Control System BCS 600

For controlled braking …

- with pre-set braking distance
- with pre-set deceleration
- with pre-set braking time

We command braking actions

Belt conveyors in mining industry

Industrial Application

Brakes are used to stop declining conveyor belts in the mining industry. The brakes should prevent the belt from overshooting or rotating in the reverse direction. The load is not known at the time of braking and consequently the necessary braking torque is unknown.

Brake system requirements

The required braking force transferred onto the belt depends on

- the pre-set braking distance,
- the current load condition,
- the current environmental conditions
- and fluctuations in friction coefficient between pad and disc caused by temperature variations during braking.

For controlled braking …

- with pre-set braking distance

Elevator car drive for underground mining

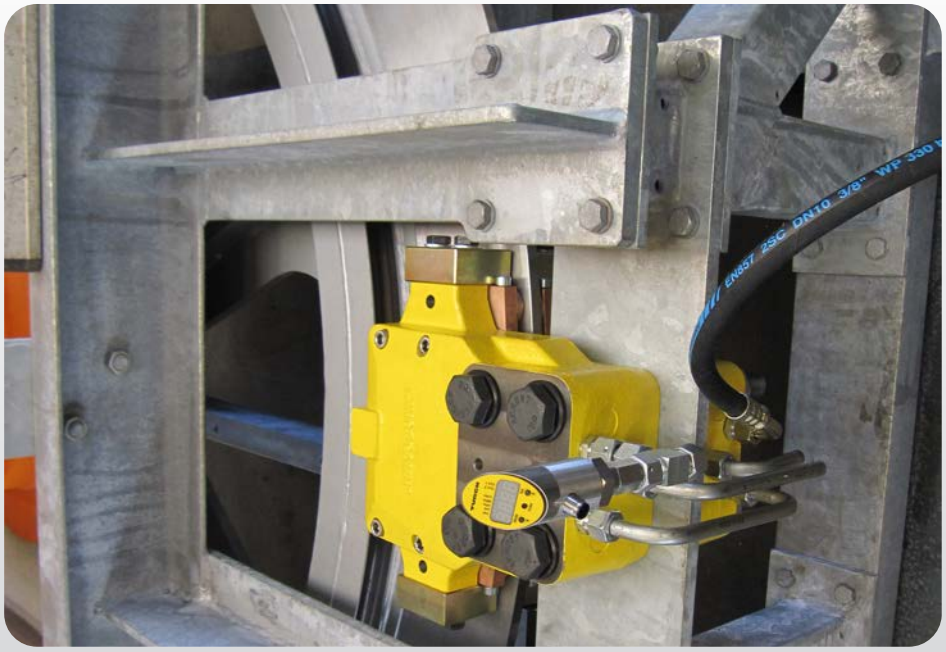
Industrial Application

The deceleration of elevator cars has to comply with certain regulations. Oscillations in longitudinal direction should be avoided. The load at the time of braking is unknown and could lead to peak loads in the ropes as well as rope slipping on the drum.

Brake system requirements

The required braking force transferred onto the ropes depends on:

- the permissible deceleration,
- load variations,
- the current environmental conditions
- and fluctuations by temperature variations during braking.



Source: Josef Wiegand GmbH & Co. KG

For controlled braking …

- with pre-set deceleration

Escalators and moving walkways

For controlled braking …

- with pre-set braking time

Industrial Application

On escalators and moving walkways injuries can occur by stopping to quickly. Regulations prescribe a braking time of 2 - 3 seconds. The number of passengers on the escalator is not known at the time of braking and consequently the necessary braking torque is unknown.

Brake system requirements

The required braking force transferred onto the escalator depends on:

- the pre-set braking time,
- the admissible deceleration for passenger transport,
- load variations,
- the current environmental conditions
- and fluctuations by temperature variations during braking.

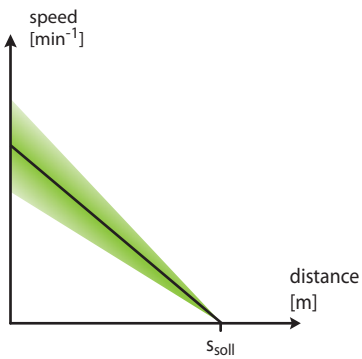
Short description

The Control System BCS 600 is a brake control system for hydraulically released or hydraulically activated brakes, based on adjustable hydraulic pressure.
Herewith, demanding braking actions (preset braking time, deceleration and braking distance) are performed reliably. At the same time the BCS 600 accomplishes important safety and monitoring functions. It consists of a control unit and a hydraulic power pack used in conjunction with brakes from the RINGSPANN product range.

