The VR2 filler is a reliable, high performance aseptic liquid filling machine, conforming to current cGMPs. This series uses existing overhead laminar air flow to it's fullest - using a straight-line concept and small footprint, effective in maintaining the integrity of a clean room environment.

The Cozzoli simple two-piece filling syringes and valve assemblies are designed for sterile, bacteria-free environments. High precision machining of our filling syringes allows each machine to achieve a fill accuracy of \( \pm 1/2 \) of 1% by volume, or better. Other fill methods, such as diaphragm, peristaltic, etc. are also available.

Changeover for various container heights and nozzle stroke adjustment is made easy, with simple calibrated hand-wheel features.

**FILL PRINCIPLE**

Containers are positioned in the machine by a feed screw. A diving nozzle system provides bottom-up filling on a range from 0-4" (101.6mm). This system eliminates the need to change cams and speeds up changeover. A drop control mechanism eliminates a hanging drop at the completion of the fill cycle.

**CONTROLS**

The PLC controls intermittent container handling through the timing feedscrew.

This feedscrew can be set to multidose, which provides maximum production for large fills, or when running foamy products.
VR2 - OPTIONS AND ACCESSORIES

- Automatic makeup and backup controls for smooth line operation
- Combination filling & flushing nozzles for nitrogen flushing during filling
- Fine adjustment volume control
- Electronic volume control
- Dual-track filling for higher speeds
- Down vial eliminator
- IQ/OQ/PQ Protocols (written)
- Air/Vacuum cleaning assembly
- Various electrical and controls configurations
- Explosion proof electrical
- Diaphragm pumps for shear sensitive products
- Stainless steel frame
- Centering devices
- Remote operator console

Standard Specifications

- Number of Syringes: 2 to 12
- Maximum Syringe Size: up to 120 cc
- Syringe Stroke: 50mm or 2"
- Nozzle Elevation Adjustment: 76mm or 3"
- Container Movement: Intermittent
- Cycles per Minute: Up to 30
- Containers per Minute: Up to 230
- Maximum Container Height: 203mm or 8"
- Maximum Container Diameter: up to 76mm or 3"
- Minimum Container Diameter: 20mm or 5/8"

- Conveyor Type: Stainless steel conveyor bed with raised 3 1/4" (82mm) Delrin Top
- Conveyor Travel: Left to Right
- Conveyor Speed per Minute: 0 to 18288mm
- Conveyor Length Ctr to Ctr: 1524mm

- Bottle Spacing: Feed screw

- Main Motor Electricals: 3/4hp D.C. Motor
- Conveyor Motor Electricals: Worm Gear Motor
  - 1/4hp; 115V D.C.; 115V; 60Hz; 1Ph

- Approx. Crated Dimensions: 4140mm x 1600mm x 1905mm
- Approx. Net Weight: 1360 kg or 3000 lbs.
- Approx. Gross Weight: 1588 kg or 3500 lbs.

VR2 Side View

... and more OPTIONS

- Full length feed screw or gating
- Flow meter assemblies
- Right to left configuration
- Monoblock configuration (shown below with stoppering

Model VR2/S drawing shown above with monoblocked Cozzoli RS400 stoppering system to fill and stopper on one machine.

Cozzoli Machine Company is an international leader in the design, manufacture, distribution, and service of precision cleaning, filling, and closing systems in stand-alone or monoblock versions. Since 1919 the company has been serving the pharmaceutical, biotechnology, diagnostic, cosmetic, and chemical industries.
The VR2PP Series are reliable, high performance aseptic liquid filling machines using peristaltic pump technology. The Cozzoli Peristaltic Pump Filling System utilizes the latest innovations in single-use technology. Advantages include reduced costs, quicker set up, less waste and completely eliminates cleaning process. Designed with Class 100 clean rooms in mind, the VR2PP Series uses a straight line concept with a small footprint and is built for reliability, easy operation and accuracy. The VR2PP models are available with 2 heads, 4 heads, 6 heads or 8 heads.

Changes for various container heights are made with the servo drive height adjustment feature. Nozzle stroke adjustments are also made via servo drive.

Containers are positioned in the machine by a feed screw. A diving nozzle system provides bottom-up filling on a range from 0-4” (101.6mm). This system eliminates the need to change cams and speeds up changeover. A drop control mechanism eliminates a hanging drop at the completion of the fill cycle.

A PLC controls intermittent container handling through the machine.
VR2PP SERIES - OPTIONS AND ACCESSORIES

Automatic makeup and backup controls for smooth line operation
Combination filling & flushing nozzles for nitrogen flushing during filling
Down vial eliminator
IQ/OQ/PQ Protocols (written)
Air/Vacuum cleaning assembly
Various electrical and controls configurations
Remote operator console
Lexan Enclosure with laminar flow hood

Standard Specifications

<table>
<thead>
<tr>
<th>Stainless steel frame</th>
<th>(STD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conveyor Type</td>
<td>Sanitary type stainless steel conveyor bed with raised 3 1/4” Delrin Top</td>
</tr>
<tr>
<td>Conveyer Travel</td>
<td>Left to Right (STD)</td>
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<tr>
<td>Conveyer Length Ctr to Ctr</td>
<td>8 feet c to c</td>
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<tr>
<td>Number of pumps</td>
<td>2 to 8</td>
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<tr>
<td>Fill Size</td>
<td>See tubing chart below</td>
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<tr>
<td>Nozzle Elevation Adjustment</td>
<td>Up to 4”</td>
</tr>
<tr>
<td>Container Movement</td>
<td>Intermittent</td>
</tr>
<tr>
<td>Cycles per Minute</td>
<td>Up to 30</td>
</tr>
<tr>
<td>Containers per Minute</td>
<td>Up to 240</td>
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<tr>
<td>Maximum Container Height</td>
<td>203mm or 8”</td>
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<tr>
<td>Maximum Container Diameter</td>
<td>Up to 76mm or 3”</td>
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<tr>
<td>Minimum Container Diameter</td>
<td>16mm or 5/8”</td>
</tr>
<tr>
<td>Bottle Spacing</td>
<td>Feed screw</td>
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<tr>
<td>Electricals</td>
<td>115V 60Hz/1 Ph</td>
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</tbody>
</table>

Tubing

<table>
<thead>
<tr>
<th>ID [inches]</th>
<th>OD [inches]</th>
<th>Fill Rate *Min. [ml/s]</th>
<th>Fill Rate *Max. [ml/s]</th>
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</thead>
<tbody>
<tr>
<td>1/64</td>
<td>5/32</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>1/16</td>
<td>3/16</td>
<td>.8</td>
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</tr>
<tr>
<td>3/32</td>
<td>7/32</td>
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</tr>
<tr>
<td>1/8</td>
<td>¼</td>
<td>5</td>
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</tr>
<tr>
<td>3/16</td>
<td>5/16</td>
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<tr>
<td>¼</td>
<td>3/8</td>
<td>30</td>
<td>-</td>
</tr>
</tbody>
</table>

*Min. and Max. Fill Rates based on a typical fill time range of 0.5 to 1.0 seconds

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