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## GEA is expanding its decanter portfolio: Three new waterMaster for the ecoforce series

More flexibility for municipal and industrial sludge processing

- Customized decanter solutions for a wide range of performance requirements
- Energy consumption reduced by up to 50 percent
- Valuable investment in cost-efficient sustainable sludge processing
- Maximum efficiency due to unique GEA features

Düsseldorf (Germany), May 30, 2016 – Making its debut at the IFAT 2016 in Munich: At the company's booth 427/526 in hall A1, GEA is presenting three new **waterMaster** decanters from the **ecoforce** series for municipal and industrial sludge processing. The series models **waterMaster** CF 3000, CF 5000 and CF 8000 have been developed for stationary and mobile applications and, together with the familiar types CF 4000, CF 6000 and CF 7000, they offer customized and energy-efficient separation solutions for a wide range of performance requirements and applications: From the dewatering and thickening of sewage sludge and the processing of drinking water right through to the recovery of valuable substances, e.g. nitrogen and phosphorus. And this is achieved with a total reduction in energy consumption of up to 50 percent compared with the previous machine generation.

### Cost-efficient sustainable sludge processing

In times of constantly rising disposal costs and energy prices, the new decanter models CF 3000, CF 5000 and CF 8000 guarantee a valuable investment in cost-efficient sludge processing which meets all the requirements. "The **waterMaster** decanters which are used now only require 0.5 kWh per cubic meter of thickened sludge in ongoing operations. In addition, the consumption of flocculants has also been considerably reduced", explains Joost Vliegen, Director Product Management Environmental Technology at GEA.

### Up to 50 percent reduction in energy consumption

The significant improvement in energy efficiency is a vital factor in the need to attain the carbon footprint objectives, to reduce production costs and to significantly improve the competitiveness of the operator. "The GEA engineers have succeeded in optimizing the energy aspects of the decanter technology of the new **waterMaster** generation by means of a unique machine design", says Joost Vliegen. The recipe for success: Drive, control and regulating systems which have demonstrated their value in practical operations, such as GEA **energyjets**, **ecodrive**, **summationdrive** und **varipond**® combined with a bowl featuring deep-pond design. In consequence, this is

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responsible for the uniquely positive energy performance of the extended **waterMaster** portfolio, with savings of up to 50 percent.

The 50-percent savings achieved in terms of energy are broken down as follows:

## **GEA ecodrive – drive control with only one frequency converter**

For the drive control of the bowl and scroll, a **waterMaster** of the latest generation can be equipped with one frequency converter, instead of the previous solutions involving two frequency converters. The frequency converter of the secondary motor starts the primary motor during the start-up process of the decanter. Once the bowl reaches its nominal speed, the system switches over to mains operation and the frequency converter is set to the secondary motor. It is now used only for regulating the differential speed. The result: There is no longer any loss of efficiency of a frequency converter, and the energy consumption is reduced by up to 5 percent.

## **GEA summationdrive – no conversion losses due to energy recovery**

The capacities of the primary and secondary motor are added together due to the intelligent kinematics of the drive system **summationdrive**, and are then forwarded precisely to the bowl and the scroll. Unnecessary conversion losses, such as those seen in other drive solutions (involving back-drive or additional belts), are no longer incurred. Instead, the differential speed is provided in a wide performance range perfectly and in an energy-efficient manner. The results: All additional electrical back-drive components are no longer required, and energy consumption is reduced by up to 5 percent compared with other drives.

## **Optimized bowl design plus variable pond depth with GEA varipond®**

The deep-pond design of the decanter bowls ensures optimized flow characteristics in the bowl of the **waterMaster** by means of high hydrostatic pressure, an improved clarification effect and a low level of energy requirement for the product discharge. This is achieved by the patented fully automatic control and regulating process GEA **varipond®** with variable pond depth, ensuring energy- and resource-efficient start-up and shut-down procedures for the decanter without any water ingress on the solids side. The results: The power consumption of the **waterMaster** is reduced by up to 30 percent in this way.

## **GEA energyjets – special weir plates with integrated flow deflection**

In a decanter centrifuge, the energy requirement for discharging the clarified liquid can account for up to 50 percent of the machine's entire energy requirement. In the **waterMaster**, energy consumption is reduced considerably by the use of GEA **energyjets**, which are specially formed weir plates with an integrated flow deflection facility. The result: **energyjets** reduce the energy consumption of the **waterMaster** by up to 10 percent.

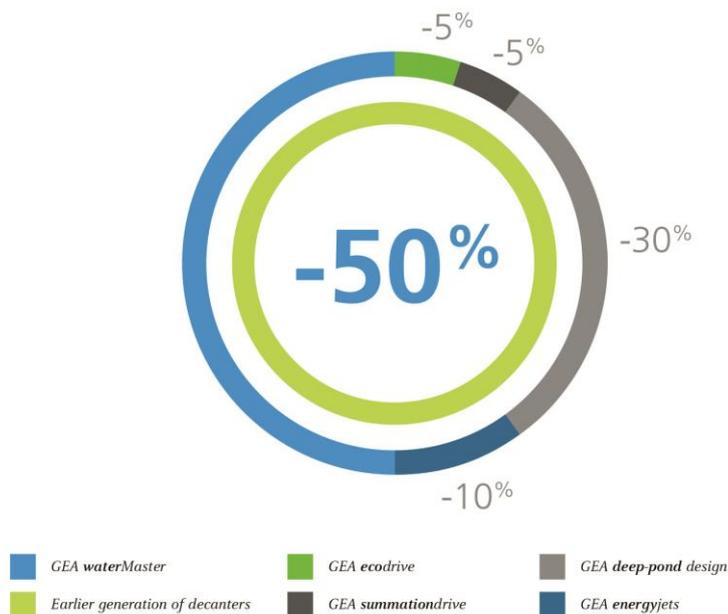
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## Conclusion

With the decanter portfolio of the **ecoforce** series which has now been extended to include the three new **waterMaster** machines, GEA has once again underlined its leading role as a provider of energy-efficient reliable solutions for water and effluent treatment. “Thanks to their flexibility, efficiency and reliability, **waterMaster** installations represent investments which create added value for industry and local authorities, with gains in terms of process reliability and energy savings. Cost-effectiveness and environmental protection are further advantages”, is how Joost Vliegen summarizes the advantages for GEA customers.



Pic. 1: Numerous technical innovations in the GEA **waterMaster** ensure a uniquely favorable energy balance and first-class separation performance.



Pic. 2: Reduced energy consumption in GEA's **waterMaster**

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**About GEA**

GEA is one of the largest suppliers for the food processing industry and a wide range of process industries that generated consolidated revenues of approximately EUR 4.6 billion in 2015. As an international technology group, the Company focuses on process technology and components for sophisticated production processes in various end-user markets. The Group generates more than 70 percent of its revenue in the food sector that enjoys long-term sustainable growth. As of March 31, 2016, the Company employed over 17,000 people worldwide. GEA is a market and technology leader in its business areas. The Company is listed in Germany's MDAX (G1A, WKN 660 200). In addition, GEA's share is a constituent of the MSCI Global Sustainability Indexes. Further information is available on the Internet at [gea.com](http://gea.com).

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