

## Detection of broken filling nozzle inside glass bottles



### Product

Type	IPN 105.38 G S4
Art.-no.	2510A
Application	Non contact detection of metal object
Industry	Food and beverage – Filling or bottling machines

### Detailed description

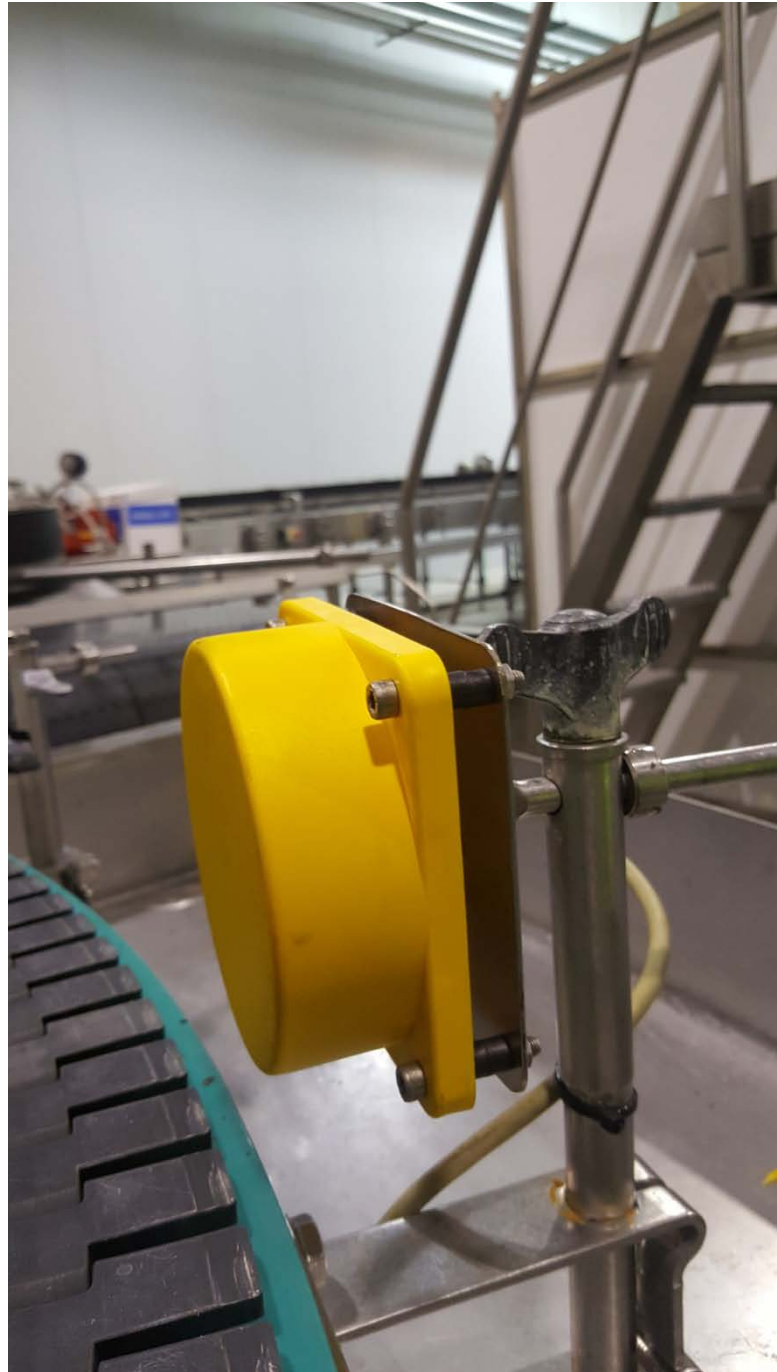
Customer /field / Equipment Manufacturer	Coca Cola Poland / soft drink production / Krones – filling and packaging lines
Application description	Rotating filling machines are used to fill glass bottles with drink which is poured through a thin <b>metal</b> nozzle into the bottle. After filling, bottles are moved on a conveyor to the packaging station.
Customer problem	During the filling process, the filling nozzle can get loose or break and fall into the bottle. This impurity must be definitely detected so that the bottle involved is sorted out and removed from the process. Light barriers cannot work properly as glass and liquid in the bottle interfere with detection. Standard inductive proximity switches are not sensitive enough for reliable detection of this small part. A metal detector is too expensive.
Previous solution / Competitor product	Light barriers or common inductive sensors, as for example from Sick or P+F. Metal detectors for the food industry are also in use, for example from Sesotec, Austus, Mesutronic.
Proxitron solution	An inductive proximity switch of the IP series with <b>extended sensing range</b> . Compared to traditional inductive proximity switches, this sensor is considerably better suited for the detection of small metal parts.
Advantages compared to previous solution or competition	Working on inductive principle, Proxitron IP sensor does not react to the glass body or to the liquid inside. It is not affected by dirt and can be easily cleaned. Investing in a sophisticated metal detector would turn uneconomic as such systems have been developed for the detection of very thin parts. The filling nozzle instead is much larger. A suitable Proxitron sensor costs approx. 1/50 as much as metal detectors.

**Pictures**

**Rotating filling machine**



**In the rotating machine, the filling nozzles - marked red - can fall into the bottle.**



**Proxitron Sensor is mounted on the side of the conveyor and detects the metal nozzle inside the bottle travelling in front of the sensor.**

**Accessories used**

	Type	Art. no.
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**Additional information**

	Document
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