Optimal tank cleaning for sanitary applications

Alfa Laval GJ A6

Application

The Gamajet tank cleaning product range is world-renowned for setting high standards for cleanliness to enable companies to sustain high product quality and plant productivity. As part of that range, the Alfa Laval GJ A6 tank cleaning device delivers powerful tank cleaning that provides reliable, repeatable, and verifiable results to meet the demands of the pharmaceutical, personal care, beverage, food, and dairy industries. Designed to fit through a 3" (7.62 cm) sanitary fitting, the device is ready for permanent installation and is the perfect alternative to time-intensive spray balls and costly manual tank cleaning.

Working principle

The Gamajet range of high impact tank cleaning devices combine pressure and flow to create high impact cleaning jets. Cleaning occurs at the point at which the concentrated stream impacts the surface. It is this impact and the tangential force that radiates from that point which blasts contaminants from the surface, scouring the tank interior. In conjunction with this impact, the device is engineered to rotate in a precise, repeatable and reliable, 360° pattern. This full-coverage, global indexing pattern ensures the entire tank interior is cleaned every time.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Lubricant</th>
<th>Self-lubricating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. throw length</td>
<td>2 - 6 m (6 - 19 ft)</td>
</tr>
</tbody>
</table>

Pressure

| Working pressure | 2 - 27+ bar (30 - 400+ PS) |
| Recommended pressure | 2 - 10 bar (30 - 150 PS) |

Cleaning Pattern

First Cycle

Full Pattern

The above drawings show the cleaning pattern achieved on a cylindrical horizontal vessel. The difference between the first cycle and the full pattern represents the number of additional cycles available to increase the density of the cleaning.

Certificate

2.1 material certificate

PHYSICAL DATA

Material

1.4404 (316L), PEEK (EPDM, FFKM, and FKM available).

Temperature

Max. working temperature 95°C (203°F)
Max. ambient temperature 140°C (284°F)

Weight

1.8 kg (4 lbs.)

Surface finish

0.5 µm (20 Ra)

Connections

Standard thread: 1" slipfit, 1½" tri-clamp, 1½" tube weld, 1" DIN 1185R1 slip, 1" DIN 1185R2 slip.
Available options: 12, 18, 24" inlet connections, 3" CAP 1½" TC inlet

Options

Electronic rotation sensor to verify 3D coverage.

Caution

Do not use for gas evacuation or air dispersion.
Disclaimer: Information in this product data leaflet is intended for general guidance purposes. Specific data for device selection and sizing is available upon request.

Flow Rate

Impact Throw Length

Dimensions

Clearing Time

<table>
<thead>
<tr>
<th>Nozzle</th>
<th>m³/h</th>
<th>USgpm</th>
<th>psi</th>
<th>bar</th>
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</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2</td>
<td>3.2mm (.125&quot;)</td>
<td>30</td>
<td>55</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>4.2mm (.165&quot;)</td>
<td>70</td>
<td>105</td>
</tr>
<tr>
<td>3.5</td>
<td>4</td>
<td>3.8mm (.150&quot;)</td>
<td>110</td>
<td>170</td>
</tr>
<tr>
<td>4</td>
<td>4.5</td>
<td>4.7mm (.187&quot;)</td>
<td>130</td>
<td>190</td>
</tr>
<tr>
<td>5</td>
<td>5.5</td>
<td>5.7mm (.225&quot;)</td>
<td>150</td>
<td>210</td>
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</table>

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tbody>
<tr>
<td>mm</td>
<td>223</td>
<td>158</td>
<td>54</td>
<td>30</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td>in</td>
<td>8.75</td>
<td>6.19</td>
<td>2.1</td>
<td>1.18</td>
<td>2.67</td>
<td>2.72</td>
</tr>
</tbody>
</table>

NOTE 1: 1” R-CLIP COLLAR OR 1-1/2” BUTT WELD
Standard Design
The choice of nozzle diameters can optimize jet impact length and flow rate at the desired pressure. As standard documentation, the Alfa Laval GJ A6 can be supplied with a “Declaration of Conformity” for material specifications.

TRAX simulation tool
TRAX is a unique software that simulates how the Alfa Laval GJ A6 performs in a specific tank or vessel. The simulation gives information on wetting intensity, pattern mesh width and cleaning jet velocity. This information is used to determine the best location of the tank cleaning device and the correct combination of flow, time, and pressure to implement.

A TRAX demo containing different cleaning simulations covering a variety of applications can be used as a reference and documentation for tank cleaning applications. The TRAX demo is free and available upon request.

Wetting intensity

![Wetting Intensity Diagram](image)

- D3m (120°), H4.8m (190°), 2xØ4.76mm (2xØ3/16") Time = 3.25 min.
- D3m (120°), H4.8m (190°), 2xØ4.76mm (2xØ3/16") Time = 13 min.