Press Release

Pack Expo Las Vegas: the Marchesini Group presents its *Compact 12* counter with *HarleNIR* vision system offering complete product and active ingredient control

West Caldwell (New Jersey) – The Marchesini Group will be presenting a monobloc unit at **Pack Expo Las Vegas** (September 23-25) that fills and caps bottles for pills, tablets or capsules. The *Compact 12* showcased is one of Marchesini's top-of-the-range solutions in the field of electronic counters and is equipped with special applications to guarantee total product control. One of these is the impressive *HarleNIR* vision system, which exploits a Near Infrared hyperspectral camera to chemically distinguish the pharmaceutical products by analysing their active ingredient. It was presented in April this year during the Open Factory dedicated to Industry 4.0 and Marchesini is the first company in the world to implement this technology to package blisters. Now, the *HarleNIR* system will be previewed onboard a counting machine for the American market.

Technical specifications

Compact 12 is a compact monobloc unit that integrates a variety of operations on just one machine and that guarantees very high levels of efficiency in the crucial counting and capping phases. Depending on the type of production and specific customer requirements, the machine can accommodate operator protection (RABS) or product protection (Laminar Flow) systems.

The machine is set up to handle all the main types of capping systems (screw-on, press-on, crimped) and offers the widest possible array of applications to guarantee total product control.

The various types of control systems can be activated together or partially, depending on the market, on the product to be packaged and on the requirements of the end customer. In particular, the following controls are featured:

Weight control - the tare weight and the gross weight of the bottle are checked to calculate just the net weight of the product inside it;

Shape, size and color control - Marchesini's *Valida* technology entails multivision control of the shape, size and color of the pills. The system consists of:

- 4 cameras to monitor the pills from overhead as they run along the conveyors and check they are the right shape and color;
- 1 camera to monitors the thickness of the pills via laser triangulation, allowing any non-compliant products to be rejected;
- Photocells to ensure non-compliant products are actually rejected.

The *Valida* system allows single rejects of individual defective pills, whatever their shape or size, without having to reject the whole bottle, thus guaranteeing amazing operational standards;

Active ingredient control - In addition to checking the weight, shape, color and size, there is an integrated chemical-imaging system that checks the active ingredient. Developed by Marchesini's partner **SEA Vision**, the *HarleNIR* system analyses the Near Infrared spectrum of the pharmaceutical product on the production line and compares it with that of the reference active ingredient. When the shape and color are compliant, this control system chemically analyses the product to identify:

a) the same product that may have a different dosage;

b) a product with different active ingredient - the so-called mix-ups.

By verifying the "exactness" of the active ingredient, this spectral analytic function provides important indications in the case of mixed-up ingredients, which is one of the main causes for a pharmaceutical to be withdrawn or blocked.

In this case, the *HarleNIR* system points out the error and the channel where it has been found and the machine is stopped. The same technology can be used for different solid oral products such as pills and capsules.

In such times of increasingly stringent standards, regulations and quality control requisites, hyperspectral imaging greatly improves inspection methods and provides pharmaceutical manufacturers with utmost security while offering them a brand new tool for their packaging lines.

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