



# Smooth copper speed control

**Sencon recently installed Area Mass Sensors at a canmaking plant in Europe. The plant had previously been using standard proximity sensors to control the speed of their copper by switching it to one of a number of discreet speed settings.**

So what's the problem with that? "It's just less finely tuned to the real demand for cups from the bodymakers," says Ian, from Sencon

technical support, "so this proximity sensor method can only allow the copper to switch between a small number of discreet speeds. It is often difficult to run at just the right speed, so the copper supplies too many or too few cups, overcompensating for small changes in demand as the back-up goes past individual sensors."

These unnecessary step changes in speed contribute to day in, day out wear, as the copper speed is switched up and down.

"Worse than that," says Ian, "one of the discrete speed settings with that method is going to be 'no speed', so the copper will take short stops, then restart, and the quality of cups after a restart is a little less good

when compared to normal running. Short stops are just not ideal for a cupping press, if possible they are to be avoided."

The inverse also occurs, where slight exaggeration of demand makes over-delivery to the mass conveyor possible, leaving some cups to cycle round on the

mass conveyor for too long, drying their lubricant and increasing the

chances of wrecks in the bodymakers.

"Sometimes, an overfed mass conveyor will become so pressurized that some cups pop out of the mass, sometimes called 'boiling'." This can lead to cups inverting

when they fall back into a gap when the pressure dies down.

The resulting upside down cups entering the bodymaker cause

bodymaker downtime, wrecks or even tooling damage.

"So, as line speeds increase, flow control is becoming more and more important.

Basically, with an AMS installed, the modulated copper speed tracks the actual demand for cups far more closely than was ever possible before.

"With an AMS, the Area Mass Sensor, the speed changes are smooth and don't over-compensate as conditions on the belt change. Instead of a step change when an individual proximity sensor is covered, you get an analog voltage output directly proportional to the actual density of cups across the cup mass belt." So the copper speed will be smoother, and more precise?

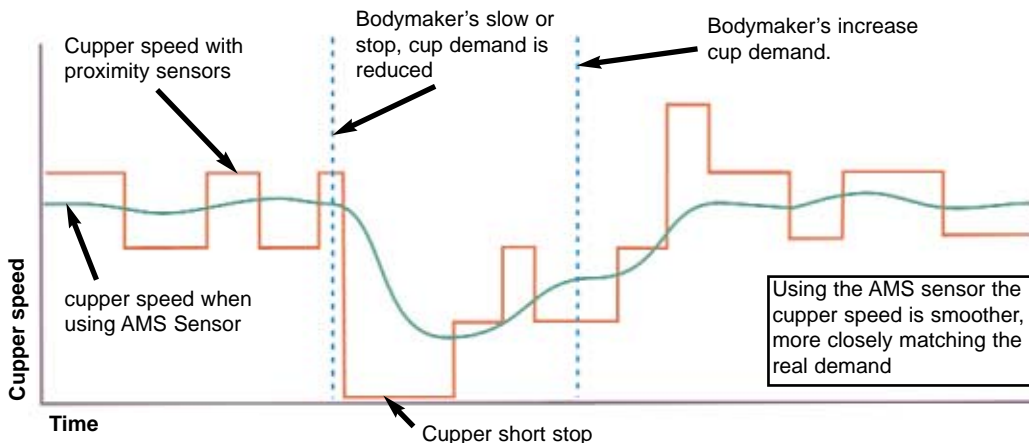
"Absolutely! It makes everything much more stable and consistent, as the plant who installed it the other day has found out.

"You can also use the AMS on the palletizer," continues Ian, "to make sure there are no gaps in your layers. *And* it's designed to go in at the washer in-

feed. On the washer it stops cans falling over by accurately modulating the mat speed, so it maintains your target can density and wash time."

**"that all increases the chances of wrecks in the bodymaker"**

**"with an AMS installed, the modulated copper speed tracks the actual demand for cups far more closely"**



**For more information about the Analog Area Mass Sensor, tick the box on the reply sheet.**