

Screw Conveyor

Problem-free economical and safe use of bulk materials



SAXLUND screw conveyors have long been employed in demanding environments for problem-free, economical and secure transport of a wide range of different materials.

Our own design of the screws and other components, give us full control and make it possible to adapt the units to each customer's needs and wishes.



Discharge Screw

The screw-wings are fully welded to the screw shaft and has one bearing at each end. There are different variants available which are usually used as a discharge screw or for general applications up to 10m in length and 1000mm in diameter. The design of the screw, as well as the material for the screw-wing and trough, is selected according to the bulk material.



Ribbon Screws

These are designed for special applications in which the bulk material is very adhesive and tends to blockage or in which the bulk material must be mixed.



Twin Screw

The Twin Screw have two screw shafts in a trough. There are meshing and non-meshing worm shafts here. The combing version is used as a pre-compression screw for our solids pumps. The non-combing variant is available with single-sided or double-sided discharge opening and is used for redundancy or procedural reasons.



Spiral Conveyor

Our spiral screws are made of a special steel. The trough is lined with a plastic wear protection. For horizontal application, lengths up to 20m and vertical applications up to 13m depending on the pumped medium are possible. The shaftless design prevents blockages caused by straps, cables, wires or similar.

Each Saxlund screw conveyor is designed and constructed according to the bulk material, the desired delivery rate and the application.

The standard screw conveyor is the discharge screw as a core tube screw for all kinds of bulk materials. In addition, special screws are available as twin screw, paddle screw or ribbon screw with one or more inlets and outlets for special applications.

The trough is lined with a plastic wear protection. Different steel grades are available for the screw spindle.

The drives are designed according to the flow rate of the screw size and the bulk material.

Customer-specific drive requirements can be considered as well as materials, paints or antifreeze.

Bulk goods with SAXLUND screw conveyors are conveyed:		
Sewage sludge	Ash	Sawdust
Wood chips	Animal meal	Bio-Mass
Coal	Pallets	Paper sludge
Compost	Fertilizer	Screenings
Chemicals	Sand	Household waste
Slaughterhouse waste	Metal shavings	Granules

Saxlund screw conveyors have been proven over years in wastewater treatment plants, coal-fired power plants, sewage sludge drying and incineration plants as well as biomass plants.



Spiral conveyor

One system with many advantages

- The absence of a central shaft in the spiral creates more space
- Large pieces can be transported
- Sticky and threadlike materials do not get caught up
- High filling degree and low rotary speed give high capacity
- Low noise level
- Enclosed, dust-free and hygienic system
- Projecting free spiral keeps the outlet free from string, tape, steel wire etc.
- Long transport runs without interruption are possible
- Direct side-feeding saves space
- Angles of operation up to 90° possible
- The conveyors only bearing is located in the drive unit



Standard size

Type		U-200	U-250	U-320	U-360	U-420	U-500	U-600	U-700
Spiral diameter	D	170	210	280	310	365	420	520	620
Spiral profile	H1xT1	40x15	50x20	60x20	70x20	70x20	80x25	100x25	100x25
Insert profile	H2xT2	25x10	30x10	40x10	40x10	40x10	50x15	50x15	60x15
Trough thickness	T	2	3	3	3	4	4	5	5
Trough height	H	224	270	367	395	457	557	656	752
Trough inner width	A	200	250	320	360	420	500	600	700
Cover width	B	304	354	454	484	546	648	746	856
Cover thickness	TC	2	2	2	2	3	3	3	3
Wear lining thickness	TL	8	8	10	10	12	15	15	15

Discharge and transport screws

The discharge screws are mounted beneath the floor plate of a container (round silo/rectangular hopper). Discharge screws and transport screws feed the material to screws with oppositional gradient to a central outlet. The material is conveyed from the inlet to the discharge head.

It is pushed by the rotating screw within the closed trough.

The fill level of the discharge screw is usually around 95 - 100%.

The fill level of transport screws is lower, usually less than 50%.

The shape and measurements of the trough are tailored to suit the different products to be conveyed.

A rotational speed monitor is fitted to the shaft extension on the opposite side of the drive train. For lumpy solids (e. g. wood chips) a fill level control can be installed on discharge systems with controlled discharge in a drop shaft (e. g. light beam, capacitive sensor). The fill level control switches the discharge system on and off, as required.

A back pressure safety device is also fitted for lumpy solids in the discharge head.

A warning of material blockages is given using a sensor.



Twin Screw

Twin Screws are mounted beneath the floor plate of a container (round silo, rectangular hopper).

The Twin Screw is constructed as a twin-shaft screw. It compresses the material on the way to a piston pump and thus achieves an optimal fill level.

The screw has an inlet and a discharge outlet for each pump module. The material is conveyed from the inlet to the discharge outlet. It is pushed by the rotating screw within the closed trough.

In the event of blockages due to foreign bodies or very dry material, it is possible to inject water via irrigation columns.

The Twin Screw drive, with adjustable rotation speed, works with the help of a drive motor or a hydraulic motor.

On the drive side, the movement of shaft extensions through the trough end plate is sealed by a shaft seal.

The discharge outlets for each pump module are fitted with manually-operated shut-off valves and/or compensator for repair and maintenance purposes.

The "on" switch of the shut-off valve comprises inductive sensors.

Transport of slurry can only proceed when the shut-off valves are completely open.

For optimal filling of the piston pump with material, the Twin Screw is fitted with an pressure gauge to control pre-press pressure.

The Twin Screw can be fitted with an weight gauge to control the fill level.

The weight gauge enables the optimal filling with material of the pre-press screw and an up-stream buffer (e. g. drop shaft).







Address

Saxlund International GmbH
Heidberg 1
29614 Soltau
Germany

Phone

+49 (0)5191 9811-0

Internet

www.saxlund.de

e-mail

info@saxlund.de

Agencies:

Australia
Belgium
China
France
Great Britain
Italy
Japan
New Zealand
Netherlands
Poland
Sweden
Switzerland
Slovak republic
Spain
South Korea
Taiwan
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