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HUBER Solutions for Grit Treatment

According to German law, waste must be treated and reused, whenever this is feasible and reasonable. Infrastructure waste, such as road sweepings, slurries from sewer or storm tank flushing, gully waste and grit chamber slurries, contain predominantly sand and grit, but also some debris (e.g. packing and wrapping materials), coarse solids (e.g. stones, wood, glass and metal parts), and organic matter (e.g. soil, leaves, grass, kernels, fruit stones).

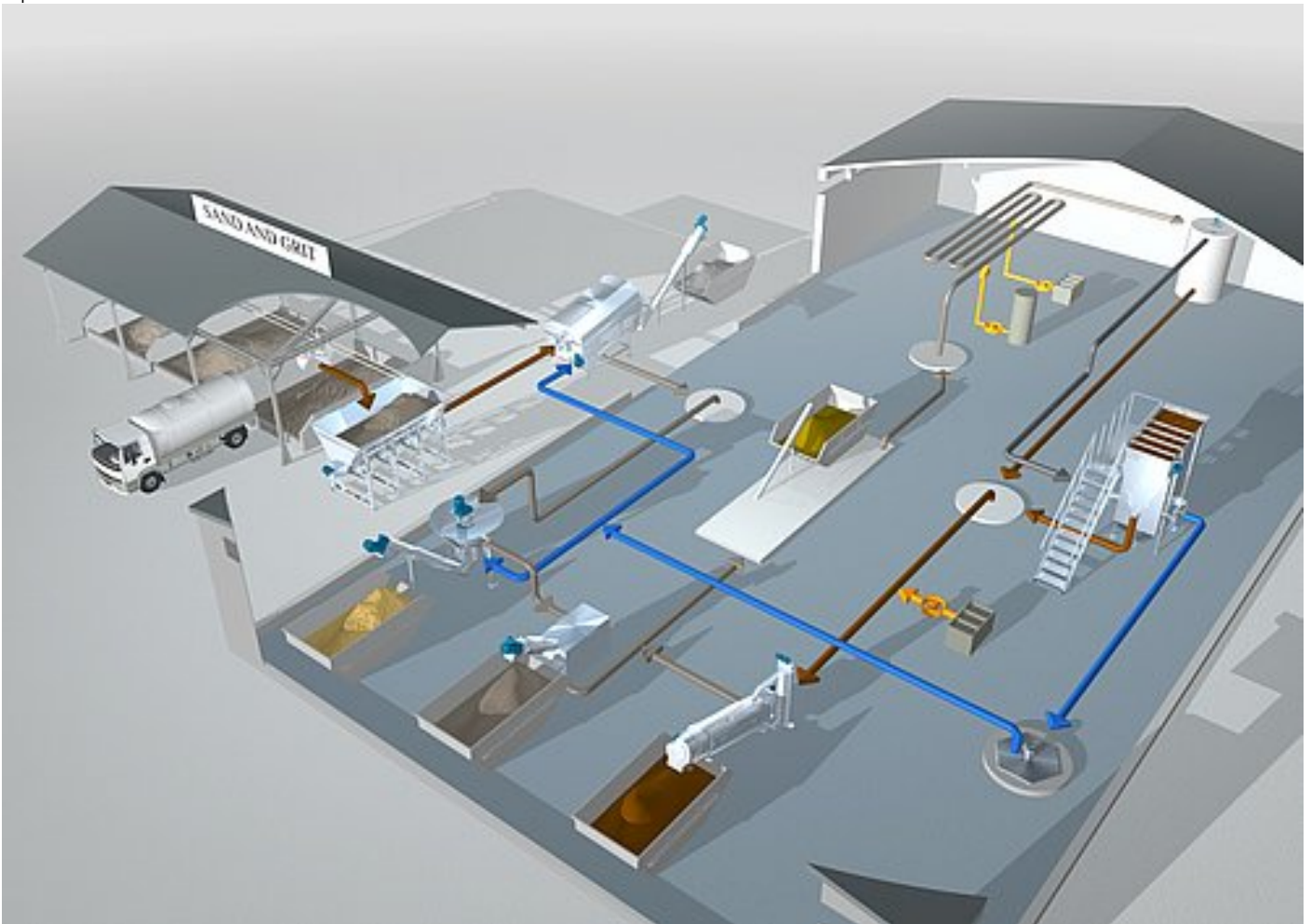
We provide efficient HUBER technology for the treatment of grit containing waste. We remove, wash and compact debris and other coarse solids; they are disposed of or incinerated as municipal solid waste. We produce a washed and dewatered sand and grit fraction that contains very few volatile solids (< 3 %) and water (< 10 %) and is thus reusable as construction material, e.g. for road and pipeline bedding. We also produce an organic fraction that is reusable as soil material, e.g. for landscaping and land reclamation. We also treat and recycle wash water as process water.

Our systems are very economical because they produce valuable and reusable materials and minimize the amount of waste for disposal. Among our customers are not only operators of municipal wastewater treatment plants, but also waste management companies.

