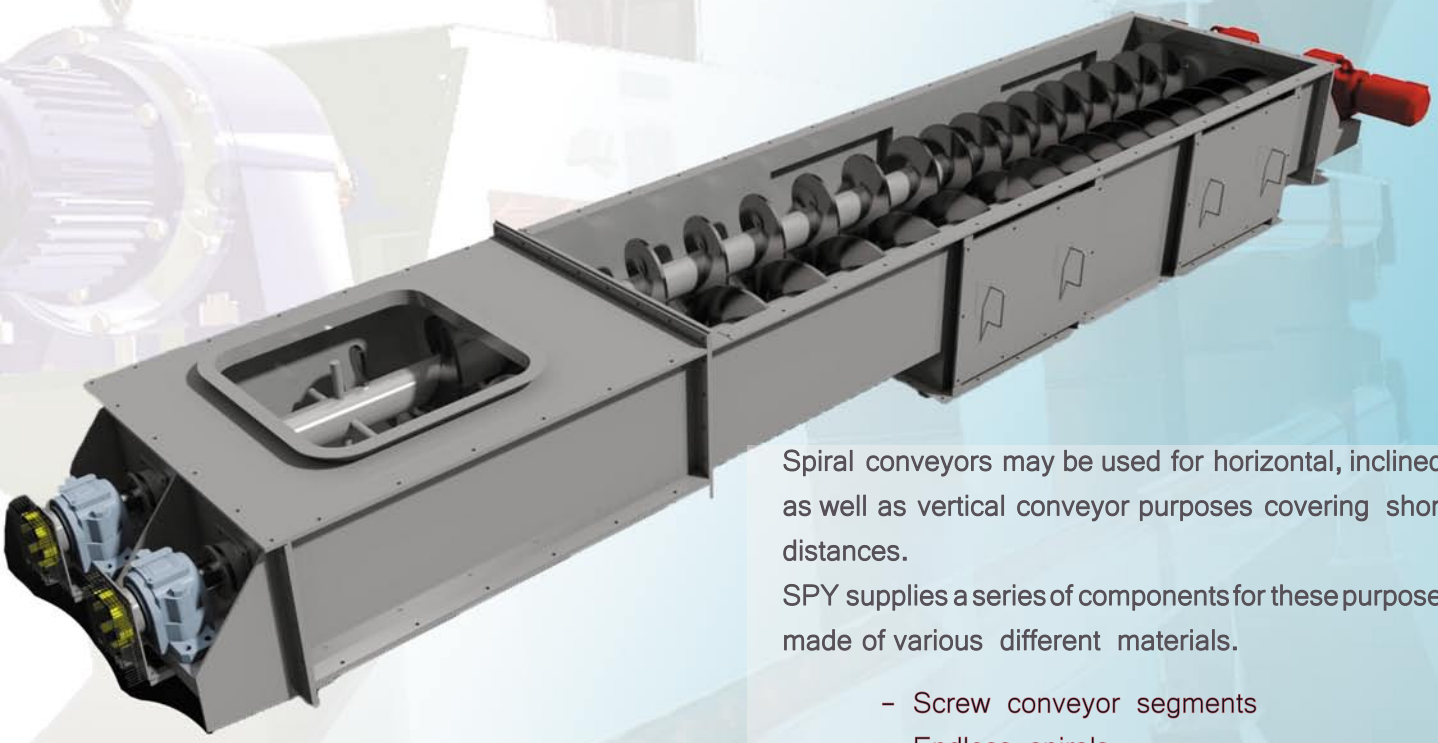
SCREW CONVEYORS



Spiral conveyors may be used for horizontal, inclined as well as vertical conveyor purposes covering short distances.

SPY supplies a series of components for these purposes, made of various different materials.

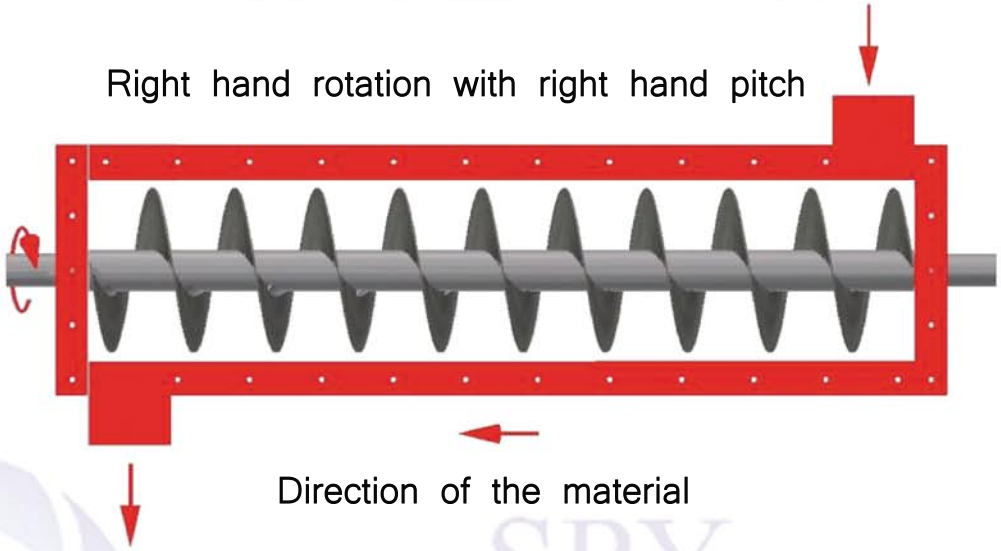
- Screw conveyor segments
- Endless spirals
- Shaftless spirals
- Mix spirals
- Adjustable hanging bearings
- Pallets

