



SUCCESS IS SIGNIFICANTLY REDUCING WATER CONSUMPTION

**Save More than 90% of Your Process Water
when Processing Sand and Gravel**



TABLE OF CONTENTS

The Challenges to be Faced in Sand & Gravel Processing	page 02
Recycling Washing Water Using Industrial Centrifuges	page 04
The Process	page 06
A Complete Solution from One Source	page 08
Make Your Process Efficient and Environment-Friendly	page 10
Our Solutions at a Glance	page 12





CHALLENGES TO BE FACED IN SAND & GRAVEL PROCESSING

**Quality requirements for concrete additives are increasing.
At the same time, the costs for manufacturers are rising too.**

In order to meet the strict purity of the washing sand, in many cases, production lines have to be equipped with various processes for classification and washing using additional process technology. This is in direct conflict with the world's most valuable resource: water.

Due to the continuously growing demand for water in agriculture and industry, the availability of water is already restricted in many regions. Production lines for gravel and sand processing require a great deal of (fresh) water. The increasing shortage of water is resulting in rising process costs. Moreover, the quantity of groundwater that may be used is frequently regulated by authorities. Moreover, gravel plants may not release the untreated process water into the environment.

This becomes a critical cost factor when producing additives. This means that an intelligent and simple solution for reducing or recycling process water is becoming more and more important, and this is not only happening in regions with water shortages.

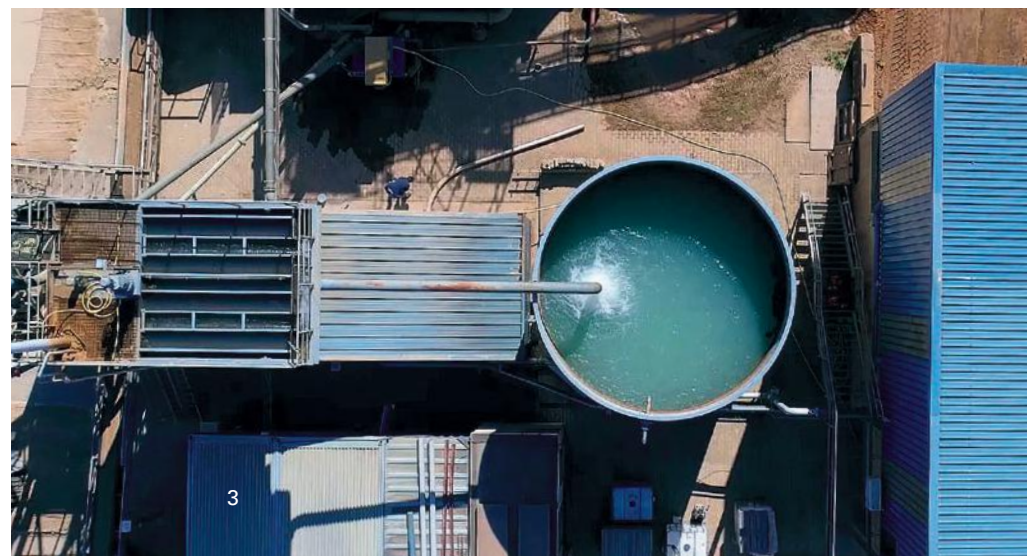




Flottweg Systems

Efficiently dewater sludge generated in wet processing.
The volume of waste solids and therefore the disposal costs can be reduced.

The recycled water can be re-used for sand processing. More than 90 % of the process water can be recovered, depending on the process.



WASH WATER RECYCLING USING INDUSTRIAL CENTRIFUGES

Save Process Water and Reduce Costs – Fully Automatically!

The use of decanter centrifuges is the optimum solution for water recycling. These industrial centrifuges are laid out to meet the specific requirements for sludge dewatering in the gravel and sand industry.

In continuous operation, decanter centrifuges are able to process large quantities of sludge, thus enabling fully automatic operation in parallel to sand processing. The machine separates very fine particles (smaller than 25 μm) and adjusts itself to different quantities and concentrations of solids and liquid.

