



SPIRAC®
Solid Handling Solutions

**INNOVATIVE WASTEWATER MATERIAL
HANDLING SOLUTIONS THAT WORK.
RELIABLE. TRUSTED. COST EFFECTIVE.**

- ◆ Shaftless Screw Conveyors
- ◆ Screenings, Grit and Sludge Equipment
- ◆ Headworks Packages

WWW.SPIRAC.COM



SPIRAC IS ALL ABOUT SCREENING, GRIT AND SLUDGE HANDLING SOLUTIONS

With SPIRAC solids handling solutions, you can have total confidence in a global leader.

Municipal screening, grit and sludge handling are our primary focus, but SPIRAC also offers conveying, dewatering and washing equipment for industrial applications.

For over 40 years we have been market leaders in shaftless conveyor systems, grit capture and classification as well as headworks including screening, washing, compaction, containment and transport systems. With offices located around the world, SPIRAC can provide the best solids material handling solutions developed with the benefit of international and local experience. Our diverse product range and experienced team of engineers, offer solutions for the smallest to largest WWTP. We are also major suppliers of sludge silo systems, offering complete design, fabrication and installation services for the efficient, clean and odour free handling of large or small capacity systems.

Most importantly, we support our equipment and take pride in ensuring successful installations.

And don't forget, after sales support is part of SPIRAC's outstanding service.

Your SPIRAC team

SHAFTLESS SCREW CONVEYORS

SPIRAC shaftless screw conveyors are designed for the transport of otherwise difficult to handle materials, such as municipal dewatered sludge, wastewater screenings, grit, industrial sludges or other sticky, viscous, stringy materials.

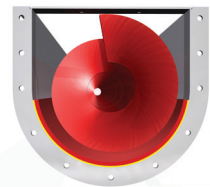
The SPIRAC shaftless design eliminates the need for intermediate and end bearings and allows higher filling rates and lower RPM's. This results in less wear and consequently less maintenance and down time. Although the spirals can be made of many different materials, our primary special steel from Sweden has mechanical properties which allow us to convey great distances in single troughs.

FEATURES AND BENEFITS

- ❶ Low RPM for long life expectancy to wear components = Virtually maintenance free
- ❷ Low power usage = Energy savings
- ❸ Less wear = Less down time
- ❹ Space saving
- ❺ Eliminating intermediate and end bearings allows efficient and direct transfer into another conveyor
- ❻ Handling of large objects, up to trough diameter
- ❼ Totally enclosed troughs: fully sealed lids, gasketed joints for tight odor and mess containment
- ❽ Direct drive: long continuous runs on a single gearbox

LINER DURAFLO® SPX

SPIRAC's proprietary liner, DURAFLO® SPX, is an ultra-high molecular weight polyethylene with special fillers for abrasion resistance and a low coefficient of friction manufactured with a convenient two color wear indicator. DURAFLO® SPX, is designed specifically to ensure long life. The liner has a snap-in, snap-out feature enabling easy replacement.



SPIROLINE®

SPIROLINE® conveyors use U-troughs and are used for horizontal conveying and inclines up to 30 degrees

- ❶ Fully enclosed with bolted or quick release lids and inspection ports
- ❷ Commonly stainless steel, also available in mild steel painted, galvanized or FRP/GRP

SPIROLINE® (HORIZONTAL CONVEYOR PROJECTS)



Long continuous sludge run



Truck unloading system



High capacity sludge unloading system



SPIROLIFT®

SPIROLIFT® uses an octagonal (OK) trough for steep inclines and vertical transport

- Commonly stainless steel, also available in mild steel painted, galvanized or FRP/GRP

SPIROLIFT® PROJECTS



Typical two stage vertical lift sludge conveyors feeding a storage silo

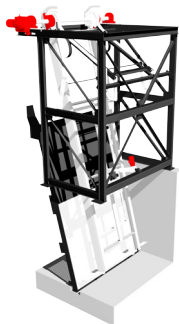


72 degree and 40 degree inclined OK trough sludge conveyors

SCREENINGS SOLUTIONS

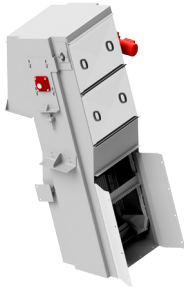
SPIRAC supplies solutions that can consist of a standalone unit, or a complete screening material handling system consisting of screens, conveyors, washers, dewaterers and SPIROTAINERS®.

