

DEPYROGENATION TUNNELS

Thanks to the special design of the tunnels and the careful construction, Tekkital depyrogenation tunnels ensure that they maintain their insulation from the surrounding environment over time, which is the most critical aspect.

- The depyrogenation tunnels, positioned before filling are an automated inline devices that use a controlled cycle of hot air to remove pyrogens (endotoxins) from pharmaceutical containers like vials and ampoules, ensuring they are safe for sterile injectable drug production.
- The process involves a three-chamber system for gradual heating, high-temperature sterilization, and gentle cooling, all while maintaining an ISO 5 cleanroom environment. Containers are moved through the tunnel by a conveyor belt, with high-efficiency filters and precise air control ensuring uniform temperature and maintaining regulatory compliance (cGMP).

On the right, the Tekkital tunnels: above for vials, below for ampoules.



INSPECTION SYSTEMS

Tekkital inspection machines are designed to meet the demands of a wide and diversified range of pharmaceutical industry needs. Our machines ensure that the product perfectly complies with the required standards.

- Customized design for the inspection of liquid, freeze-dried or powdered products in vials, ampoules and pre-filled syringes. All surfaces inside the machine are easily cleanable.
- The machine can be installed as a standalone unit with manual feeding or connected directly to the upstream equipment.
- The rotation speed and duration can be easily adjusted to achieve optimal inspection results.
- The machines can work in combination with leak test units.



PHARMACEUTICAL TECHNOLOGIES FOR LIQUID DRUGS PRODUCTION

WASHING, DEPYROGENATION, INSPECTION AND FILLING SYSTEMS FOR VIALS, AMPOULES & PRE-FILLED SYRINGES



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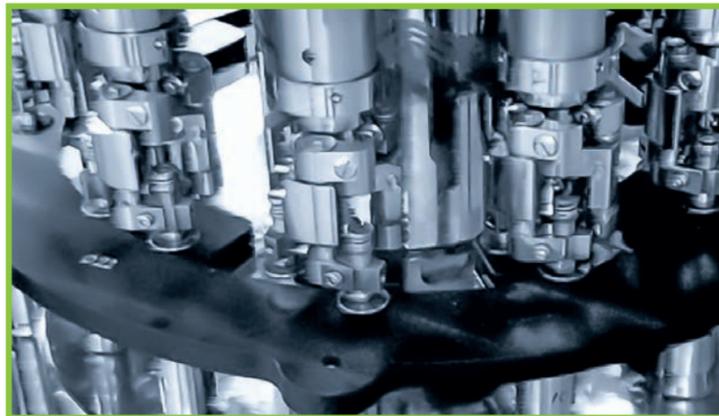
FILLING SYSTEMS

FILLING SYSTEMS FOR VIALS

- Vials: vial format min. D22 H35 to max. D 60 H 120mm
- Press-on cap format max. D 32 • Cap D. 32
- Capacity: 100 ÷ 600 pcs/h

Tekkital pharmaceutical machines for vial filling, capping and sealing accurately dispense liquids into vials, then automatically places stoppers and seals them with aluminum.

- In a monoblock system filling, stoppering, and capping occur on a single platform to minimize contamination risk. Key components include SS 316L filling pumps for precision, a turntable for vial movement, a conveyor belt, and stations for pre-gassing, filling, post-gassing, stoppering, and sealing.
- The machines are designed for sterile environments, operating under laminar airflow and adhering to cGMP standards.



FILLING SYSTEMS FOR AMPOULES

- Ampoules format: min. D 10.75 H 35 to max. D 22.5 H 120 mm
- Maximum speed 8 ml 200 ampoules/min
- Capacity:

We offer fully automatic machine with alternating movements for flexible and perfect filling and sealing of glass ampoules.

- Filling with volumetric pumps for low-viscosity pharmaceutical liquids. Quick format change for different ampoule diameters, simple adjustment for different heights.
- Construction materials with FDA-certified parts, product contact parts in AISI 316L SS.
- Stainless steel filling needle group with vertical movement in AISI 316L stainless steel, with adjustable stroke according to ampoule height, with diameter appropriate to required filling.
- Vertical movement of needles with descent and ascent inside the ampoule to follow liquid level during filling. Filling with volumetric pumps made of AISI 316L stainless steel with DLC coating.



WASHING MACHINES

WASHING MACHINES FOR VIALS

- Capacity:

Tekkital offers the most advanced technologies for pharmaceutical vial washing, with automatic linear machines that operate by first feeding vials into the machine using a conveyor system.

- The vials are then transported through a series of washing stations, where they are cleaned using nozzles and jets that spray water.
- The washing process involves multiple stages, including pre-washing, main washing, and rinsing.
- During the pre-washing stage, any large particles or debris on the vials are removed using a series of high-pressure nozzles.
- Next, the vials are transported to the main washing station, where they are thoroughly cleaned using a combination of nozzles and jets that spray cleaning solutions into the vials.
- Finally, the vials are rinsed using a series of nozzles that spray water or other rinse solutions into the vials to remove any remaining cleaning solution.



WASHING MACHINES FOR AMPOULES

- Capacity:

The advanced Tekkital washing systems are also available in specific models for a wide range of pharmaceutical ampoules.

- Automatic ampoules washing machines work by first feeding ampoules into the machine using a conveyor system.
- The ampoules are then transported through a series of washing stations, where they are cleaned using nozzles and jets that spray water.
- The washing process involves multiple stages, including pre-washing, main washing, and rinsing.
- During the pre-washing stage, any large particles or debris on the ampoules are removed using a series of high-pressure nozzles.
- Next, the the main washing station, where they are thoroughly cleaned using a combination of nozzles and jets that spray cleaning solutions into the ampoules.
- Finally, the ampoules are rinsed using a series of nozzles that spray water or other rinse solutions into the ampoules to remove any remaining cleaning solution.



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