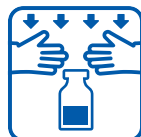


Durable automated systems Lyophilization (Un)Loading Equipment Solutions



Freeze dryer processes for pharmaceutical products require robust equipment and quality designs. Dec offers automated solutions for loading and unloading lyophilization systems. With our modular design approach and in-depth knowledge on this type of systems, we offer fixed or flexible loading solutions for any lyophilizer.

The equipment ranges from manual systems through semi-automatic systems to fully automatic solutions. The (un)loading systems are designed for efficient vial transport from the liquid filling equipment to the lyophilizer and from the lyophilizer to the capper. Our equipment is designed to minimize contamination risks and developed to withstand all conditions associated with lyophilization, including vacuum, low and high temperatures.



Durable automated systems Lyophilisation (Un)Loading Equipment Solutions



Fixed (un)loading lyophilization solutions

The fixed (un)loading range comprises modular equipment designed for aseptic use. Our fixed (un)loading lyophilization solutions are designed for seamless integration into new or existing production lines. Vials are loaded hexagonally, pushed to a shelf, and unloaded, forming a single line. Our fixed (un)loading lyophilization solutions are tailor-made in order to cater to your specific needs: options include an added RABS functionality and isolator integration.



Flexible (un)loading lyophilization solutions

The flexible (un)loading range comprises modular equipment designed for aseptic use. Our flexible (un)loading lyophilization solutions are designed to deliver vials automatically to the correct station in your production line. Vials are loaded hexagonally into the system, then transported by means of AGV, pushed onto a shelf, then unloaded in a single line to one container row.



Containment

In line with ISO 14644, the counting of particles of size $< 5 \mu\text{m}$ is not required for the classification of the aseptic areas. But this same counting is obligatory during the environmental monitoring of non-viable particles. Dec's containment solutions are GMP compliant, dependable and accurately designed and configured for a seamless integration into your production lines. They are designed to accommodate various cleanroom settings, ergonomic handling including up- and downstream production processes.



Handling

A pharmaceutical production process should run smoothly and with as little human interventions as possible. This is where we come in: Dec develops intelligent pharma packaging solutions for seamless integration into new and existing pharma packaging lines to optimize the downstream of products. The handling range designed for full product & operator protection complements the product range to deliver comprehensive, integrated project solutions.