



REDUCED FOOTPRINT FOR PET RECYCLING

Recycling wash and lye water
with decanter centrifuges.

TURNING OLD INTO NEW – PET RECYCLING.



The number of PET containers is increasing across the world. The concurrent recycling trend is also rising the amount of wash water and cleaning lye in the recycling process.

Global plastic production is on a steep incline, and with it plastic waste, of which around 12 million tons end up in the world's oceans – including countless bottles made from polyethylene terephthalate (PET). Sustainable use of plastic and optimizing the existing recycling process are therefore key tasks for businesses and governments.

GEA sludge Decanter: engineering for a better world

To support increased plastic recycling GEA sludge Decaners provide an energy-efficient solution for removing contaminants from the wash and lye water in PET recycling plants. The centrifuges can accommodate both hot and cold water cleaning processes, which is based on decades of leading GEA expertise in wastewater treatment.

The "old" PET containers are first shredded into pieces (or flakes) measuring two to three millimeters. These are then used as the basis for bottle-to-bottle recycling or to make "new" products such as sports clothing, office material and trunk lining. After this step, contaminants such as sand, solids, labels and glue residue are removed using hot and cold wash and lye water in two preparation processes.

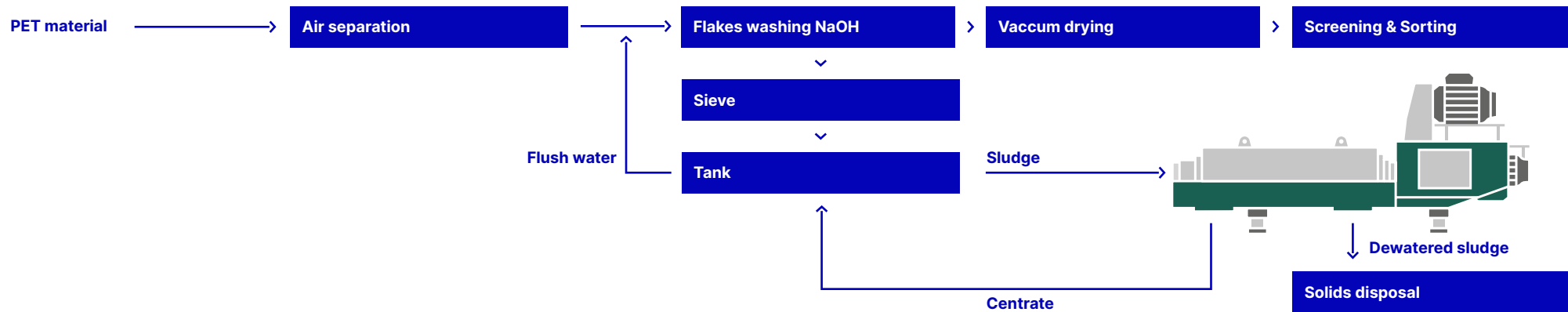
To avoid constant exchange of the pollutant liquids, they are cleaned at very high speeds by GEA sludge Decaners and reintroduced into the process cycle. This increases system availability, reduces production costs and conserves resources and the environment. The operator also benefits from highly corrosion-resistant stainless steel materials for all components that are in contact with the product, low space requirements, a closed system without aerosol emissions and continuous operation.

Extremely flexible application

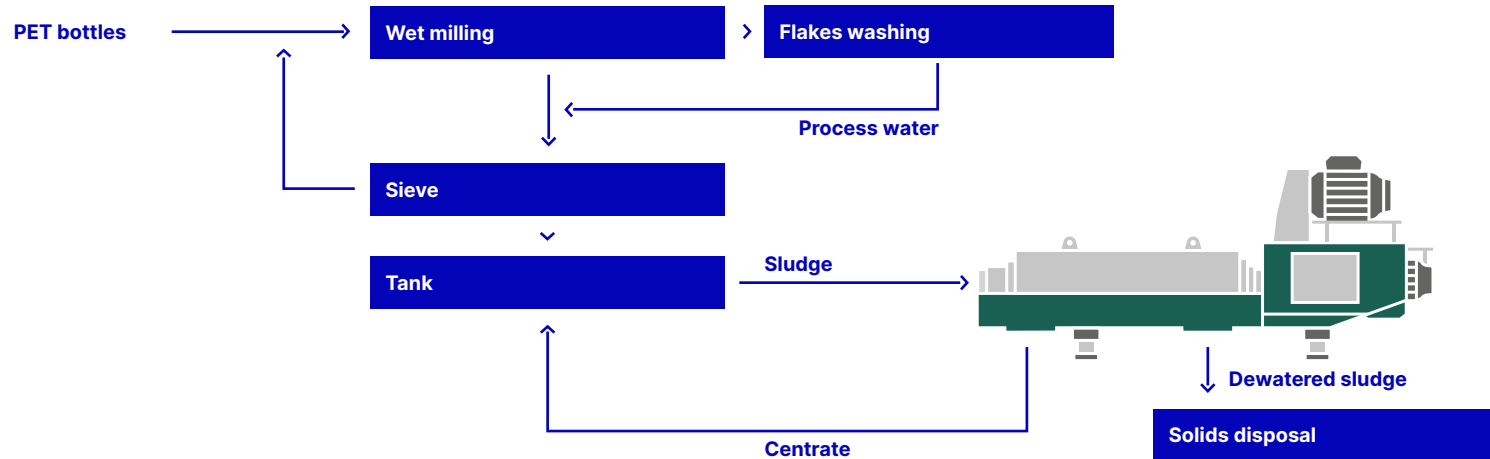
The high level of standardization and modular, compact construction of the GEA sludge Decaners facilitate easy plug & play integration in established processes with little need for adaptations and fast delivery time. GEA sludge Decaners are also available as a skid, mobile and retrofit solution. These are benefits enjoyed by many users in PET recycling plants around the world.

