



Eight high-resolution cameras provide an all-around-inspection of the objects

## Preforms inspected all around

Today's production processes in the plastic packaging industry are faster and more elaborate than ever. They are driven by end-users' continually increasing requirements, industry-wide pricing pressures and increasingly strict legal requirements, which demand that a higher proportion of material should be recovered and recycled.

These factors – and the use of recycled material in particular – combine to make preform production more challenging. Black spots, bubbles, contaminates, colour variation and a range of other faults and errors can impair the quality of the end product, and quite visibly.

### Detailed quality inspection

In order to avoid the quality of the packaging product being compromised in such ways, quality inspection – mainly inline, undertaken during the production process – is necessary. Furthermore, inspection should not add to production cycle time, faulty items should be sorted out automatically. Intravis, a leading producer of optical inspection systems for the plastic packaging industry, says that its PreWatcher III meets all these requirements. According to Intravis, the system incorporates "state of the art" inspection technology and has

been optimised for integration into the production line. It undertakes 100% inspection of preforms, during production and according to defined error types, at rates up to 72,000 objects/h. Visitors to NPE 2015 in Florida were able to witness demonstration presentations and see for themselves how the PreWatcher III delivered on its promises.

### The PreWatcher III

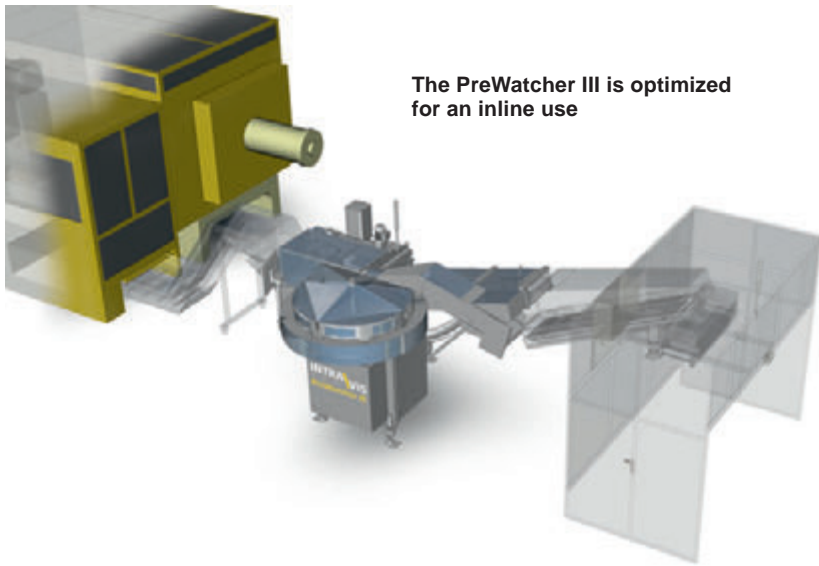
At eight square meters, Pre-Watcher III's has a very small footprint. Intravis says that is made possible by an advanced process that adjusts and inspects the objects. Its newly-developed orientation mechanism uses centrifugal force. After a gentle adjustment, preforms are transported into a presentation device at controlled intervals. The preforms are first transported by the neckring, which enables both the mouth and the base areas to be visible from

above. Then the preforms are sucked with their mouth opening towards the presenting device, so they are entirely visible from the side and can be rotated around their own axes, enabling inspections from all sides.

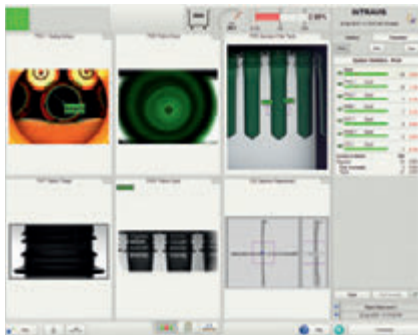
Eight colour cameras provide 360° inspection. Six of them inspect the body and the thread and the other two inspect the mouth area and the injection point. There are no "dead areas" caused by conveyor belts or gripper arms. The system is constructed in order to ensure inspection of every area of the object. Defective preforms are sorted out by air pressure.

### Easy to integrate

The PreWatcher III can be installed in-line behind an injection moulding machine. Off-line inspections can be provided in combination with a bunker, a dumper and an octabin diverter. Its versatility is yet



The PreWatcher III is optimized for an inline use



Various software modules produce precise statistics to maintain an impeccable production process

topped by the number of error types it can detect. The system inspects length, shape and diameter along with common error types including short shots, bubbles, oil spots, burns, deformations and contaminations in the mouth area. Additional inspection criteria such as ovality, flash at the parting line, scratches and sealing surface notches are also incorporated. Ralph Möller, unit leader at Hansa-Heemann, Germany, sees the advantage of these features. "The PreWatcher is making our start up with preforms from recyclate much easier", Möller states about his two inline-systems from Intravis.

### Highlight cavity reading

The proprietary Intravis cavity reading software identifies the preforms by defined cavity numbers, which means that it can trace errors to specific cavities. The colour cameras detect deviations in colour and intensity as well as coloured streaks in the body and the bottom. Their high resolution provides detailed raw data that can help operators to make better decisions, including when exactly an object will be identified as a bad part and be thrown out. The PreWatcher III can work to very fine specifications and thus only throw out bad parts if the deviations are recognisable and the products could not be sold to the end customer, thus minimising waste. The precise inspection enables the wider use of materials such as recyclate, without compromising end product quality. A newly-developed lighting technology, which is adaptable to the key features and characteristics of the object, enables a precise inspection with improved dynamics.

[www.intravis.de](http://www.intravis.de)

### The PreWatcher III at a glance

- Up to 72,000 preforms/hr
- Eight square metres footprint
- Eight high-resolution colour cameras provide more data
- Cavity reading and colour inspection
- 100% inspection