The Butterworth Type MICRO100A automated tank cleaning machine provides 360° impact indexed coverage for the cleaning of the inside of tanks and process vessels.

**Industries**

The Butterworth Type MICRO100A is a highly versatile machine and is applicable in most all types of tanks for process, storage, and transportation. It can be used as a portable unit or permanently mounted.

**Operational**

The Butterworth Type MICRO100A machine creates a pattern matrix similar to a ball of twine. A complete pattern is established when 36 axial revolutions of the body have been completed. During the process of this pattern build out, 4 cycles are established with each cycle increasing the density of the pattern matrix. The variable speed motor allows for flexible cycle times.

### Specifications - Summary

**Materials of Construction (As Standard):**
- Wetted Parts
  - 316LSS
  - PTFE
- Other Parts
  - See manual for parts detail

**Weights:**
- Tube Type 36
  - Flange Type 1&3: 14 lbs (6.4 kg)
  - Flange Type 2: 24.50 lbs (11.1 kg)
  - Flange Type 2a: 29.50 lbs (13.4 kg)
  - Flange Type 3a: 14.25 lbs (6.5 kg)
  - Flange Type 3b: 17.00 lbs (7.7 kg)
- Tube Type 48
  - Flange Type 1&3: 15.5 lbs (7.0 kg)
  - Flange Type 2: 26.00 lbs (11.8 kg)
  - Flange Type 2a: 31.00 lbs (14.1 kg)
  - Flange Type 3a: 15.50 lbs (7.0 kg)
  - Flange Type 3b: 18.50 lbs (8.4 kg)
- Tube Type 72
  - Flange Type 1&3: 18.5 lbs (8.4 kg)
  - Flange Type 2: 29.00 lbs (13.2 kg)
  - Flange Type 2a: 34.00 lbs (15.4 kg)
  - Flange Type 3a: 18.75 lbs (8.5 kg)
  - Flange Type 3b: 21.50 lbs (9.8 kg)

**Jet Length Radius up to 32’**

**Lubrication:**
- Flow-Through (Media Lubricated)

**Pressure Range - Fluid:**
- 0-1000 PSI (69 Bar)

**Pressure Range - Air:**
- 0-10 PSIG (0-0.68 Bar)
- Consumption: 1.4 - 3.1 SCFM (40-88 1/min.)

**Temperature Range:**
- Static: 300°F (148.9°C)
- Operational: 200°F (93.3°C)

**Inlet Connection Type:**
- See table to the left; Others On Request

**Minimum Tank Opening Requirement & Turn Radius:**
- Tank Opening: 3.75” (99.25mm)
- Turning Radius: 2.4” (60.96mm)

**Surface Finish:**
- ≤ 25 Ra μ (Micro Inch) - External as standard
- ≤ 15 Ra μ (Micro Inch) - Electropolished
- Others on request

**Connections:**
- See dimensional diagram for standards

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### Cleaning Pattern Simulation

**Typical Pattern Matrix**
Product Data Sheet

Product: MICRO100A
Type: Tank Cleaning Machine

Butterworth, Inc.
16737 West Hardy Road, Houston, TX 77060
Phone: 281.821.7300 • Fax: 281.821.5550 • www.butterworth.com

General Dimensions

Flange dimensions shown are for the Standard 3 Prong Flange Only. For other dimensions, contact Butterworth Engineering.

Impact Force (lbf / sq ft)

<table>
<thead>
<tr>
<th>Nozzle Size</th>
<th>At 2’ From Nozzle</th>
<th>Inlet Pressure (psig)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>100</td>
<td>200</td>
</tr>
<tr>
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<td>0.8</td>
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<td>2.3</td>
</tr>
<tr>
<td>20</td>
<td>1.55</td>
<td>3.0</td>
</tr>
<tr>
<td>25</td>
<td>1.95</td>
<td>3.75</td>
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<td>5.5</td>
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<td>6.75</td>
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<table>
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<th>At 15’ From Nozzle</th>
<th>Inlet Pressure (psig)</th>
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</thead>
<tbody>
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<tr>
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<tr>
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<td>3.5</td>
</tr>
<tr>
<td>50</td>
<td>2.0</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Performance Curves

Pressure Flow

Time to Establish One Pattern