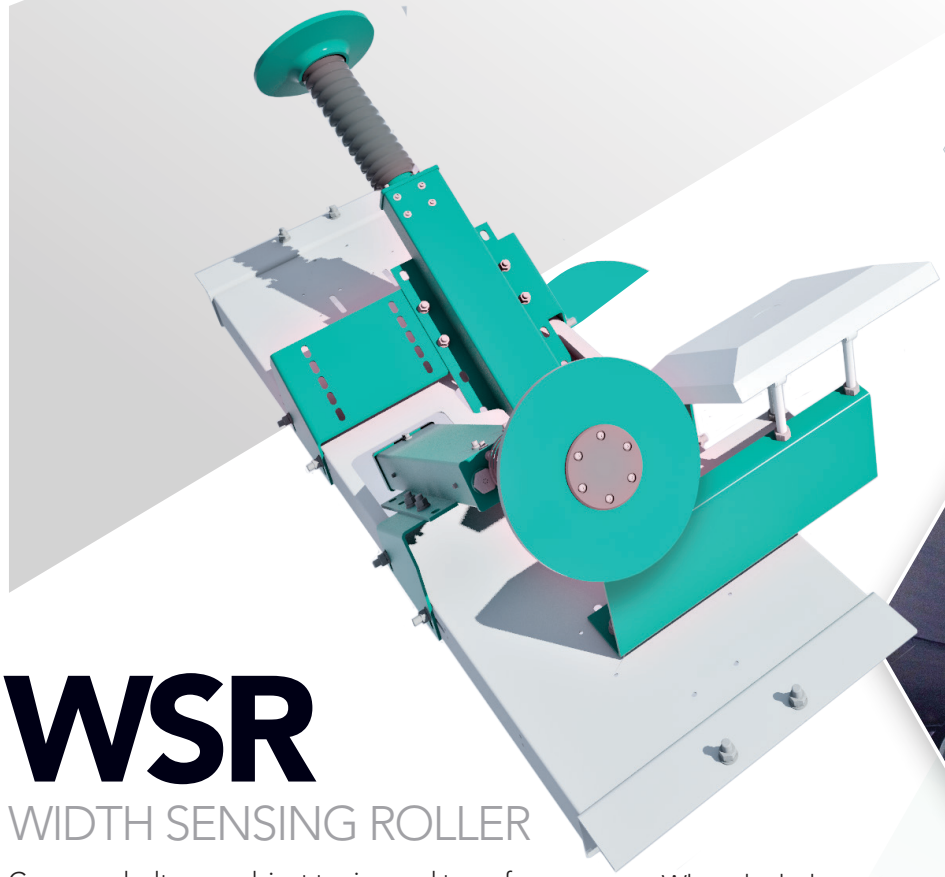
EMSYS



WSR

WIDTH SENSING ROLLER

Conveyor belts are subject to rips and tears from foreign objects at the loading areas, take-ups, drive stations, discharge areas and, also, belt misalignment.

The EMSYS WSR system monitors all fabric and steel cable belts regardless of the manufacturer, width, or length. The EMSYS WSR unit works analyzing the current belt width using as reference the baseline of previously stored data. As the conveyor belt runs in normal operating conditions, the WSR linear sensors continuously monitor any change in the belt width and compare them to the original learned data.

When the belt passes over the linear arms, the system automatically takes measurements to determine if the belt is tracking to one side of the conveyor, if it is spreading or shrinking (sign of a belt rip) or edge damage has occurred to a specific area of the belt.

In comparison to the traditional inductive loop-based systems, whereby loops are installed (vulcanized) into the belt at 100-foot intervals (30 meters) or more, the WSR system is monitoring the belt by the inch to capture and measure changes. This allows for higher accuracy and decreases the amount of belt being damaged during an incident.

FEATURES:

RIP DETECTION: When a conveyor belt rips, it will react by either separating and becoming wider or crossing over on itself shrinking its width. To emphasize this change, we can provide offset idler frames to force the belt to open further if a rip does occur. The system can be programmed to detect minor (inches) or major (feet) width changes before the belt is shut down.

TRACKING: The WSR system monitors positive and negative width changes. If the belt width has remained the same but the linear arms have detected the belt is not in the neutral position, the system can generate an alarm or shut the conveyor down before the belt is mistracked into the side structure or other damaging elements.

EDGE DAMAGE: Edge damage is extremely costly and difficult to repair, but the EMSYS WSR can detect this issue before it becomes a problem. No other rip detection system adds the additional benefit of edge damage detection.

CONTROL UNIT: The control unit of the WSR utilizes a state-of-the-art Allan Bradley PLC and HMI interface to provide the most stable and universal standard in high-risk environments.

COMMUNICATION: Conveyor belt both in the control room and on the HMI display as well as the alarms, trips, and other live data. The system communicates directly by Ethernet with the mine controls or via inbuilt relays.

NA

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