The next morning, all measured values are recorded and evaluated and the machine takes over the next job. „The automatic measurement, the large measuring range and the convenient operation with the CALYPSO software convinced us,“ praises Pichlmair.

High Quality by means of precision

The team around Dietmar Heller, Technical Operations Manager at HILLER know how important this precision is. A decanter weighs up to 12 tons and looks like a long washing machine drum rotating at high speed. Inside there is an internal rotating screw. It transports the solid and denser materials, which are pressed outwards as a result of the enormous centri-



fugal forces, to the front, where they are conveyed out of the decanter. The lighter liquid rises inside up to the screw tube and is discharged to the rear in the opposite direction, which is ensured by a vacuum. The screw rotates at up to 6,000 rotations per minute. A centrifugal acceleration of 4,000g acts on the screw blades, corresponding to 4,000 times the earth's gravitational pull. Each gram of material thus experiences an enormous centrifugal force equivalent to four kilograms.

HILLER builds its decanters in several variants: for some years now with mechanical gears instead of the previously common hydraulic drives. Because gearboxes became more and more important and the quality of the suppliers fluctuated, the company management decided in 2014 to bring gearbox production in-house, and to develop a new gearbox with greater performance.

HILLER continues to purchase the individual gears. Nevertheless, a coordinate measuring machine is required for quality assurance.

The measurement of the gears is now carried out on the ZEISS ACCURA with the ZEISS GEAR PRO software to ensure comprehensive quality control of the gears.

Word of HILLER quality has spread throughout the industry. In the meantime, **customers no longer focus solely on the purchase price, but on the profitability over a certain period of time, the so-called return on investment.** HILLER is usually the front-runner in this respect, and the additional price often pays for itself after just a few months, for example through a higher dry discharge in wastewater treatment or a higher oil yield.



INTERVIEW WITH FORMER HILLER SERVICE TECHNICIAN HARRY BIELE

1. Mr. Biele, thank you for taking the time to answer our questions. How long have you known HILLER?

I have known HILLER for 25 years, even from the time when the company worked together with Humboldt Wedag.

2. What comes to your mind spontaneously about the words „HILLER Decanter“?

A product that occupied me for almost 25 years and challenged me in a positive sense.

3. You can be seen cycling through the town of Rösrath in a HILLER outfit or you can be seen dressed in HILLER-blue in the mountains. Could you say that you see yourself as a brand ambassador?

As I said, I have been a brand ambassador for 25 years as a service technician for HILLER centrifuges and if you are convinced of a product you will probably always be a kind of ambassador.

Thank you very much for your time and especially for your long-standing and extraordinary loyalty to HILLER GmbH. We are happy about this solidarity and will be happy to find many more great pictures of you in your HILLER outfit on Facebook and Instagram.



HILLER GmbH
Schwalbenholzstraße 2
84137 Vilsbiburg

Phone +49 8741 48-0
Fax +49 8741 48-139

info@hillerzentr.de
www.hillerzentr.de

APPLICATIONS OF THE HILLER DECANTER TECHNOLOGY

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