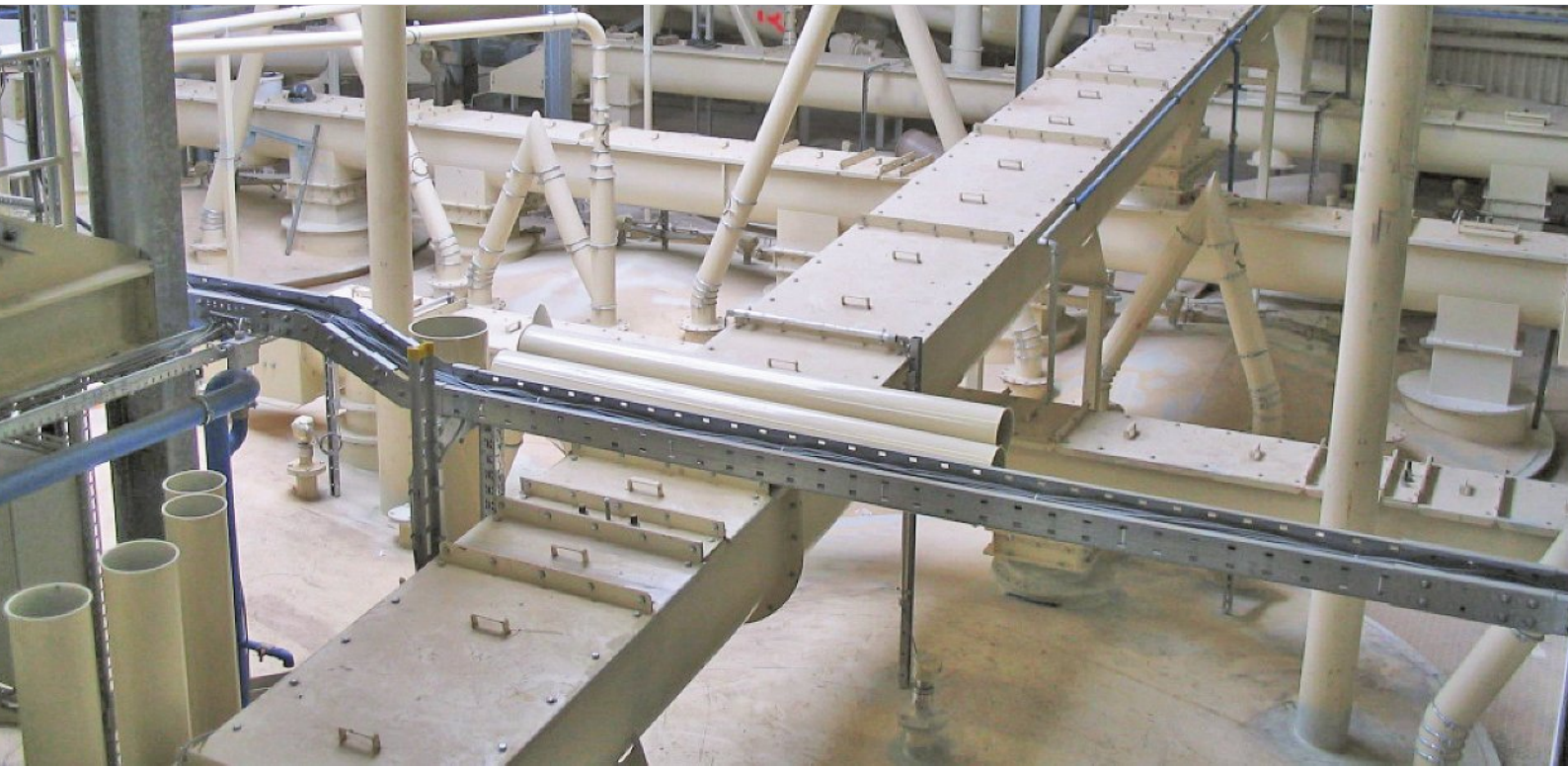


SCREW CONVEYORS PROCESS SCREWS





Building materials being conveyed with trough screw conveyors

SCREW CONVEYORS

Rigid - but still flexible! ... It is under this heading that tried and trusted **WUTRA** screws are supplied for use, even in most difficult conditions.

Being rigid gives a high degree of durability, even in abrasive and corrosive environments as well as extreme temperatures. Flexibility means the great diversity and modular construction of the **WUTRA** conveyors.

- ▲ Robust construction to withstand the heaviest loads over long periods of time
- ▲ Flexible system integration using 3D planning
- ▲ Short delivery periods due to standardised modular constructions, as far as possible
- ▲ Conveyor lengths up to 60 m
- ▲ Conveyor capacity up to 800 m³/h



Tubular screw for the potash industry



Factory-installed double mixing screw



Double shaft mixer with radiant heaters in the cover

INDIVIDUAL SYSTEM SOLUTIONS

For decades, **WUTRA** screw conveyors have been used to transport the widest range of bulk materials under the hardest environmental conditions. **WUTRA** screw conveyors are designed as a modular system with many variants to suit the task in hand, planned, produced and assembled for the purpose.