Since the separated cake is very dry, conveying or loading the material becomes easier. Due to the high clarification efficiency of the decanter centrifuge, the recycled water is clean and nearly solids-free, thus maximizing the productivity of your wet processing system.

Moreover, the compact design of the machine reduces the investment costs for steel construction and infrastructure.





Sustainable Operation by Water Recycling. The Advantages of the Flottweg Systems for Sludge Dewatering in Sand and Gravel Facilities:

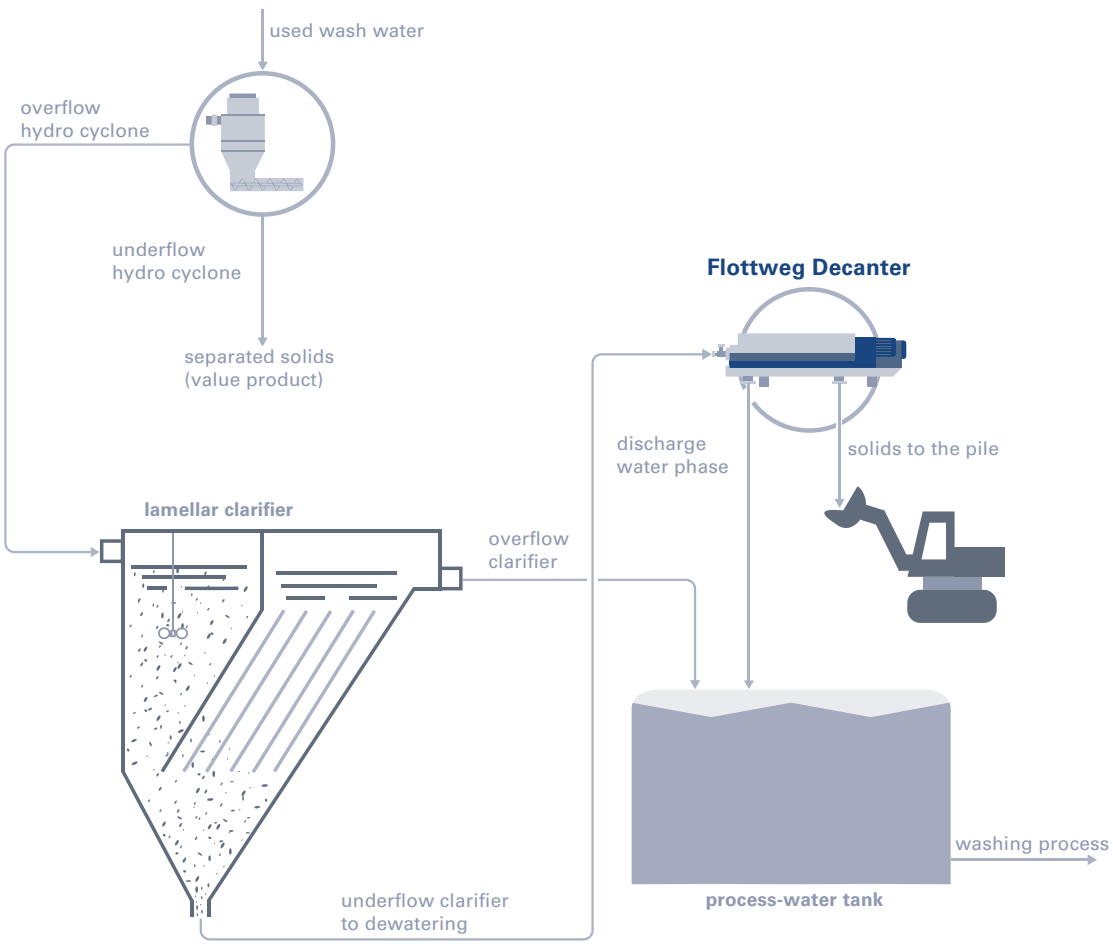
- **Reducing the abstraction of groundwater:** depending on the process, more than 90% of the process water can be recycled
- **No release of untreated process water into the environment:** switch from an open to a closed process-water loop
- **Reducing or eliminating settling pond sand lagoons**
- **Continuous processing of large sludge quantities:** systems for 20 to 400 m³/h
- **Fully automatic operation with minimum labor utilization**
- **Small footprint, low costs for steel construction and infrastructure**
- **Easy integration, as well into existing processes, if required; individual engineering on request**



