

## ELBANDER VGA 18

Wherever continuous conveyor belts are used, belt guiding by this steering roller system is vital for ensuring production reliability. Varying load, angled rollers, temperature fluctuations, dirt and residues all have a detrimental effect on the conveyor belt action.

### Sensors

The scanning of the belt edge location is carried out by a compact, electromechanical edge sensor. An opto-electronic, infra-red sensor is also available for high production speeds.

### Controller

A special guidance structure of the digital position controller is needed to guarantee precision belt edge guiding with the help of an integral actuating element.

### Networking

The standardised CAN Bus guarantees reliable and fast data transfer and provides for simplified integration into any machine and control system with reduced cabling costs.



### Interface

In addition to the advantages of the guidance being centrally operated, the concept provides for easy connection via a parallel interface (digital inputs and outputs) to memory programmable controls (SPS) and for linking to various Bus systems.

### Actuator

The compact actuator allows integration into almost any existing machine concept. The positioning roller can also be housed separately in a roller for high transport loads.

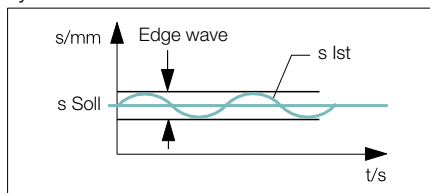
### Function

The basis for changing the belt direction is provided by a steering roller with a centre of rotation on the locating bearing side. Depending upon the extent of the error the steering roller is swivelled out and the position of the belt adjusted. Errors caused by edge waves are not controlled by a reduction in the corrective actuating speed. This extends the service life of the belts considerably.

### Belt - position

#### Area of use

Exclusively in continuous belt conveyor systems.



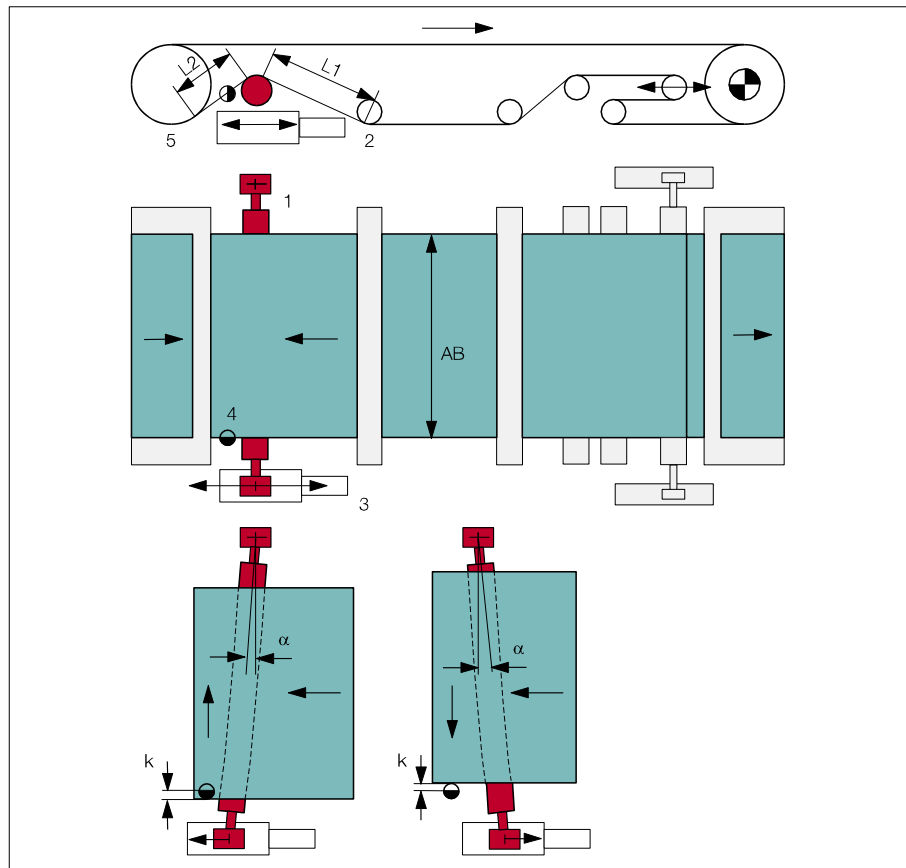
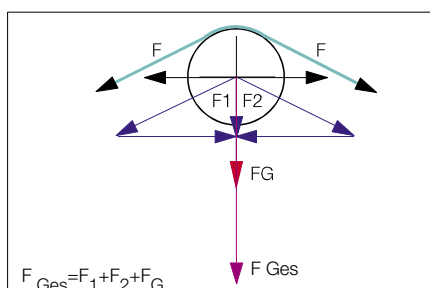
### Application

The steering roller is positioned in the lower tower immediately in front of the head roller. The inlet should be at least one belt width in this respect. By contrast, the outlet must be kept as short as possible.

The arc of contact and the surface quality of the actuating roller must be selected specifically in such a way to ensure sufficient adhesion between belt and steering roller. Recommended range 40 - 60°. Parallel adjustment of the tensioning roller is a prerequisite for precision control.

A version with tracking roller is also available for higher transport loads.

### Calculation of the transport load



- AB Belt width
- K Correction of the belt action
- L1 Inlet length
- L2 Outlet length
- $\alpha$  Corrective angle
- 1 Pivot point
- 2 Feed roller
- 3 Actuating device
- 4 Sensor
- 5 Lock roller/head roller

### Technical data VGA 18

Control precision	$\pm 1$ mm (depending upon belt quality)
Actuating device correction	max. $\pm 56$ mm
Corrective speed	3.5 mm/s adjustable
Transport load actuating device	max. 2500 N
Transport load tracking roller	max. 15000 N
Positioning force	max. 3000 N
Ambient temperature	0 to 60 °C
Operating voltage	24V DC
Nominal value	20 - 30 V DC
Nominal range	115 - 460 V 50/60 Hz
Nominal range with power unit	
Power consumption	3.4 A DC
Incremental transponder resolution	32 pulses per revolution
Protection class	IP 54
Weight	16.5 kg

The right is reserved to make technical modifications