**Crystal® M1 Filling Station**

**Manual equipment for AT-Closed Vials®**

**Filling process**

Optimized for batch size ranging from a few up to 1,500 vials, the *Crystal® M1* Filling Station is designed to fill typically research lots, stability batches and niche commercial products.

The full process is made of the following steps:

1. **Filling**
   - The ready-to-fill AT-Closed Vial® is placed manually on its supporting base;
   - Piercing of the stopper is accurately achieved by simple action on the lever;
   - Filling is performed using a peristaltic (or other pump) before needle withdrawal.

2. **Laser re-sealing**
   - The vial is manually transferred into the laser safety cabinet;
   - The laser control unit, installed outside the ISO5 containment, is activated via the embedded remote;
   - The puncture trace is re-sealed by a 1 second laser shot on the stopper surface.

3. **Capping** is performed by simple snap-fit of a plastic cap.

*Crystal® M1* laser control unit’s touch screen  
*Crystal® M1* Filling Station in a BSC
Key facts

**Crystal® M1 Filling Station**

<table>
<thead>
<tr>
<th>Applications</th>
<th>Aseptic filling of liquid parenterals. All types of products.</th>
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</thead>
<tbody>
<tr>
<td>Output (2ml vials)</td>
<td>Manual operations, up to 1,500 vials per shift (*)</td>
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<tr>
<td>Filling volume</td>
<td>0.1 ml to 50 ml + overfill.</td>
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<td>Filling accuracy</td>
<td>Typically 1% (over 1 ml, for water-like viscosity).</td>
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<tr>
<td>Dimensions</td>
<td>Core equipment is easily placed inside a safety cabinet or an isolator.</td>
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<td>Utilities</td>
<td>Electricity only. No water, no compressed air.</td>
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<tr>
<td>Materials</td>
<td>AISI 316L.</td>
</tr>
</tbody>
</table>

(*) With two operators.

**Versions**

The **Crystal® M1** Filling Station can be installed in following types of containment with various features:

- **Containment systems**
  - Bio Safety Cabinet (BSC);
  - Isolator.

- **Optional features**
  - Peristaltic dispensing pump;
  - Foot switch for the pump;
  - Casters for the laser controller.

**Cleaning**

The exposed surfaces of the filling tool, the laser housing and the capping tool are made of stainless steel and polymer materials compatible with classical sanitizing agents and H₂O₂ decontamination.

**Validation Package**

The **Crystal® M1** Filling Station is delivered with a full Validation Master Plan. The table of content is available on our website [www.aseptictech.com](http://www.aseptictech.com) in the chapter Compliance > Validation > AT-Closed Vial® Technology.

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