

超洁净灌装主机 ULTRA-CLEAN FILLING MACHINE



超洁净灌装设备采用超洁净灌装工艺，包装材料与物料的接触面灭菌效率SE≥3，灌装、封口区域应符合GB 50073-2013《洁净厂房设计规范》规定的N6级洁净室要求。

Ultra-clean filling equipment adopts super clean filling technology. The sterilization efficiency of contact surface between packaging materials and materials IS SE≥3. The filling and sealing areas should meet the requirements of Grade N6 clean room stipulated in GB 50073-2013 Clean Plant Design Specification.



主要结构特点

- 对于灌注用瓶的传送和消毒：空瓶输送采用带高效过滤器的风力输送，确保瓶子在输送过程中的卫生和免受二次污染；灌装前配置多道冲瓶消毒系统，使瓶子处于高度洁净状态。同时，灌注时可采用非接触式灌装。
- 对瓶盖的消毒和输送：瓶盖采用消毒液浸泡消毒，然后经无菌水和无菌空气吹干，处理后的盖子经一密闭无菌通道输送到拧盖机，使瓶盖保持在高度洁净状态。
- 对灌注物料的杀菌和输送：灌装物料经超高温瞬时杀菌后进入无菌罐后输送到灌装机进行灌装。输送管道采用镜面抛光，管接头采用无菌型管接头，选用卫生型/无菌型阀门和仪表，并在设计和施工中避免管道卫生死角，从而确保物料在输送过程的无菌。
- 对灌装环境的隔离、净化和保持：全封闭的灌装系统，设有上下水环密封，将灌装区域与外界可靠的隔离开来；采用经过优化的FFU配置，并在合适的回风口设有抽风系统；冲瓶区域和灌装区域用隔板隔开，确保灌装室净化等级达百级；洁净室采用喷球和喷嘴两套喷淋系统交替喷淋，工作台面采用屋顶式台板，无积水，确保灌装环境的无菌。

Main structural features

- For the transportation and sterilization of bottles for infusion: empty bottles are transported by air with high-efficiency filters to ensure that the bottles are hygienic and free from secondary pollution during the transportation process; a multi-channel bottle sterilization system is configured before filling. The bottle is in a highly clean state. At the same time, non-contact filling can be used during filling.
- Disinfection and transportation of bottle caps: The bottle caps are immersed and disinfected with disinfectant, and then dried with sterile water and sterile air. The processed caps are transported to the capping machine through a closed sterile channel to keep the caps in a highly clean state.
- Sterilization and transportation of the filling material: the filling material will enter the aseptic tank after ultra-high temperature instantaneous sterilization, and then transported to the filling machine for filling. The pipeline is mirror-polished, the pipe joints are aseptic pipe joints, hygienic/aseptic valves and instruments are used, and the pipeline is designed to avoid hygienic dead ends, so as to ensure the sterility of the materials in the transportation process.
- Isolation, purification and maintenance of the filling environment: the fully enclosed filling system is equipped with upper and lower water ring seals to reliably isolate the filling area from the outside world; the optimized FFU configuration is used and the appropriate return air outlet is equipped with an exhaust system; the bottle washing area and the filling area are separated by a partition to ensure that the purification level of the filling room reaches 100; the clean room adopts two spray systems of spray balls and nozzles to alternately spray, and the workbench is used. The roof-top platen has no water accumulation to ensure the sterility of the filling environment.

适用产品Applicable products	果汁、茶饮料、功能性饮料、含乳饮料等 Fruit juice, tea drinks, functional drinks, milk-containing drinks, etc.
适用容器Applicable containers	各种容量及形状的PET瓶 PET bottles of various capacities and shapes
灌装温度Filling temperature	热灌装 (82-92°C)、中温灌装 (68-75°C)、常温灌装 (16-35°C)、低温冷灌装 (4-15°C) hot filling (82-92°C), medium temperature filling (68-75°C), normal temperature filling (16-35°C), low temperature cold filling (4-15°C)
生产能力Production capacity	12000瓶/小时—48000瓶/小时 12000 bottles/hour—48000 bottles/hour