



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 m³ per hour (Q)

$$Q = 47,1 \times (D^2 - d^2) \times s \times n \times i$$

Capacity in kg per hour (Q)

$$Q = 47,1 \times (D^2 - d^2) \times s \times n \times i \times sg$$

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. 30%: i=0,3)

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

