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# CMZ FOR PHARMACEUTICAL SECTOR

## Motion Control for aseptic processing

### CMZ extends its motion control solutions also to the packaging for pharmaceutical industry ensuring safety, precision, speed.

In the pharmaceutical and cosmetics industry, **safety**, **precision** and **speed** are primary requirements for the designing of a machine. To reach such an important goal, **i-Dositecno** company, based in Mataro (Barcelona, Spain) and specialized in the design, construction and sale of packaging machines dedicated to these industries for the last 15 years, has chosen CMZ skills for the development of its new machines of the innovative XI series, designed to satisfy the needs of aseptic packaging.

For this new project, i-Dositecno has availed of the consulting and technical guidance of CMZ's Spanish integrator, **Intra Automation** (Valencia, Spain), using CMZ technology for the automation part. Intra Automation and CMZ have been collaborating for about 40 years on the development of automation projects, in particular in the packaging field, proposing solutions based on a specific and multi-year experience in the motion control and availing of important collaborations with many customers.

## XI SERIES Filling machine Technical specifications

With regards to the hardware, the intelligence of this machine is represented by **CMZ FCT300 controller**. The choice of this controller has been made while researching **the perfect balance** between power, flexibility, programming versatility and price.

The CODESYS developing environment and the IEC61131 programming standard make this system an **open solution** for a quick communication between the devices in which the software developing times are drastically reduced, allowing the reuse of part of the code for future applications.

The standard library for the electric cams management (ECAM) allows to reduce the development and installation of the machine.

As operator interface, the machine is provided with a 10-inches terminal panel, connected to the controller in Ethernet. The terminal allows to visualize, modify and re-configure the machine, to manage the alarm history, the weights register, the production, etc.

For the machine movements from 8 to 14 **IBD** series **drives** are provided (according to the machine series) always produced by CMZ, connected to the controller through the EtherCAT fieldbus.

EtherCAT represents a standard among the real time fieldbus and allows the interconnection real-time of all the machine devices, including the sophisticated weight control system.

The IBD are servo-drivers with integrated electronics, allowing to save space in the electrical panel and a considerable wiring reduction. The IBDs even have the advantage to be provided of an absolute encoder, allowing not to have the need to execute the homing procedure in case of voltage loss.

The movement of these servomotors is executed in **electronic cam**, in which all the axes follow a virtual master. This allows to reach a high production speed and flexible movements in the format that has to be made. In order to do this, CMZ's electronic cam library is used because of its flexibility, user-friendliness and power.

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# Functional features

The XI series of i-Dositecno is represented by machines which are completely servo-motorized, facilitating a quick format switch and a lower particle generation thanks to the reduction of the mechanical transmission elements. These systems allow to memorize in the recipe each machine axis position, simplifying this way the usability. One of the most important feature of XI series is its **speed**, obtaining productions of 9000 pieces/hour and a dose amount up to 500 ml.

**Precision** is another fundamental feature of these machines, incorporating the IPC (Inline Process Control) with 100% of the weight control, container tare and the net weight. It let the customer have an exhaustive control of the required dosing and a reject of the bags with out-of-range weight. These new machines are also provided with a control software for CFR21 part11 according to the FDA regulations, for the good control and traceability of the dosed products.

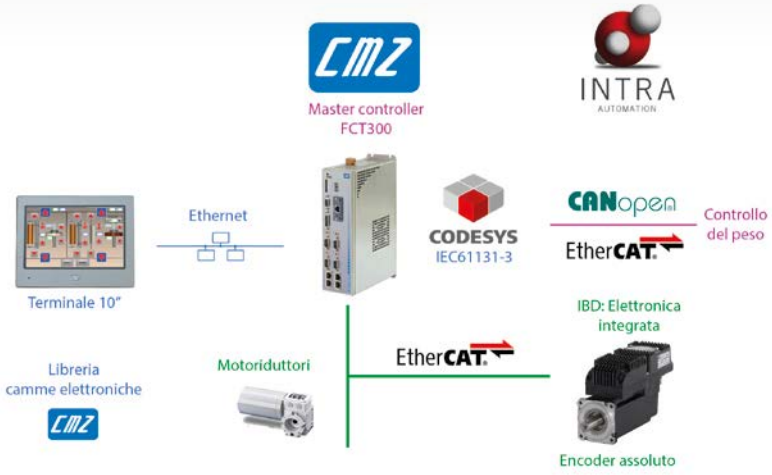
Furthermore, the dosing through ceramic rotating piston with CIP/SIP integrated system avoids the need for removing pistons for the cleaning. As shown in the technical specifications, the machines are developed by using best-performing and durable materials. They are made in all parts with stainless steel and high-quality plastic materials, like the PEEK, which allows to work with phials that maintain the sterilization process temperature, reducing the fiction and increasing the machine performances.

# Why synergies between mechanics and electronics are important

The excellent results obtained in the engineering of a project like the XI series are a clear example of the importance of synergies between mechanics and electronics.

This has been possible **thanks to the know-how of CMZ and INTRA AUTOMATION**, added to the technical capabilities and innovative spirit of a factory as i-Dositecno and the determined promotion of the open platform.

# Filling machine XI SERIES





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