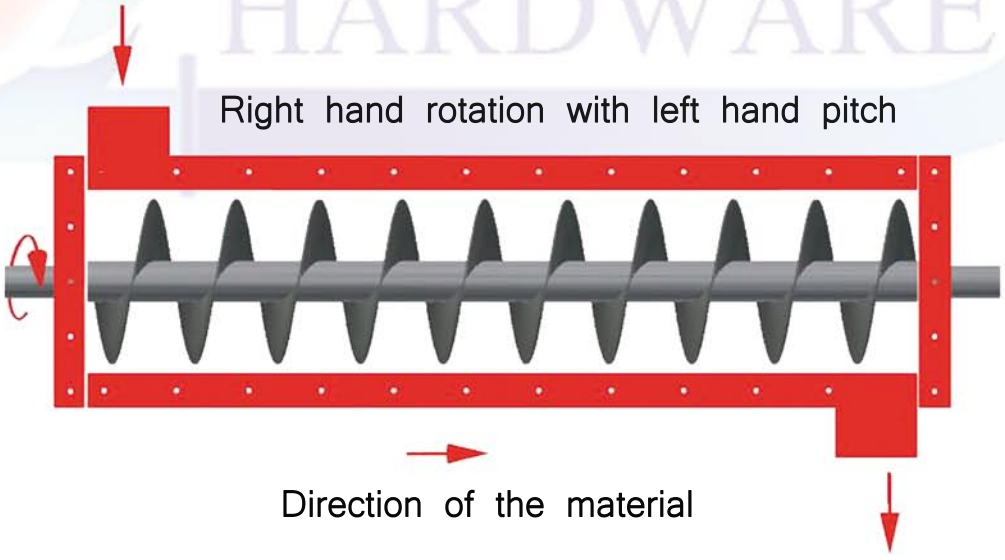
Auger segments

Screw conveyor segments are manufactured to your specifications with a tollerance 15261. They are available with an outer diameter between 30 mmand 3.000 mm; the mais between 2 and 40 mm. Any desired pitch is possible. Below please find an example segment with a right and a left pitch.

Available in various types of steel such as:

- S235JRG2
- HARDOX 400
- Creusabro
- Stainless steel 304
- Carbon steel
- S355JRG3
- HARDOX 500
- Semi Manax
- Stainless steel 316
- Stainless steel 316 L





Screw Conveyors

The screw conveyor is designed using the worm type conveyor principle for handling and extracting or dosing granular and powder products. The product is handled horizontally or sloped in a linear way.

Our wide range of standard worm type conveyors provides capacities up to 300 m^3/H.

For applications not included in this range, our Design Offices are qualified to develop specific screws meeting all requirements.

Features ans options

Types

2 types of screw conveyors :
- Trough
- Tubular

Conical extracting screws

Options

- Bronze or cast bearings, with or without wearing shell
- Sealing by gland with braids
- Spire height adjustment

Spires

The spire usually includes a tube on which a continuous thread is welded.
They may be with pallets or ribbon.
The pitch may be :
- Regular for product conveyance
- Progressive for product extraction

Features

- Continuous pitch, with pallets or ribbon
- Regular, progressive or conical pitch
- Synthetic intermediate bearings
- V ring joints or felt sealing

Calculations for Screw conveyors

Calculations for screw conveyors

Belt speed in m per sec

$$v = \frac{\text{Screw diameter (in meters)} \times 3{,}14 \times \text{Rotations per minute}}{60}$$

v	=	speed in m per sec

Calculations for screw conveyors

Capacity in kg per hour (Q)

$$Q = \frac{3{,}14 \times (D - d)^2}{4} \times s \times n \times sg \times i \times 60$$

Q	=	capacity in kg per hour
D	=	screw outside diameter in dm
d	=	screw inner diameter in dm
s	=	pitch in dm
n	=	rotations per minute
sg	=	specific weight of the material (see table)
i	=	degree of trough filling (eg. 10%: i=0,1)

Calculations for screw conveyors

Power in Kw (P)

$$P = \frac{Q \times L \times K}{3600 \times 102}$$

P	=	power in Kw
Q	=	capacity in 1000 kg per hour
L	=	conveyor screw length (m)
K	=	friction coefficient