THE PROCESS

The wash water to be recycled is conveyed into a lamellar clarifier. From there, the settled sludge is pumped directly into the decanter centrifuge. Due to the high capacity of the centrifuge, normally, intermediate storage is unnecessary. The centrate from the decanter flows continuously back into the process-water tank. The dewatered sludge falls into a bunker. From there, it is brought to stockpiling via a wheel loader or a belt conveyor.







SUCCESS IS ... A COMPLETE SOLUTION FROM ONE SOURCE

No matter if you want to expand your existing sand or gravel facility or if you need a turn-key complete solution for water recycling: We would be happy to develop a specific solution together with you that provides your company with the highest benefit.

Starting with feasibility studies in our laboratory, via pilot and performance tests in the field under real conditions until the individual engineering solution. Our specialists will be happy to support you!

Capacities from 20 to 160 m³/h are available as a standard. Using the PLUS upgrade, capacities of up to 400 m³/h are possible.



Separation Unit

- Flottweg decanter centrifuge in mining configuration specifically laid out for processing mineral slurries
- No cleaning cycle during operation
- Continuous and automatic operation (24/7)
- No need for consumer utilities such as filter cloths, etc.
- Special wear protection on rotor and scroll. Highly efficient wear protection made of silicon-carbide elements and bushings for high capacities and a long lifetime of the centrifuge.
- The standard equipment includes the Flottweg Simp Drive®, a drive system resulting in low energy demand and high flexibility under fluctuating load conditions.



Everything from One Source

On request: delivery and implementation of additional equipment (individual engineering)

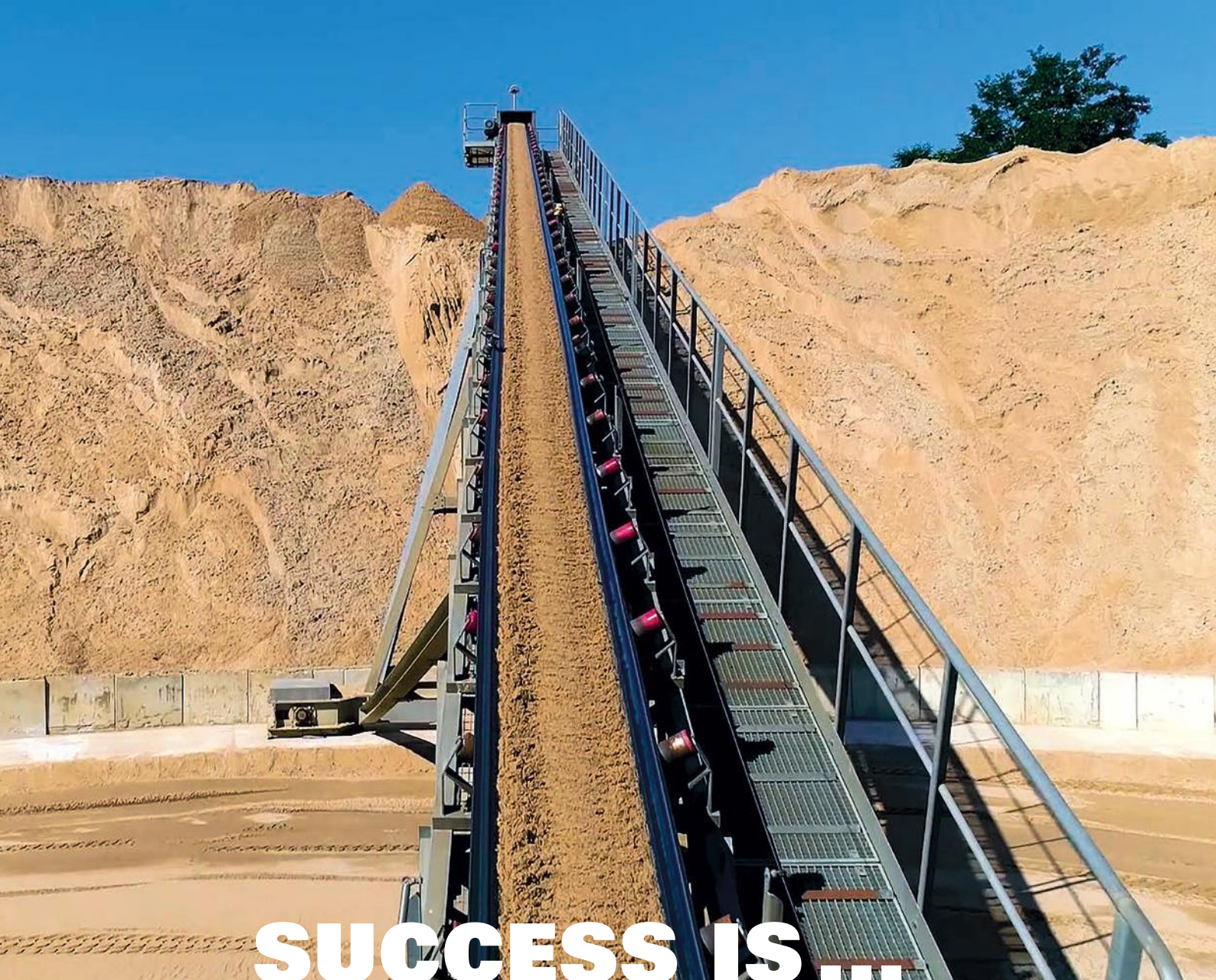
- Tank for water recovery
- Feed tank with stirrer
- Belt conveyor
- Container solution/housings
- Other components
- etc.