COARSE SCREENS



RAKEGUARD™

RAKEGUARD™ is a robust front raked bar screen which is well suited to raw sewage applications. The screen can be used for municipal and industrial wastewater, CSO and process water screening where large concentrations of debris are expected. With the RAKEGUARD™ wastewater passes through the grid and captured screenings are removed by a chain operated rake that moves up the face of the grid. RAKEGUARD™ comes with a function that detects large objects and keeps the screen operational. Smallest available bar gaps 10mm.



MULTIGUARD™

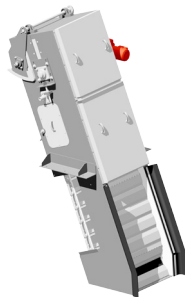
MULTIGUARD™ removes high solids loads of bulky material in wastewater. It is the first cleaning stage in municipal and industrial wastewater treatment plants and protects downstream equipment. The cleaning elements are machined rake plates which are bolted to the carrier beam. The beams are connected to two strands of chains that can easily be adjusted to suit different requirements. MULTIGUARD™ consists of tapered or rectangular bars with bar spacing down to 6mm.

FINE SCREENS



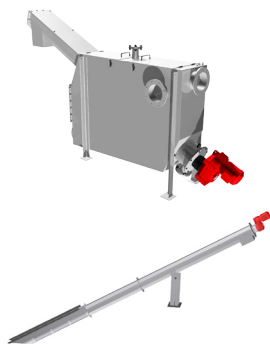
BANDGUARD™

BANDGUARD™ is a high efficiency center flow fine screen used in headworks of wastewater treatment plants. The high efficiency fine screen prevents screenings accumulation and its exceptional capture rate significantly reduces maintenance costs in downstream equipment. The BANDGUARD™ can also be used to protect MBR's. Screening is achieved by passing the sewage through a vertical band shaped screen curtain. It comprises an assembly of UHMW perforated panels (2mm to 6mm diameter holes are available), which are mounted on to stainless steel frame that fastens to stainless steel conveyor chains that form two endless loops. Screen widths of up to 13ft and depths of 60ft can be provided.



FINEGUARD™

FINEGUARD™ is utilized for fine screening and removes floating and submerged debris. It is commonly installed in headworks and prevents damages from components downstream. The FINEGUARD™ screen can be customized to suit a wide range of applications. The screen continually moves panels (available from 3mm to 6mm diameter holes), from the screening zone, in the channel in front of the equipment, to the cleaning mechanism where the waste is removed from the perforated panels. The FINEGUARD™ uses a two-stage panel cleaning process and can be used in channels up to 10ft wide.



SPIROGUARD®

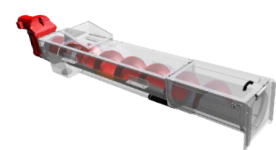
SPIROGUARD® combines screening, conveying, dewatering and removal of solids from effluent and process streams in one compact machine (perforation 2 - 10mm). The unit is robust, easy to install and, with only one moving part, virtually maintenance free. Currently SPIRAC offers the legendary SPIROGUARD® as channel screen (CS) and compact cleaner (CC). SPIROGUARD® Channel Screen (CS) can be installed for a variety of flow rates and upstream and downstream water levels. The angle of inclination depends on the concrete channel specifications.

SCREENINGS WASHING & DEWATERING



SPIROWASH®

The machine continuously washes out organic material while compacting and dewatering the remaining inorganic portion. This unit has been tested at the UKWIR. The SPIROWASH® dewaterer is a robust and simple machine, non-sensitive to varying qualities of screenings. SPIROWASH® represents a range of machines available to handle raw screenings up to 280 ft³/hr.

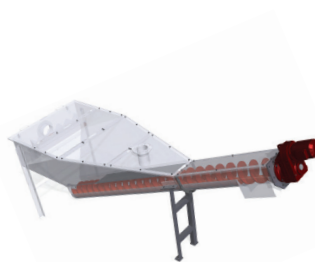


SPIROPRESS®

SPIROPRESS® is a simple yet effective dewaterer that combines conveying, dewatering and volume reduction in one compact unit. SPIROPRESS® is a conveyor with a press zone at one end which makes long conveying and simultaneous dewatering an ideal systems solution. SPIROPRESS® offers high capacity and efficient operation resulting in low power consumption and minimal maintenance costs. It has a capacity up to 1060 ft³/hr dependant on actual site conditions.

