

Flexibility meets quality, safety and precision



One of the greatest challenges for manufacturers of high quality medical products is the precise filling of complex and cost-intensive substances under strongly regulated conditions within a reasonable time-frame.

A typical example of these requirements is provided by a renowned Swiss company specialized on the development and production of biomaterials for the regeneration of bones, cartilage and tissue. With its high requirements towards safety standards and quality control the company is dependent on partners offering professional and individual solutions for their production requirements.

The customer requirements are complex:

An automatic filling and closing machine for a high-quality product from processed bone granules, that should be filled into vials with a speed of 10 pieces per minute.

During this process neither the rubber stopper, nor the plastic caps and the vials must be mechanically stressed or damaged.

The customer has individual requirements concerning the monitoring concept and needs special additional modules on his platform.

The format change must not take longer than 20 minutes. The production is to be carried out in an ISO class 7 clean room of 15 m² under an ISO class 5 Laminar Air Flow.

The machine surface must be easily accessible, easy to clean and antistatic and must have a very low roughness. For all parts in direct product contact special requirements apply concerning material quality and resistance.

The machine must be so easy to maintain that it can be kept in a safe and efficient condition with one maintenance interval per year.

In this context the Zellwag Pharmtech AG offers an all purpose, highly flexible basic platform that the customer can individually equip with components according to his needs: The multifunctional and versatile automatic Filling and Closing Machine Z-201 S-1. It features a compact design with a flexible set of functional modules. In collaboration with the Zellwag Pharmtech AG the customer assembled a tailor made machine:

The main features are:

- in-process-control, as filling level and presence control, a freely selectable sampling and the automatic exit of non-conform products
- continuous adaptation of the transport system to the product diameters via setting knobs with digital counters
- refilling of granules, stoppers and caps during the process run
- pressure-reduced movements, plastic guides and rubber inlays within the prisms for a gentle product processing
- clear, intuitive to use HMI

This results in the following customer benefits:

- reduced amount of format parts: the prisms of the transport band can be used for all vial sizes, the change of the few format parts in the inlet and outlet area is done within a few minutes via star handles without additional tools
- easy integration of downstream systems according to the customer's needs, as e.g. precision scale for dosing the granules, inkjet printer to print out the process order number, vision system to check the cap position, color and imprint

The machine Z-201 S-1 is not restricted to the pharmaceutical industry. It is also available in a Consumer Healthcare edition and has been manufactured and commissioned in this edition several times already.