Customized to Your Requirements

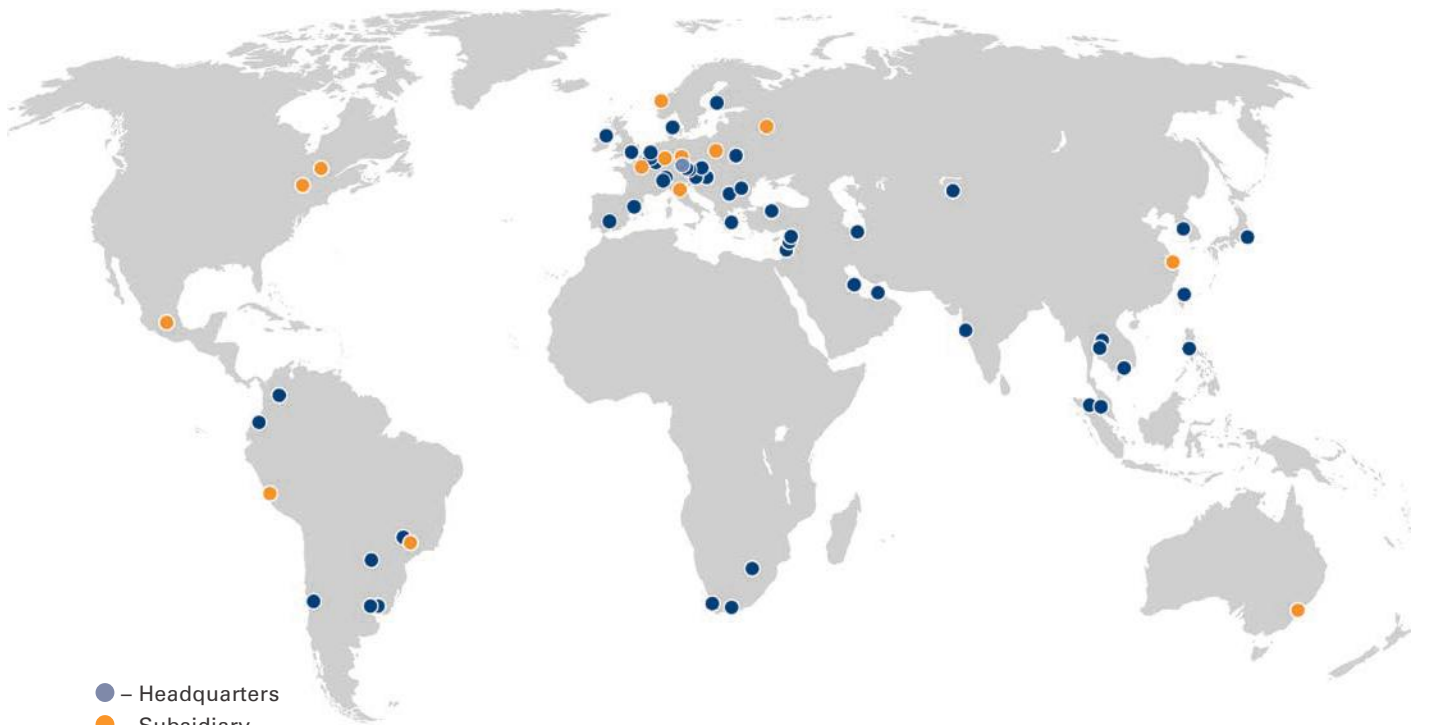
- On request: individual layout depending on your special requirements
- Turn-key systems prepared for “plug and play”
- Optional: engineering and delivery of other components, e.g., steel construction