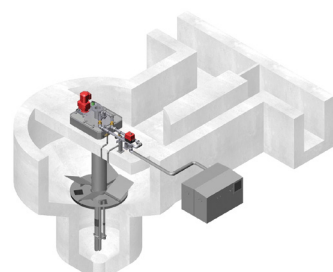
GRIT HANDLING

SPIRAC supplies well proven systems for the removal of grit from wastewater. Systems can be devised using an array of efficient products for separating, washing, conveying and finally storing and transporting in a SPIROTAINER®.



SANDSEP®

SANDSEP® is a highly efficient unit designed to separate grit from process and effluent streams. The design of the inlet section reduces turbulence to a minimum and creates an optimum flow pattern for efficient settling. SANDSEP®'s overflow weir arrangement avoids blockage from floating materials. The solids settle in the bottom of the classifier which contains a spiral. The inclined shaftless conveyor transports the sediment slowly (speeds are kept low to minimize turbulence) to the vertical grit discharge which has a capacity up to 3.2 yd³/hr.



GRIT VORTEX

The Grit Vortex from SPIRAC is designed to separate high density grit particles from lower density organics by means of a rotary vortex impeller. Grit particles travel to the perimeter of the round tank and settle into the bottom sump where they are intermittently extracted by means of an airlift pump or grit pump. Organics and larger objects remain suspended and leave the chamber to be processed downstream. The simplicity, effectiveness and trouble free design of the Grit Vortex will ensure many years of trouble free operation.

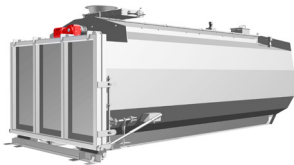


SANDWASH™

This is designed for those applications where any visible organics on the grit is unacceptable. Fed from a vortex, aerated grit chamber, detritor tank, or any other means of grit separation either by airlift or grit pump, the SANDWASH™ grit washer utilizes a multi-stage washing process to remove organics and other larger, lower density objects to be returned to the downstream biological treatment.

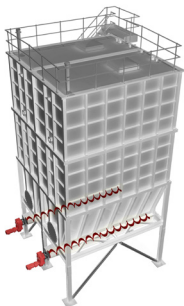
SLUDGE EQUIPMENT

SPIRAC supplies complete and robust sludge handling systems that are cost effective and low maintenance. Conveyors and storage systems combine the unique spiral technology with highly efficient design.



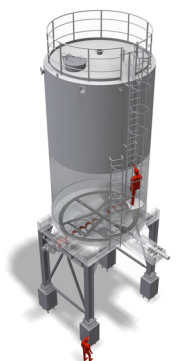
SPIROTAINER®

SPIROTAINER® is an autofilling containment and road transport system designed for the hygienic and automatic handling of screenings, grit and sludge. SPIROTAINER® eliminates the need for a specialized screenings building and extending system capacity is as easy as adding another SPIROTAINER®. A permanent onboard spiral conveyor and control system provides automated filling and level control while a robust door sealing system ensures leak proof transport even with a large liquefied component.



LIVE BOTTOM SILOS

SPIRAC live bottom silos and hopper systems are custom designed for application in the wastewater industry, especially for the storage, transfer and outloading of dewatered sludges. While the silos and hoppers follow standardized design features, sizes and orientations can be customized to suit most customer requirements. Typically silos are top loaded, by shaftless spiral incline or vertical/horizontal conveyors, and outloaded by large diameter/large pitch live-bottom shaftless screws. Hundreds of successful installations are in operation around the world, many in service for several decades.



SLIDING FRAME SILOS

SPIRAC's sliding frame silo systems complement our spiral conveyor live bottom expertise and expand our competence in offering sludge storage solutions for municipal wastewater as well as various industrial applications. A sliding frame is an extremely efficient extraction system that allows non-free flowing materials to be discharged from a flat bottom silo or receival bunker. These bulk materials can easily block the bottom of a silo by forming a bridge of material. The action of the hydraulically driven sliding frame breaks any bridges that may form over the extraction screw and pushes/pulls the material toward the centre of the silo for discharge.



HEADWORKS PACKAGES

COMBIGUARD®

COMBIGUARD® has been developed to meet the requirements of small municipal communities for the headworks in wastewater treatment plants for the removal of screenings and grit.

The COMBIGUARD® unit combines the features of the SPIROGUARD® Compact Cleaner (CC) Screen and SANDSEP® (SA Classifier). Add to these features screenings washing, dewatering and flotation to create a complete inlet works system.



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