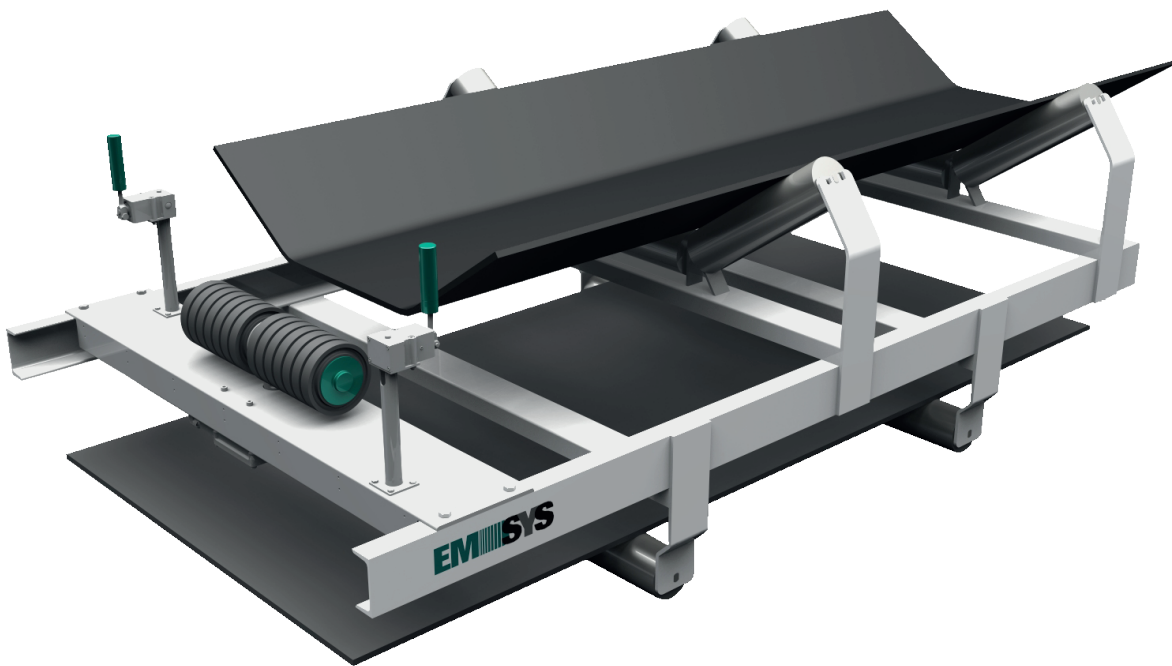


BSG

Belt steering gear



Advantages

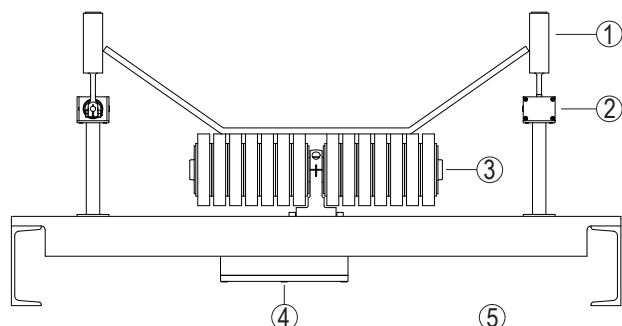
Compact design • low maintenance • can be used under extreme adverse conditions • simple installation
optimizes belt traverse • properties • self powered • cost reductions • multi-communication possibilities

Description

Belt conveyor systems are always prone to belt misalignments for a variety of reasons. Reasons which can be broken down into those which can be influenced (e.g. installation errors) or those which cannot be influenced (e.g. the occurrence of temporary variable disturbances). This is where the intelligent design of the BSG can provide possibilities of counter-acting belt misalignment. In comparison to other control systems, the BSG is a self-sufficient, electro-mechanical system which captures the belt position and moves the actuator into regulating the directional stability of the belt. The system allows the most

minute and most exact belt position manipulation in the shortest of reaction times. The energy required for the whole sensing and actuating elements is generated by the BSG itself and thus reduces the time and effort required for set-up and making the unit available. Thanks to the intelligent design, the unit can be installed at any point in the belt structure and can be used on both the carrying side as well as the return side of the belt. The BSG can be integrated into existing plant communications where a variety of interfaces are available thus providing a considerable module for plant management.

Construction



- ① Touch roll
- ② Rotary switch
- ③ Steering idler
- ④ Engine-gear control unit
- ⑤ Chassis

Function

The belt position is detected via the touch-rolls of the rotary switch. The resulting analogue value is made available to the control electronics of the engine-gear control unit as a control variable. Should the belt leave its parameterized designated position, the integrated servo-drive drives a downstream worm gear and adjusts the steering idler.

The touch-roll is encased with buffer rings. The buffer rings have a long service life, increase friction to the conveyor belt and are shock-absorbent. In order to adjust the belt steering system to a variety of plant conditions, the controlling elements [P und I] are parameterized. This requires the use of the EMSYS parameterizing device.

The steering idler generates and stores the required energy and establishes the belt velocity which is a supplementary control parameter. The stored energy is designated for tests, set-ups and communication, also during stoppages.

The chassis is adjustable in height and serves the accommodation and useful alignment of components and contributes to the overall simple installation of the BSG.

Technical data

Motor- gear control unit

- Dimensions 300 (B) x 230 (D) x 155 (H) mm
- Weight. 19 kg

Load data gears

- Output torque. 1.600 Nm
- Axial load 20 kN

Load data gears with servo-drive

- Starting torque. 1.116 Nm
- Rated torque 105 Nm
- Rated speed 1.4 r.p.m.

Touch-roll

- Dimensions 635 (B) x 180 (ø) mm
- Thickness buffer ring 35 mm
- Weight. 29 kg

Electrical parameters

- Rated voltage idle AC 65 V
- Rated speed. 530 min-1
- Rated output 100 W
- Battery module 28,8 V / 2,7A

Rotary switch

- Dimensions housing 80 x 60 x 150 mm
- Dimensions touch-roll 220 x 40 (ø) mm
- Weight housing 3 kg
- Weight touch-roll. 1 kg
- Range. 130°
- Voltage. 17.5 V DC
- Output signal 5 - 15 Hz

Chassis

- Is always adapted to the site of installation
(Variable design)

Options

- Communication interfaces
USB 2.0, GSM/GPRS, UMTS, W-LAN, Profibus, Modbus

Protection type

- IP 65

Design

- Standard and IEC EX

Temperature range

- -20° bis + 60°