SUCCESS IS AN EFFICIENT AND ENVIRONMENT- FRIENDLY PROCESS

Beside the machine, the efficiency of the entire process is decisive for achieving the best performance. With the right engineering and suitable solutions, you will get the most out of your process. We take care of the engineering, the layout and the planning of the entire process solution for you. Your advantage: a reliable and efficient process.



- – Headquarters
- – Subsidiary
- – Representative office

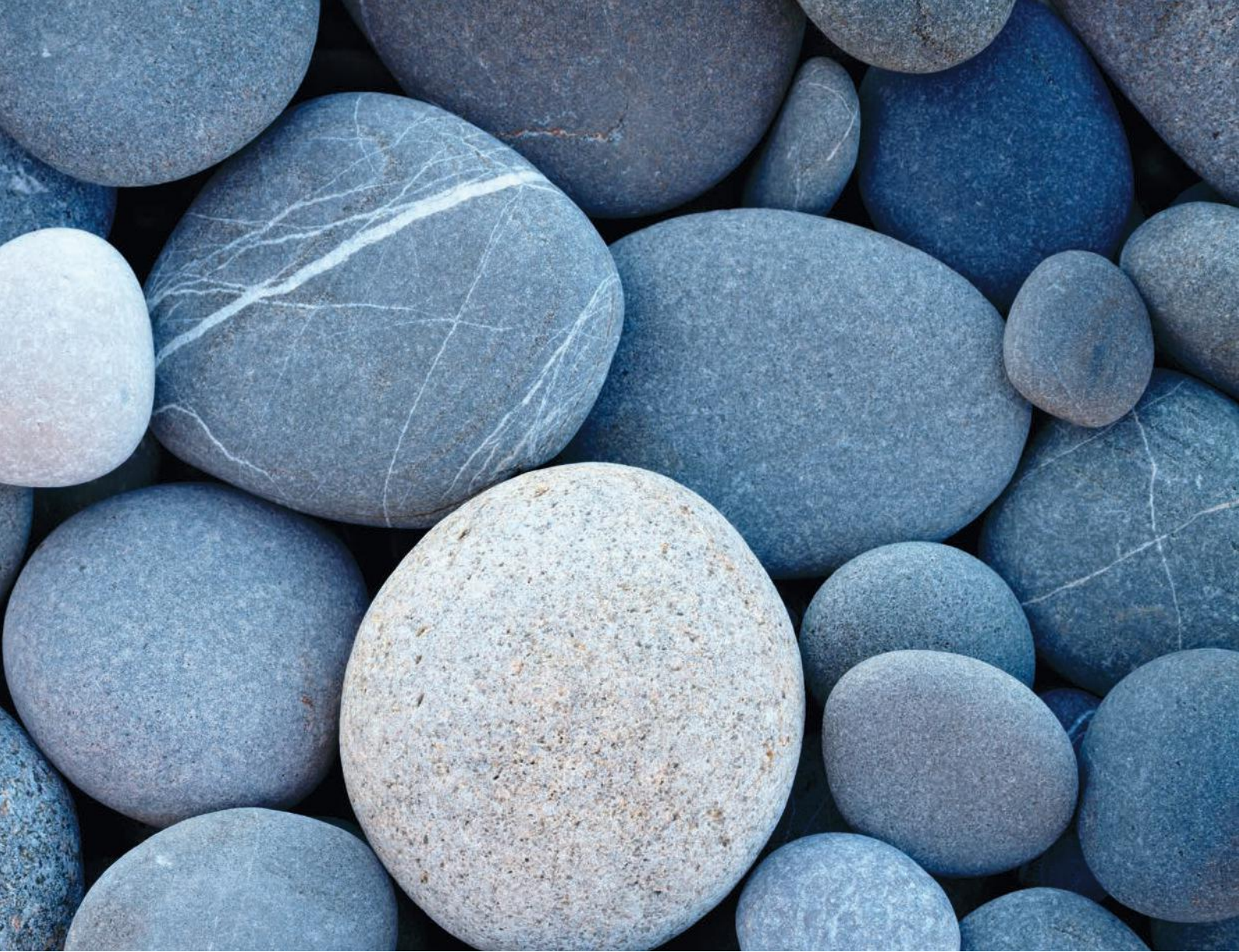
Flottweg is headquartered in Vilsbiburg, Germany, (near Munich) and has branch offices in Cologne and Leipzig as well as subsidiaries in Australia, Brazil, Canada, China, France, Italy, Mexico, Peru, Poland, Russia and the United States plus representatives in nearly all countries worldwide. Check out our website at www.flottweg.com to find your competent contact person.



