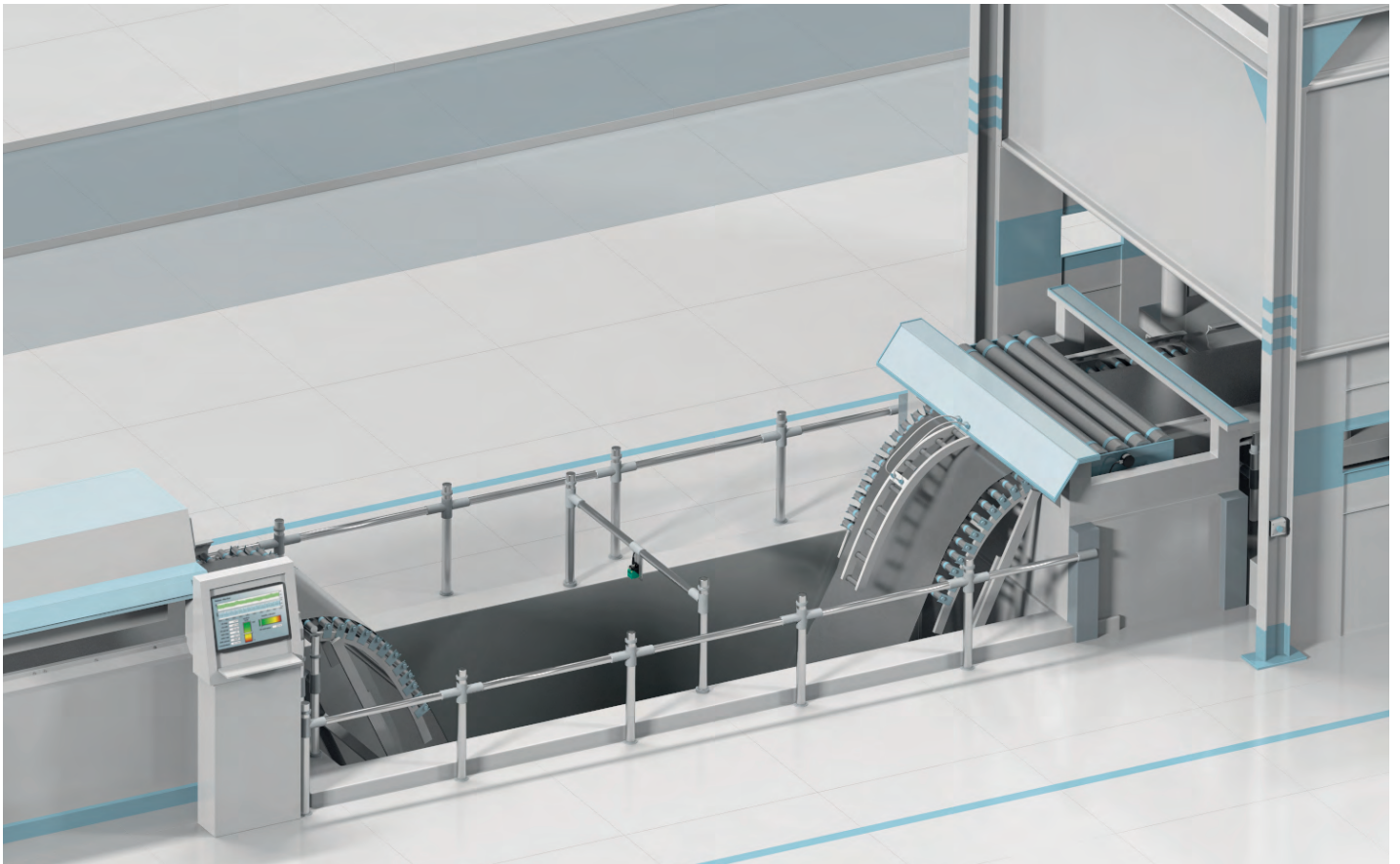


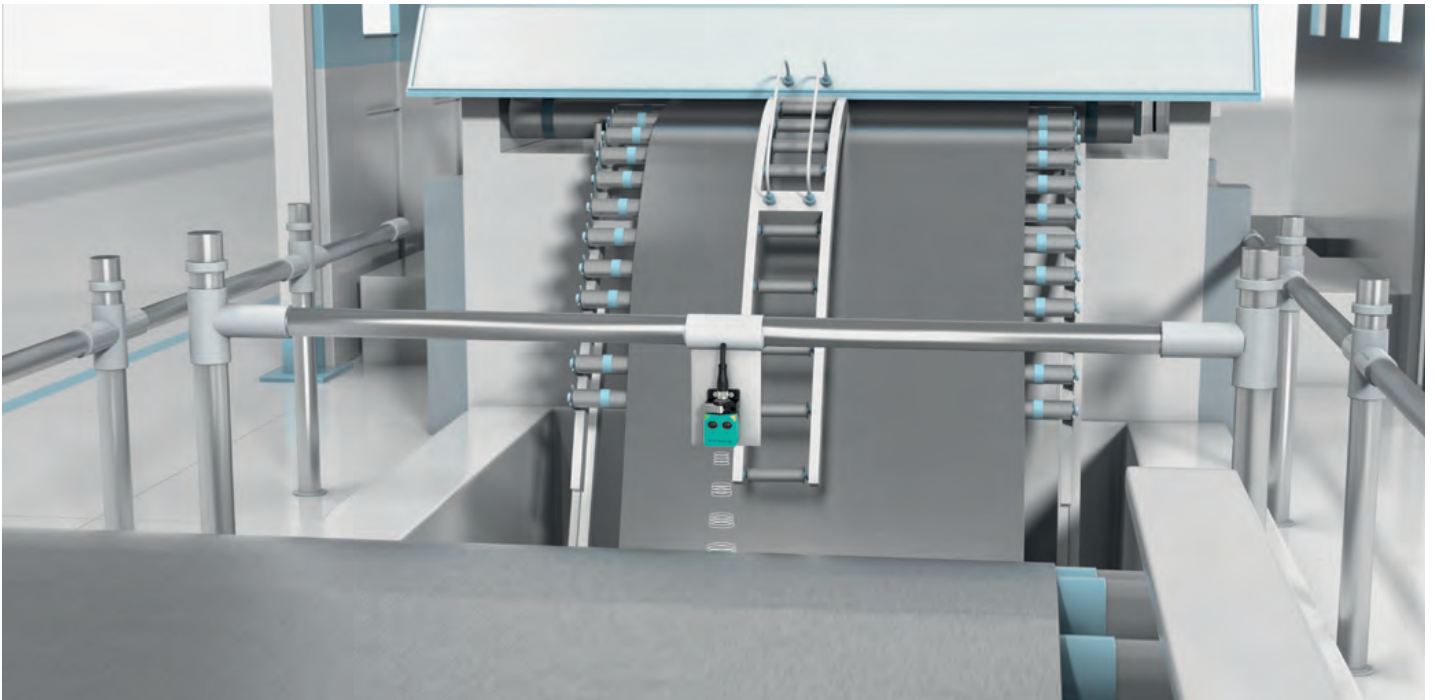
Reliable Web Tension Monitoring

Ultrasonic Sensor Regulates the
Material Feed

The Application

Plastic thermoforming, metal stamping, and paper converting processes all require web tension feedback to achieve an efficient, consistent material flow. By monitoring either the sag level of a free-hanging loop between the supply spool and the production station, or a dancer arm's position, the system controller generates on-the-fly speed adjustments to create a precise, repeatable finished product.





The Goal

There is a need to find a reliable solution for loop tension monitoring. Keeping the proper tension is essential for maintaining a consistent feed speed and material flow. This consistency ensures the same high quality and end results across the board in the most efficient manner – crucial for stamping and metal forming processes. Streamlining in this way saves time and leads to a finished product you can count on every time, whether it be metal perfectly formed into the shape of a bracket or paper cut to a precise edge.

The Solution

An ultrasonic sensor (e.g., series L2) is positioned above the center of the loop. The acoustic pulse emitted by the sensor meets the loop at a perpendicular angle. The device can either continuously monitor the distance to the loop, or signal when defined limits are reached via two switching outputs. You can configure the control parameters quickly and easily using the programming buttons or parameterization software.

The Benefits

There are certain cases where an ultrasonic sensor is better suited for an application than an optic-based sensor. Ultrasonic sensors are ideal when dealing with a dusty environment, clear or different-colored objects, lateral movements of the material loop, and changing target sizes or materials. As well, ultrasonic sensors give you the option of signaling that the loop has reached its high/low limits. Or, analog versions provide continuous sag monitoring with millimeter precision.

At a Glance:

- Reliable material supply control
- Color, surface gloss, or swinging movements of the material loop do not affect performance
- The measuring range is quick and easy to set up
- Easy to mount
- Maintenance-free operation