polysius®
rotary kiln axial thrust system

thyssenkrupp

For a uniform contact pattern

The hydraulic rotary kiln axial thrust system is arranged downhill relative to the tyre. It counteracts the downhill force of the inclined rotary kiln. The rotary kiln axial thrust system moves the rotary kiln uphill and downhill in axial direction. The movement prevents the tyres from wearing into the supporting rollers.

Design and function
The hydraulic rotary kiln axial thrust system forces the rotary kiln to move axially by ±15 mm at adjustable time intervals. Depending on the kiln size/tyre geometry and downhill force, either only a short-stroke thruster or a combination of short & long-stroke thruster is used. The short-stroke thruster is used at the kiln roller station at the inlet end and is coupled with a limiting thruster. The long-stroke thruster, which is found at the middle roller station, supports the short-stroke thruster at the inlet end and, before start-up, is set to the calculated longitudinal expansion.

The scope of supply of the hydraulic axial thrust system also includes a hydraulics cabinet. Coupled with this are the proximity sensors mounted on the axial thrust system. The travel path is defined via the proximity switches. These switch the high-pressure pump on and off, or actuate the control valve that opens the return line to the oil tank.

The aforementioned limiting thruster is arranged on the uphill side of the tyre and limits any unintentional kiln movement towards the inlet housing. In normal operation, the limiting thruster has no function. However, if the limiting roller is set into rotary motion by the tyre, the limiting thruster causes the high-pressure pump to switch off immediately.

Proximity sensors

Your service advantages
- Uniform uphill and downhill movement of the kiln
- Uniform contact pattern of supporting rollers & pinions
- Can be retrofitted to any kiln
- Low axial load on the supporting roller bearings
- Limits uncontrolled upward movement of the kiln
- Prevents damage to the inlet housing

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