Sanitary, Low-Flow Cleaning

Alfa Laval TJ SaniMagnum Rotary Spray Head

Application
The Toftejorg SaniMagnum is an efficient replacement for traditional static spray balls as it uses low volumes of liquid at low pressure. The device, particularly well-suited to sanitary applications, can be used in tanks ranging from 1,300 to 13,000 US gallons.

Working principle
The flow of the cleaning media causes the head of the Toftejorg SaniMagnum to rotate, with fan jets laying out a swirling pattern throughout the vessel. This generates a vibrating impact and cascading flow that covers all internal surfaces of the tank or reactor. The device's self-cleaning feature is achieved by directing the cleaning media through the rotating bearing track and onto the neck of the elongated head.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Lubricant:</th>
<th>Self-lubricating with the cleaning fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetting radius:</td>
<td>Max. 10 ft</td>
</tr>
<tr>
<td>Impact cleaning radius:</td>
<td>Max. effective 6 ft</td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
</tr>
<tr>
<td>Working pressure:</td>
<td>14.5-44 PSI</td>
</tr>
<tr>
<td>Recommended pressure:</td>
<td>29 PSI</td>
</tr>
</tbody>
</table>

Spray Pattern

- 360°
- 270° up
- 180° down

Standard Design
As standard documentation, the Toftejorg SaniMagnum can be supplied with a "Declaration of Conformity" for material specifications or 3.1 certification for metallic parts. Conformity of Declaration ATEX directive 94/9/EC available on request. The device is available in hastelloy C22 (balls in hastelloy C276) with 3.1 certification for metallic parts. ATEX approved, Category 1 for installation in zone 0/20.

Certificates
2.2 material certificate, Q-doc, Q-doc incl. FAT & SAT and ATEX.

PHYSICAL DATA

Materials
- Inlet connections/Head: 316L (UNS S31603)
- Bearing race parts: Duplex steel (UNS S31803)
- Balls: 316L (UNS S31603) PTFE
- Clip parts: 316
- FDA compliance 21CFR §177

Standard Surface finish:
- exterior: Ra 33μm
- internal: Ra 33μm

Improved Surface finish:
- exterior + Electro polished: Ra 20μm
- internal + Electro polished: Ra 32μm

Temperature
- Max. working temperature: 203°F
- Max. ambient temperature: 284°F

Weight
- Thread and clip-on: 1.48 lbs
- On pipe: 2.14/3.35 lbs

Connections
- Thread: 1 1/4" or 1 1/2" Rp (BSF) or NPT
- Weld-on: 1 1/2" or 2" ISO 2037, or DN40 DIN11850-R2, or 1 1/2" or 2" BPE US
- Clip-on: 1 1/2" or 2" ISO 2037, or DN40 DIN11850-R1 or R2, or 1 1/2" or 2" BPE US
Qualification Documentation (Q-doc)

Designed for the BioPharm and Personal Care industry for qualification of hygienic Tank Cleaning Machines. Developed in accordance with the ISPE V-model and GDP, Good Documentation Practice, and includes:

- RS (Requirement Specification)
- DS (Design Specification incl. Traceability Matrix)
- FAT (Factory Acceptance Test incl. IQ & OQ)
- 3.1 and USP Class VI Certificates
- FDA Declaration of Conformity
- TSE Declaration
- QC Declaration of Conformity
- SAT (Site Acceptance Test Protocol incl. IQ & OQ) for End-User Execution.

Flow Rate

| Flow Rate | A: 360°/270° UP | B: 360°
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LowFlow/270° UP</td>
<td>LowFlow/180° Down</td>
</tr>
</tbody>
</table>

Cleaning radius

For Clip-on models, the flow rate is increased by approx. 1.96 yard/h

Dimensions (inch)

<table>
<thead>
<tr>
<th>TH</th>
<th>ID</th>
<th>OD x t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; 1/4&quot; BSP</td>
<td>1 1/2&quot;</td>
<td>1 1/2&quot; BSP DIN Range 1</td>
</tr>
<tr>
<td>1&quot; 1/4&quot; NPT</td>
<td>2&quot;</td>
<td>1 1/2&quot; BSP DIN Range 2</td>
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</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread</td>
<td>0.12</td>
<td>0.56</td>
<td>1.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clip-on</td>
<td>6.18</td>
<td>0.56</td>
<td>0.39</td>
<td>0.59</td>
<td>0.165</td>
<td></td>
</tr>
<tr>
<td>Weld-on</td>
<td>6.18 / 19.68 / 39.37</td>
<td>0.56</td>
<td></td>
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Inlet pressure
Alfa Laval reserves the right to change specifications without prior notification. ALFA LAVAL is a trademark registered and owned by Alfa Laval Corporate AB.

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.us to access the information direct.