



Product Data Sheet

Product : MICRO100A
Type : Tank Cleaning Machine

... Tank Cleaning Technology since 1925

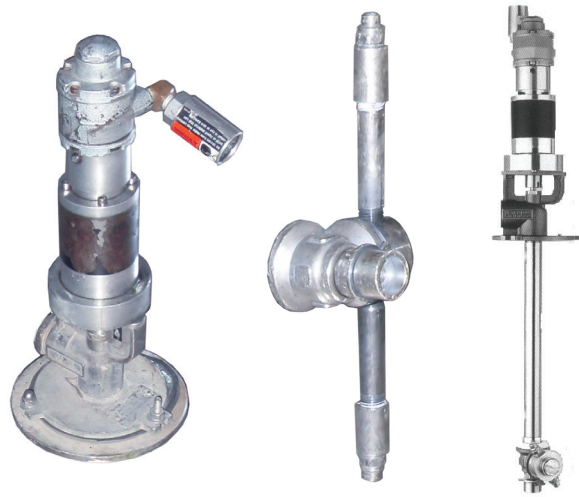
The Butterworth Type MICRO100A automated tank cleaning machine provides 360° impact indexed coverage for the cleaning of the inside of tanks and process vessels.

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 (148.89°C)
- Operational : 200°F (93.33°C)

Inlet Connection Type:

- See table to the left; Others On Request

Minimum Tank Opening Requirement & Turn Radius:

- Tank Opening : 3.75" (95.25mm)
- 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

Type MICRO100A - Part Number Designations

Model	Qty. Nozzles	Nozzle Type	Nozzle Size	Flange Type	Tube Length
MICRO100A	2	1	C10	1	36

Part Number = MICRO100A-2-1-C10-1-36

Nozzle Designations

Nozzle Type	Nozzle Size
1	C10; C15; C20; C25; C30; C35; C40; C50; C60; C70; C80

Mounting Flange Arrangements

Flange Type	Description
1	Standard; 3 prong; 316LSS
2	3.00" 150# ANSI RF; 316LSS
2a	4.00" 150# ANSI RF; 316LSS
3	3.00" Tri-Clamp; 316LSS
3a	4.00" Tri-Clamp; 316LSS
3b	6.00" Tri-Clamp; 316LSS

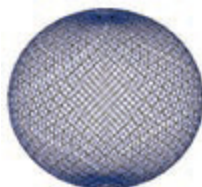
Tube Length Designations

Tube Type	Description
36	36.00 inches (914.40mm) - Nominal
48	48.00 inches (1219.20mm) - Nominal
72	72.00 inches (1829.00mm) - Nominal

User Benefits

- External Drive Unit Means Lower Maintenance
- Reduced Cleaning Times
- Light Weight & Portable
- Reduced Energy Costs
- Controllable Axial Rotation
- Cleans Tanks up to 34' Diameter

Cleaning Pattern Simulation



Typical Pattern Matrix

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Butterworth



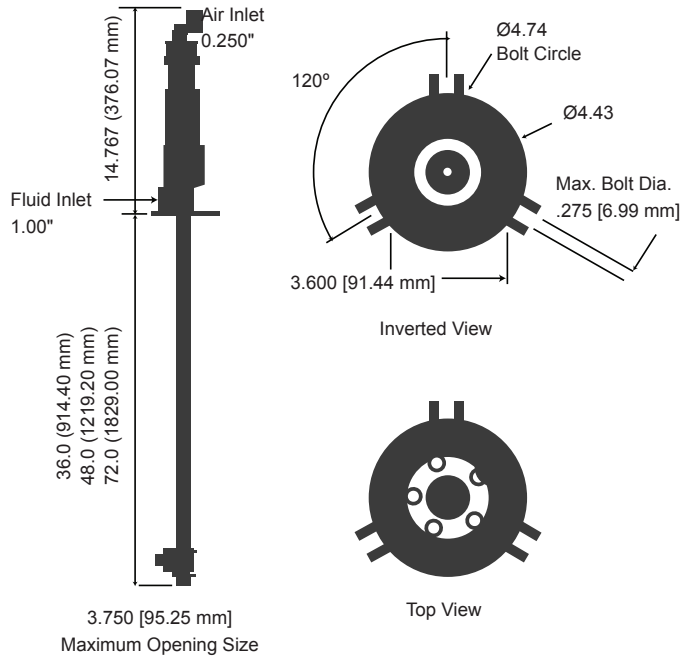
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General Dimensions