- ▲ Closed and dust-tight transportation
- ▲ Optimal drive dimensioning
- ▲ Product and application specific seal configuration for any assembly position
- ▲ Rapid cleaning using large and easily accessible inspection openings
- ▲ Certification according Atex - Directive 2014/34/ EU
- ▲ Built for 24 hour operation



Screw conveyor with ribbon flights



Double mixing screw



Screw shaft with toothed flights

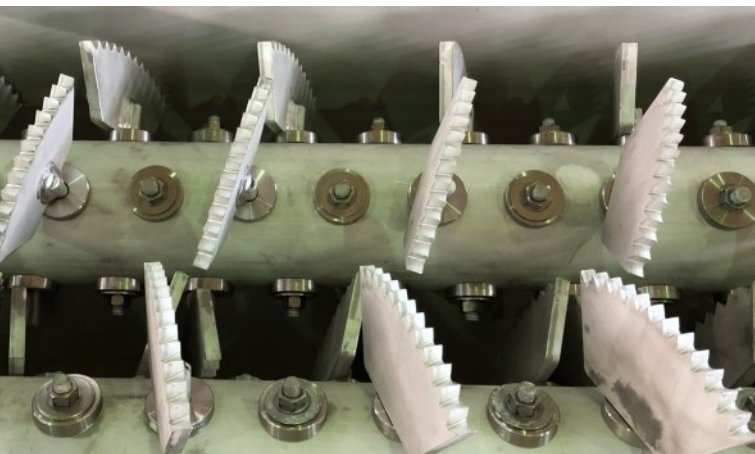


Erection of weighing-, filling- and vertical screw

DOSING, WEIGHING, MIXING

Consistently exact feed and mixing of bulk materials is a pre-condition of the highest product quality. Single and double screws with paddles or shaftless screws are used for continuous or non-continuous mixing operations. Paddle mixing screws create the best mixing performance and the most homogenous result.

- ▲ High dosing accuracy
- ▲ Low pulsation of product flow through dosing star and double-threaded screw flights
- ▲ Quick-cleaning system for frequent product change
- ▲ Double paddle screw mixers for continuous and non-continuous operation
- ▲ High mixing qualities
- ▲ Gentle mixing
- ▲ Defined retention periods



Mixer with toothed, replaceable paddles



Weighing screw in our test stand



Final assembly of tubular screws

FEEDING AND DISCHARGING

Discharge screw conveyors ensure that difficult bulk materials flow continuously from silos and hoppers. The screw shafts are particularly robust to withstand the pressure of the materials. Activating large cross-sections means that bridge formation can effectively be avoided in silos.

Inclined screw conveyors are preferably filled with **WUTRA** stuffing screws to achieve optimum performance. **WUTRA** stuffing screws can also be used in pressurised processes. The compact construction makes it suitable for several applications where there is a lack of space.

- ▲ Mass flows in silos
- ▲ High break moments
- ▲ Defined product discharge
- ▲ Constant volume stream
- ▲ Safer product feed in vertical screw conveyor



Fivefold discharging bottom



Tubular screw conveyor filling mixing vessels



WUTRA Continuous flow mixer

CONVEYING AND OTHER PROCESS STEPS

A screw conveyor may be used for several associated process steps joined together to form one system. There are many possible configurations and variations to ensure that the required process phases can be implemented. The guaranteed process parameters can be set partially using the corresponding preliminary tests.

- ▲ Dosing
- ▲ Mixing
- ▲ Separating and sieving
- ▲ Stuffing
- ▲ Discharging
- ▲ Washing
- ▲ Cooling and heating
 - Tempering of trough, shafts, flights
 - Cooling with water or gas
 - Heating using hot water, hot oil or electricity



Workshop mounting of an electrical trace heating



Shafts of a continuous flow mixer



WUTRA Cooling screw conveyor for light soda ash

PROCESS SCREWS

The combination of transport- and tempering tasks could perfectly solved with **WUTRA** heating- and cooling screws. Depending on the specification the trough, the shaft and the flights were separately or together tempered. Due to a regulation of the conveying speed the residence time will be modified.

- ▲ Separate heating- and cooling circuits for trough, shaft and double walled screw flights
- ▲ Guiding spiral for higher efficiency
- ▲ Feeding of heating- or cooling medium via rotary joint
- ▲ Executed according pressure equipment directive 2014/68/EU



Cooling screw conveyors in operation




Rotary joint at the end bearing



Design:

All components of the **WUTRA** delivery range were calculated and modified by our by out experienced staff. Using special design tools, developed in-house, assures a safe and proper operation for each single **WUTRA** unit.

Certifications:

- ▲ Quality management system ISO 9001:2015
- ▲ Certification according Atex - Directive 2014/34/EU 
- ▲ EAC certificate for customs union
- ▲ Welding certificate EN 1090
- ▲ Pressure equipment directive 2014/68/EU

Service:

WUTRA components can be installed and putted into operation worldwide. Please call our experienced technicians for regular inspections and service.

Research and development:

A permanent development guarantees always a high state of the art level of **WUTRA** products.

The latest scientific knowledge, based on a close cooperation with approved research institutes, will be integrated in engineering and design of our conveying equipment.

WUTRA components:

Screw conveyors
Process screws
Mixer
Bucket elevators
Trough chain conveyors
Slide valves
Way distributors
Rotary valves
Contract manufacturing
Assembly/ Service

Plant construction for:

Soda, Potash industries
Building materials
Raw materials/ Minerals
Chemistry
Recycling
Food
Synthetics
Sugar industry
Power industry



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