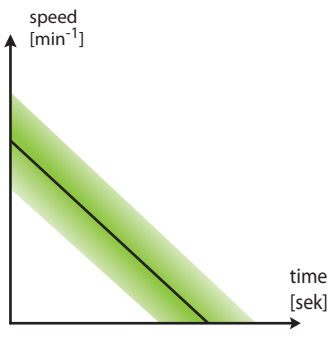
Control braking actions

The standstill of the system will be reached independent of general conditions with, consistent braking either by

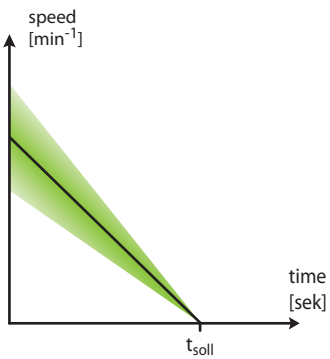
a pre-set braking distance

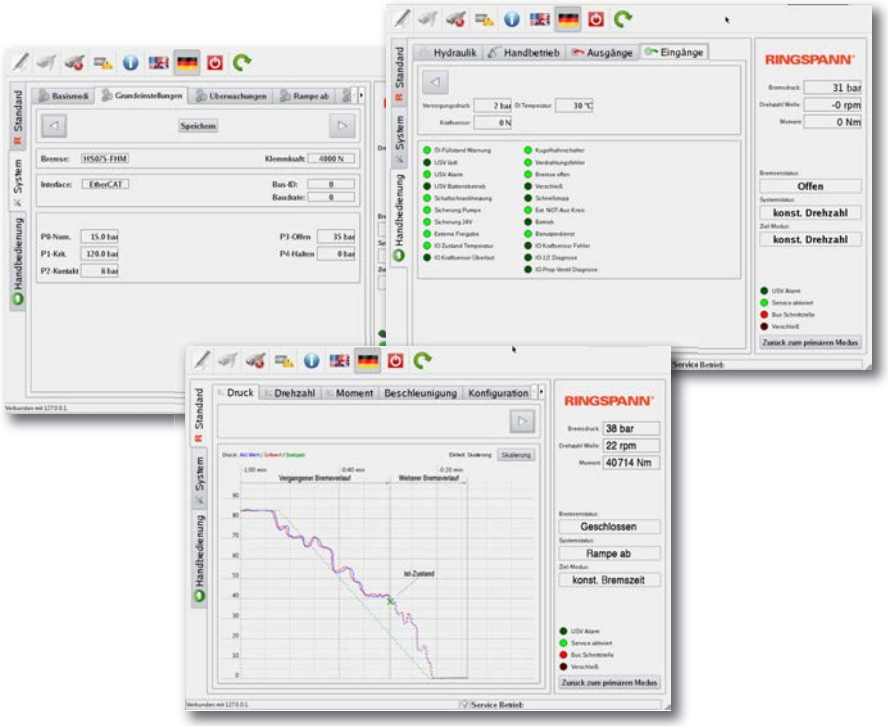


a pre-set deceleration



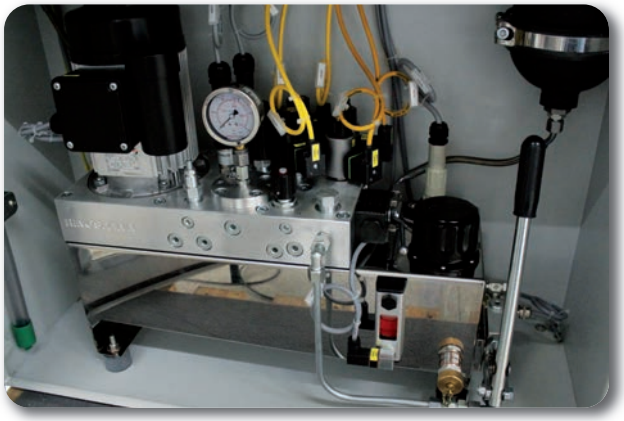
a pre-set braking time





Touchpanel as graphical user interface

Controller IPC



Hydraulic powerpack

Features

- Fast reduction of the gap between disc and brake pad
- Continuous monitoring of rotational speed, hydraulic pressure, oil temperature and rotational direction
- Operation as a stand alone braking system is possible
- Periodically light braking to clean the brake disc
- Graphical visualization of the braking process in real time
- Redundant installation of a second braking system is possible (one supports the other if necessary)
- Retrofit or upgrade of outdated braking systems is possible
- Permanent logging of operating data and system events
- Spring pressure monitoring

Technical specifications

- Large tank volume
- System pressure:
  up to 200 bar
- Supply voltage:
  110 VAC-50/60 Hz, 230 VAC-50/60 Hz,
  400 VAC-50/60 Hz
- Various sensors
- Ambient temperature (standard):
  -20° C … +40° C
- Fieldbus interface:

EtherCAT. PROFIBUS® CANopen

Options

- Hydraulic Accumulator
- Uninterruptible power supply (UPS)
- Remote maintenance via internet or UMTS
- Touch-Panel for data input and brake process visualization, directly on the Brake Control System
- "Cold Climate Version" (-40° C)
- Monitoring of brake pad wear