Depending on local conditions, our solutions may include the following process steps:

- Waste reception and storage
- Removal of debris
- Screening, washing, dewatering and compaction of coarse solids
- Suspending fine solids
- Separation, washing and dewatering of the mineral fraction
- Screening, dewatering and compaction of the organic fraction
- Treatment and recycling of process water

Systems concept



Click on the image to get a detailed, interactive view with additional information and links.

Process

System Description

A [HUBER Reception Bunker](#) serves for raw waste storage. A conveyor screw is integrated in the bunker and serves for controlled waste feeding.

In our Wash Drum the fed waste is submerged and homogenized. Coarse solids (> 10 mm) are screened out and washed, while fine solids (< 10 mm) are suspended in the wash water and drained through the drum. Washed coarse solids are discharged at the drum's end and dewatered and compressed in our Coarse Solids Compactor.

The drained suspension is pumped to a [HUBER COANDA Grit Washer](#). In its fluidized bed mineral solids are separated due to their high specific weight. The mineral fraction is intensively washed and then dewatered (volatiles $< 3\%$ and water $< 10\%$). Coarse grit can be screened out and recycled as road grit.

Organic solids (> 1 mm) are removed from the remaining suspension with a [HUBER wege wire Rotary Drum Fine Screen](#). They are simultaneously dewatered and compacted ($> 30\%$ DS).

The screened water is re-circulated as wash water to our Wash Drum. Surplus can be treated in a [HUBER Longitudinal Grit Trap](#) for removal of very fine sand (< 0.2 mm) and, after flocculation, in a [HUBER Dissolved Air Flotation Plant \(DAF\)](#) for removal of colloids. The DAF's effluent is recycled as process water to the Grit Washer and Wedge Wire Screen. Removed sludge is dewatered in our [Screw Press](#); solids contents of over 50% DS can be achieved.

If the system is located at a sewage treatment plant, the organic suspension is generally discharged into its headworks and the plant's effluent is reused as process water. Special process water treatment is then not needed.

When we implement our solutions, we also provide other top-quality stainless steel components, such as [Screw Conveyors](#) and [Manhole Covers](#).

Case Studies

- [Targeting the fine sand: Grit Trap GritWolf® passes first endurance test in Texas](#)
- [Professional treatment of sewer grit](#)
- [New HUBER Grit Trap GritWolf® setting new standards: Grit removal below \$100\ \mu\text{m}\$](#)

- [New grease separation and removal system in our Hydro Duct grit traps](#)
- [Northern Ireland AD Facility Heavy Fraction Removal Initial Report](#)
- [More and more sewage treatment plant operators rely on HUBER systems when it comes to the treatment of external materials](#)
- [Reliable grit treatment with the use of HUBER machines](#)
- [First complete treatment plant for sewer grit installed in China](#)
- [Multifunctional Complete Plant installed on STP Ortenburg](#)
- [New plant in Switzerland for innovative sewer grit treatment with process water recycling](#)
- [4 HUBER VORMAX Vortex Grit Chamber screens in Saudi Arabia](#)
- [Grit washing in grit trap: Complete Plant plus grit washing plant](#)
- [1000 COANDA Grit Washing Plant installations](#)

Downloads

 [Brochure: HUBER Grit Treatment Systems](#) [pdf, 1.32 MB]

Products

- [HUBER Grit Treatment System RoSF 5](#)
- [Grit Feeding Arrangement](#)
- [HUBER Wash Drum RoSF9](#)
- [Grit Washing Plants](#)
- [HUBER Rotary Drum Fine Screen / Perforated Plate Screen - ROTAMAT® Ro2 / RPPS / STAR](#)
- [Longitudinal Grit Traps](#)
- [Circular Grit Traps](#)
- [HUBER Screw Press S-PRESS](#)
- [HUBER Screw Conveyor Ro8 / Ro8 T](#)

Photos





Video: HUBER Grit Treatment System RoSF5 at WWTP Frankfurt-Niederrad

<https://www.youtube.com/watch?v=ZVP2aWdm9AE>



Video: HUBER Grit Treatment System RoSF 5 at major WWTP "Emschermündung"

<https://www.youtube.com/watch?v=SpqklL361Sc>



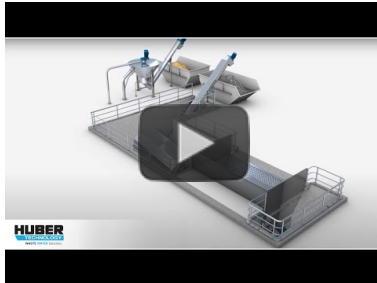
Video: HUBER Grit Treatment System RoSF 5 - grit recycling at WWTP Schwarzenberg

<https://www.youtube.com/watch?v=a2fl9eGOEsk>



Video: HUBER Grit Treatment System RoSF 5 in disposal industry

<https://www.youtube.com/watch?v=nNstEvZA-24>



Animation: HUBER Grit Treatment System RoSF 5

<https://www.youtube.com/watch?v=MGrAG0bs4xQ>



Three Projects, One Goal: Highlighting Stormwater Management in New England

<https://www.youtube.com/watch?v=JeUYOhHtJUY>

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