OUR SOLUTIONS AT A GLANCE

Flottweg Systems for the Recovery and Processing of Sand and Gravel

SCOPE OF SUPPLY	SLIM	ECO	PRO
Centrifuge	Decanter Z6E or Z92 - mining version	Decanter Z6E or Z92 - mining version	Decanter Z6E or Z92 - mining version
Centrifuge Accessories	–	Special tools	<ul style="list-style-type: none"> · Special tools · Fully pre-assembled and wired · On platform
System Accessories & Automation	Control cabinet including activation piloting of the decanter functions	<ul style="list-style-type: none"> · Control cabinet, control of decanter and system components. · System components (not pre-assembled) 	<p>Plug & play:</p> <ul style="list-style-type: none"> · Control cabinet control of the entire system. · All accessories pre-assembled / containerized solution <ul style="list-style-type: none"> · Flocculent unit · System components pre-assembled · Feed pump pre-assembled on skid <ul style="list-style-type: none"> · Flottweg scope of supply fully piped and wired
Documentation*	<ul style="list-style-type: none"> · Machine documentation · Electrical documentation · Declaration of incorporation 	<ul style="list-style-type: none"> · Machine documentation · Electrical documentation · Documentation of system components · Declaration of incorporation 	<ul style="list-style-type: none"> · Machine documentation · Full plant documentation, incl. automation and all system components · EC declaration of conformity
Commissioning	–	Electrical and mechanical commissioning (five days, incl. travelling costs)	Electrical and mechanical commissioning (five days, incl. travelling costs)
PLUS-Upgrade	Not available	<p>Upgrade your system and go to ECOPLUS or PROPLUS</p> <ul style="list-style-type: none"> · An upstream titled clarifier allows for feeds of more than 200 m³/h per machine unit · Boost your capacity: max feed of 300-400 m³/h* (*depending on individual characteristics of the product) <p>Additional equipments (individual engineering)</p> <ul style="list-style-type: none"> · Recovery water tank · Feed tank with agitator <ul style="list-style-type: none"> · Belt conveyor · Steel support · Containerized solutions / housings <ul style="list-style-type: none"> · Subassemblies · etc. 	



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