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



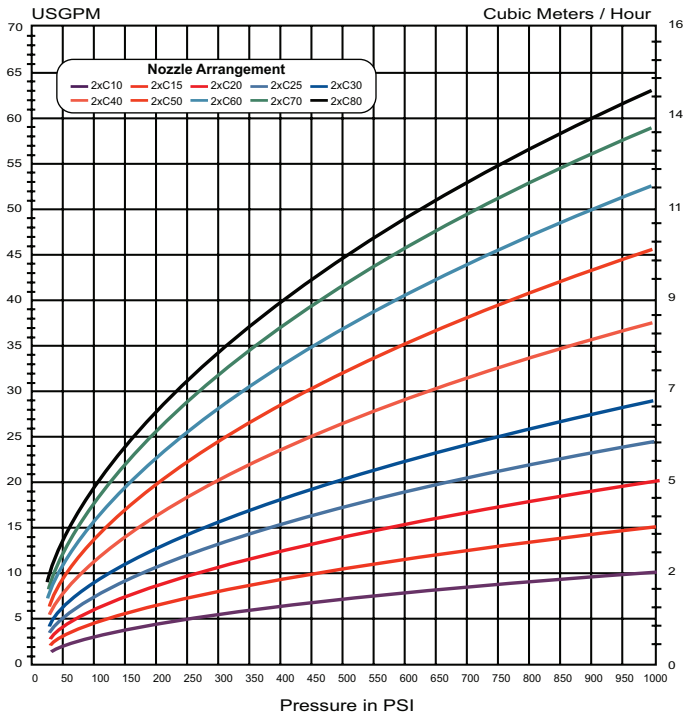
Impact Force (lbf / sq ft)

At 2' From Nozzle					
Nozzle Size	Inlet Pressure (psig)				
	100	200	300	400	500
10	0.8	1.75	2.3	3.5	4.5
15	1.2	2.3	3.7	4.9	6
20	1.55	3	5	6.2	8.5
25	1.95	3.75	5.6	7.8	9.75
30	2.25	4.5	6.9	9	11.5
35	2.6	5	7.8	10.25	13.5
40	2.85	5.5	8.25	11.5	14.5
50	3.45	6.75	9.9	13.3	17

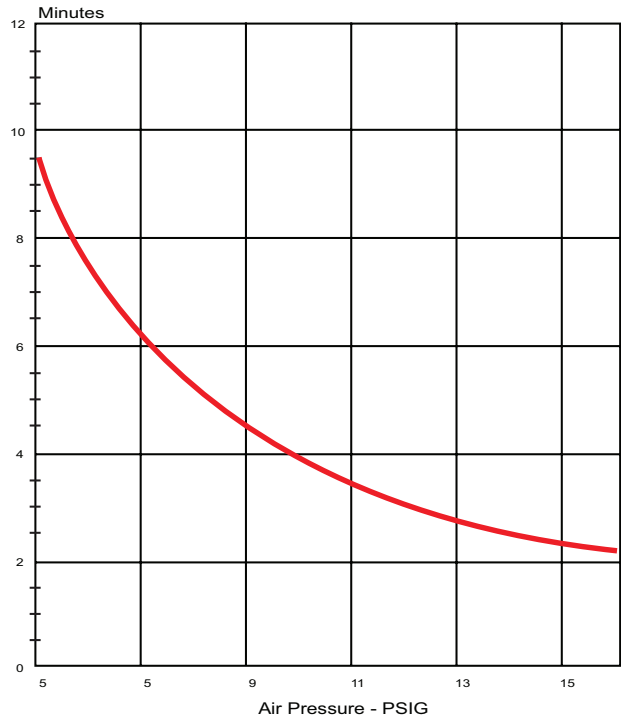
At 15' From Nozzle					
Nozzle Size	Inlet Pressure (psig)				
	100	200	300	400	500
10	0.4	0.75	1	1.75	2
15	0.5	1	1.75	2.2	3
20	0.75	1.5	2.2	3	4
25	1	2	2.9	3.9	4.9
30	1.2	2.5	3.5	4.7	6
35	1.4	3	4.2	5.5	7
40	1.55	3.5	4.6	6.2	8
50	2	3.8	5	7.5	8.5

Performance Curves

Pressure Flow



Time to Establish One Pattern



Butterworth