Resource-saving treatment of wash and lye water in PET recycling

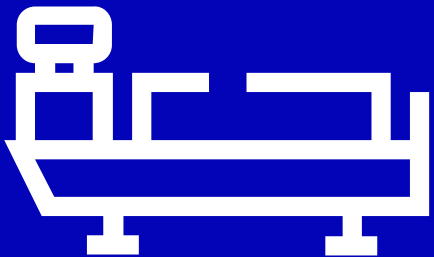
Hot water cleaning process



Cold water cleaning process



GEA DECANTERS ARE THERE FOR YOU THROUGH THICK AND THIN.



Their strengths lie in using continuous solid-liquid separation for optimum processes with the best results – for both dewatering wastewater sludge and the treatment of biomass.

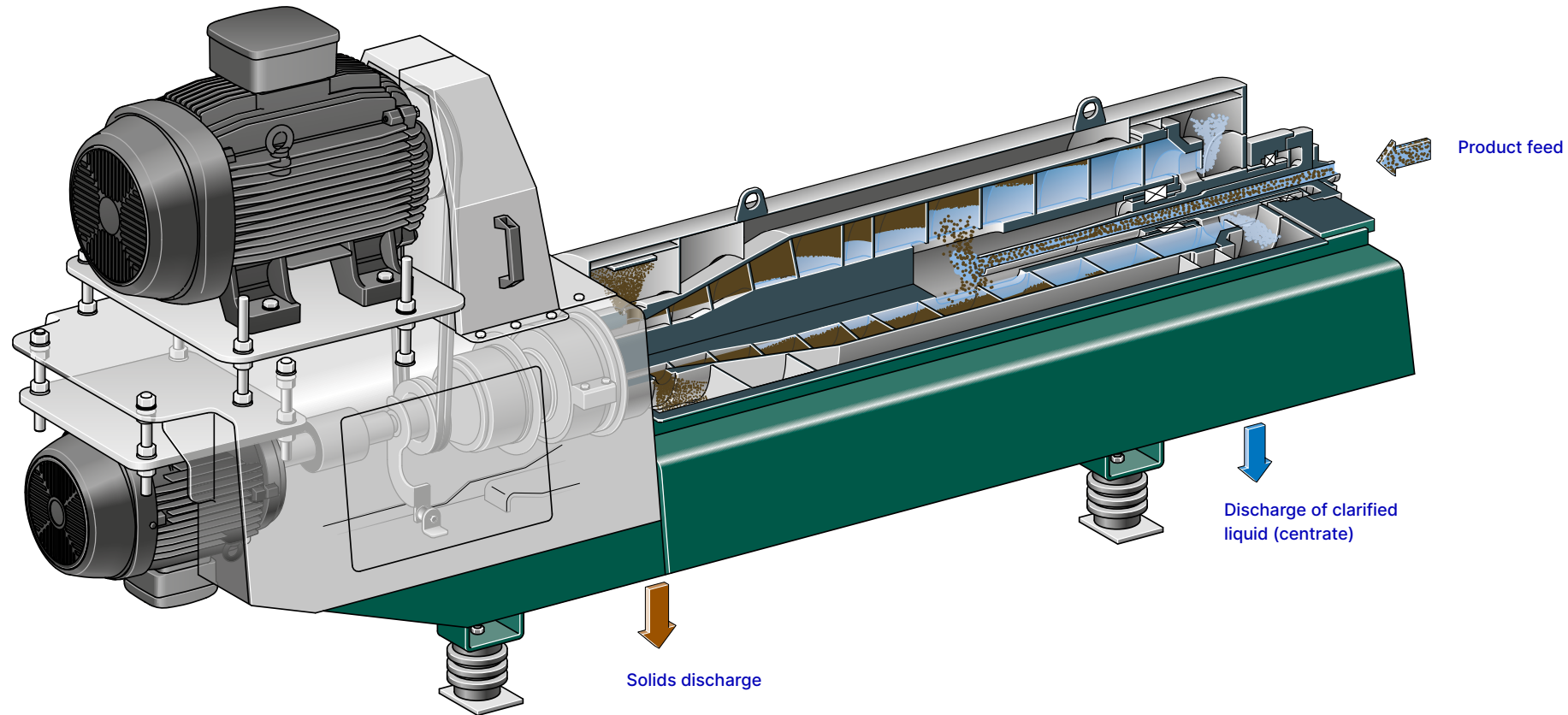
Decanter centrifuges from GEA are the perfect solution when the solids content in suspensions is particularly high. They ensure continuous clarification performance with maximum dewatering, as well as the separation of liquids with the simultaneous removal of solids. This is based on a high bowl speed, a powerful drive and a scroll speed which automatically adapts to the solids load in the feed.

