



Crystal[®] L1 Robot Line **Laboratory Equipment for Closed Vials**

Filling process

The Laboratory **Crystal[®] L1** Robot Line has been designed to meet small scale pharmaceutical filling with a capacity going up to 600 vials/hour, suitable for research lots, stability batches, clinical batches and niche commercial products. Typical batch size ranges from a few hundred up to 5,000 vials per shift.

Fully compliant with cGMP requirements, the Laboratory **Crystal[®] L1** Robot Line is able to process all ready-to-fill **Crystal[®]** Closed Vials (from 1 to 50 ml) with minimum format change. Batch reports and audit trails are automatically generated during production. As an option, glass vials can also be filled and stoppered.

The full process is made of the following steps:

1. Filling

- Manual positioning and locking of the rack, supplied pre-loaded with the empty vials.
- Filling performed by the robot, by means of a specially designed needle that pierces the stopper and dispenses the liquid inside the vial.

2. Laser resealing

- The robot re-replaces the needle on its support, and activates its laser tool.
- The puncture trace is re-sealed by a laser shot on the stopper surface.

3. Capping

- Using its third tool, the robot performs capping inside the barrier, by simple snap-fit of a plastic cap.
- The rack of filled vials is manually removed.



Crystal[®] L1 Robot Line in a CVFS¹ arrangement.



Crystal[®] L1 in a SKAN PSI-M isolator.



Key facts

Laboratory Crystal[®] L1 Robot Line	
Applications	Aseptic filling of liquid and freeze-dried parenterals. All types of products (including cytotoxics and biohazard).
Output (2ml vials)	Up to 600 vials/hour.
Filling volume	0.1 ml to 50 ml + overfill.
Filling accuracy	+/- 1% (+/-10 µl for small volumes below 1 ml).
Dimensions (L x W x H, in mm)	1190 x 760 x 930 (core equipment without containment).
Utilities	Electricity, no water, no compressed air.
Materials	AISI 316L for product contact parts.

Versions

Upon your project specifications, the Laboratory **Crystal[®] L1** Robot Line can be provided in various versions:

Containment

- As a sub-system, to be installed in a third party barrier (e.g. existing or new isolator);
- Safety barrier for installation in a clean room;
- CVFS¹ with glove access into the filling area, for installation in Grade C;
- Isolator or closed RABS containment - allowing washing and decontamination - for highly potent and biohazard products.

Material entry/exit systems

- Mousehole;
- RTP (Rapid Transfer Port), via beta-bags;
- H₂O₂ decontamination airlock.

Vial formats

- Closed Vials only (1 to 50 ml);
- Closed Vials and classical open vials (glass or polymer).

Video of the **Crystal[®] L1** robot line available on our website www.aseptictech.com

Aseptic Technologies S.A. reserves the right to make any changes to the described equipment and characteristics without notice.

¹ “CVFS - Closed Vial Filling System” is defined as “An aseptic filling system providing an environment achieving uncompromised Class ISO 5 protection that surrounds containers which are delivered closed and sterile inside, are filled through their stoppers and then immediately re-sealed to preclude the possibility of microbial ingress”.