The development of our decanter portfolio is based on 130 years of GEA expert knowledge as well as the ever-changing requirements and findings from a variety of different areas of application and use. The result is robust, reliable high-performance decanters which provide the best possible added value for users in industrial, municipal and agricultural wastewater treatment.

Also known as solid-wall scroll centrifuges, decanters work in a similar way to tubular centrifuges but have a horizontal scroll which rotates with a low speed difference to the bowl.

In this process, the solids are continuously separated and discharged. The result is high separating performance in a small space.

2-phase decanter specifically for the requirements of dewatering of industrial and municipal wastewater sludge



GEA decanter features

- Maximum productivity
- High-quality materials
- Small footprint
- High degree of operating reliability, availability and low wear
- Less manpower required
- Simple to operate
- Low operating costs
- Wide variety of potential applications
- Ease of maintenance

EXTRACT REFERENCE INSTALLATIONS

Commissioning	Qty.	Place of installation	Machine type	Capacity	Process
2023	1	Kolkata, India	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2023	1	Texas, USA	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	1	Ore'e d'Anjou, France	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	1	NN, Australia	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2022	1	Barcelona, Spain	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	1	NN, Peru	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2022	1	NN, Colombia	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2022	1	NN, Guatemala	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2022	2	Dandenong South, Australia	GEA sludge Decanter pro 2000	4 m³/h	Hot water circulation
2022	1	Übach-Palenberg, Germany	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	1	Übach-Palenberg, Germany	GEA sludge Decanter pro 2000	5 – 8 m³/h	Cold water circulation
2022	1	Duiven, Netherlands	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	2	Selters, Germany	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2022	1	Istanbul, Turkey	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2021	1	Cercal do Alentejo, Portugal	GEA sludge Decanter pro 2000	2 m³/h	Hot water circulation
2021	2	Alabama, USA	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2023	1	NN, Honduras	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2021	2	Čakovec, Croatia	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2021	1	Gaziantep, Turkey	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2021	1	Tocancipá, Colombia	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2021	1	Valle de Zaba, Spain	GEA sludge Decanter pro 4000	12 – 20 m³/h	Cold water circulation
2020	2	Oklahoma, USA	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2020	1	Oslo, Norway	GEA sludge Decanter pro 3000	6 m³/h	Cold water circulation
2020	1	Oslo, Norway	GEA sludge Decanter pro 3000	2 m³/h	Hot water circulation
2020	1	Wolfen, Germany	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2020	1	Izmir, Turkey	GEA sludge Decanter pro 2000	5 – 8 m³/h	Hot water circulation
2020	1	Ettamogah, Australia	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2020	2	Bangkok, Thailand	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2020	1	California, USA	GEA sludge Decanter pro 3000	5 – 8 m³/h	Hot water circulation
2020	1	Slobozia, Romania	GEA sludge Decanter pro 3000	10 – 14 m³/h	Hot water circulation
2020	1	Hong Kong, China	GEA sludge Decanter pro 2000	4 m³/h	Hot water circulation

GEA has delivered numerous decanter centrifuges for integration in turnkey PET recycling plants for operators end customers worldwide.



Returns valuable resources back to the process cycle

GEA sludge Decanters are robust and efficient, ensuring the safety of operations while keeping more resources from the washing process moving circularly versus being wasted.

A reduced footprint for PET recycling and rPET

Numerous decanters have already been installed by plant manufacturers in turnkey PET recycling plants all over the world.



[Read more](#)



VIDEO



GEA environmental
Decanter lines

WE HELP PROTECT, FEED AND POWER THE WORLD.

GEA is one of the largest technology suppliers for food processing and a wide range of other sectors such as environmental technology, with a focus on wastewater, sludge, manure and fermentation residue treatment.

We help protect, feed and power the world – this is the motto we follow when we provide innovative solutions that combine environmental protection with high societal benefits and cost effectiveness. In other words: our products, components and processes help to make costs more efficient for users by

- Protecting water and limited raw materials and feeding back into the natural cycle
- Optimizing production quality and making food safer
- Using existing energy sources in a way that protects the environment and developing new energy sources

Centrifugal separation technology made by GEA has been setting standards based on this worldwide with perfect processes and production cycles. We call it “engineering for a better world”.

Safeguarding our resources

GEA environmental Decanters provide the highest dewatering levels. In practice, having less sewage sludge to dispose of saves transport costs, lowers energy consumption for drying and burning, and thereby reduces CO₂ emissions. It's a win-win situation for wastewater treatment plants and the environment.

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