



## Product Data Sheet

**Product:** Tank Cleaning Machine  
**Type:** BC (FT Only)

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

### Industries

The Butterworth Type BC is a highly versatile machine and is applicable in most all types of tanks for process, storage, and transportation. Tank capacities range from 500-45,000 gallons (1.8-170 M<sup>3</sup>)

### Operational

The Butterworth Type BC machine creates a pattern matrix similar to a ball of twine (see cleaning pattern simulation in the lower right hand corner of this page). A complete pattern is established when 65 axial revolutions of the body have been completed. During the process of this pattern build out, 8 cycles (for a 4 nozzle hub) and/or 4 cycles (for a 2 nozzle hub) are established with each cycle increasing the density of the pattern matrix.

### User Benefits

- Hygienic Design
- High Jet-Stream Impact
- Reduced Cleaning Times
- Reduced Effluent Generation
- Reduced Energy Costs
- 100% Self-Rinsing (for specific models)
- Improved Capital Equipment Utilization

### Type BC – Standard Model Reference Table

Model#	Nozzle Type	Nozzle Configuration	Lubrication	Inlet Conn.
BC314Z43NOFT	1	4 x 3.0mm	Media	1.50" NPT(F)
BC324Z43NOFT	2	4 x 3.0mm	Media	
BC414ZM3NOFT	1	4 x 4.0mm	Media	
BC424ZM3NOFT	2	4 x 4.0mm	Media	
BC514Z31NOFT	1	4 x 5.0mm	Media	
BC524Z31NOFT	2	4 x 5.0mm	Media	
BC614Z31NOFT	1	4 x 6.0mm	Media	1.50" BSP(F)
BC624Z31NOFT	2	4 x 6.0mm	Media	
BC314Z43BOFT	1	4 x 3.0mm	Media	
BC324Z43BOFT	2	4 x 3.0mm	Media	
BC414ZM3BOFT	1	4 x 4.0mm	Media	
BC424ZM3BOFT	2	4 x 4.0mm	Media	
BC514Z31BOFT	1	4 x 5.0mm	Media	
BC524Z31BOFT	2	4 x 5.0mm	Media	
BC614Z31BOFT	1	4 x 6.0mm	Media	
BC624Z31BOFT	2	4 x 6.0mm	Media	

Nozzle Types:

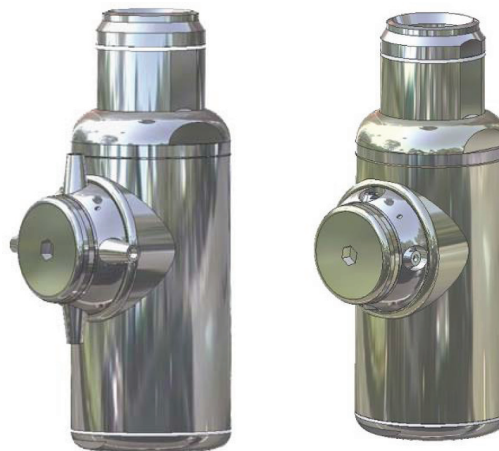
- Type 1 = Short
- Type 2 = Long

Other connections available on request

### Part Number Reference Guide

**BC 3 1 4 Z 4 3 N O F T**

BC = Machine Type  
3 = Orifice of Nozzle  
1 = Nozzle Design  
4 = Nozzle Hub Type  
Z = Gearbox Type  
4 = Guide Vane Type  
3 = Impeller Type  
N = Connection Type  
OFT = Lubrication Methodology



*Shown with Optional Weld Adapter*

### Specifications Summary

#### Materials Of Construction (As Standard):

- 316 Stainless Steel/CD4-MCU Duplex S/S
- See manual for parts detail

#### Weight:

- 11 lbs. (5.0 kg)

#### Lubrication:

- Flow-Through (Media Lubricated)

#### Pressure Range:

- 0-300 PSI (21 Bar)

#### Jet-Length Radius:

- 0-40' (12.19 M)

#### Temperature Range:

- Static : 300°F (149°C)
- Operational : 300°F (149°C)

#### Inlet Connection Type:

- 1 ½" NPT (F)
- 1 ½" BSP (F)
- Weld
- Cam & Groove
- Others on request

#### Minimum Tank Opening Requirement & Turn Radius

- Tank Opening:
  - Type 1: 4.404" (111.87 mm)
  - Type 2: 4.404" (111.87 mm)
- Turning Radius
  - Type 1: 5.562" (141.27mm)
  - Type 2: 5.903" (149.94mm)

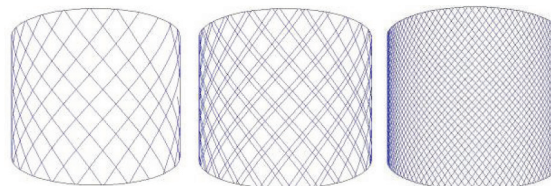
#### Surface Finish:

- ≤ 25 Ra μ (Micro Inch) – External as standard
- ≤ 15 Ra μ (Micro Inch) – Electropolished
- Others on request

#### Certified Dimensional Drawing

- DWG1634 and DWG1635 (Type 1 and Type 2 Nozzles)

### Cleaning Pattern Simulation



Vertical Cylindrical Tank

**Butterworth, Inc.**

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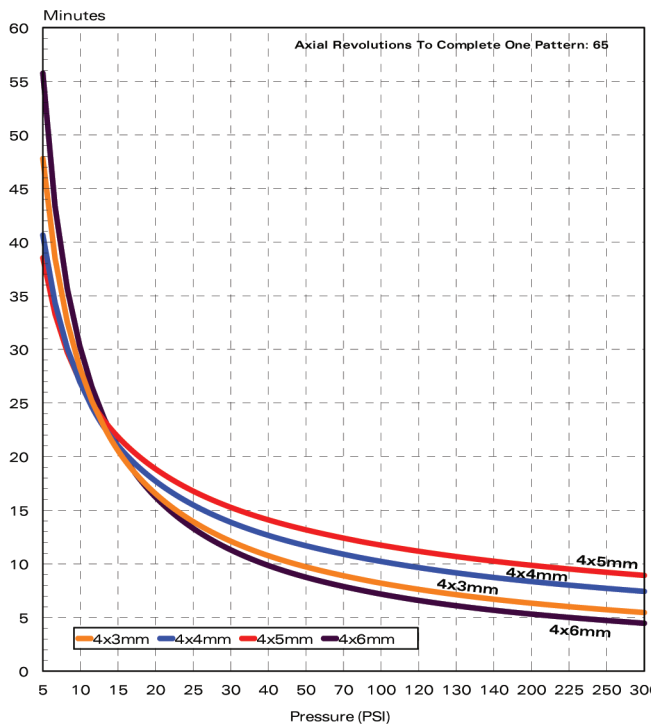
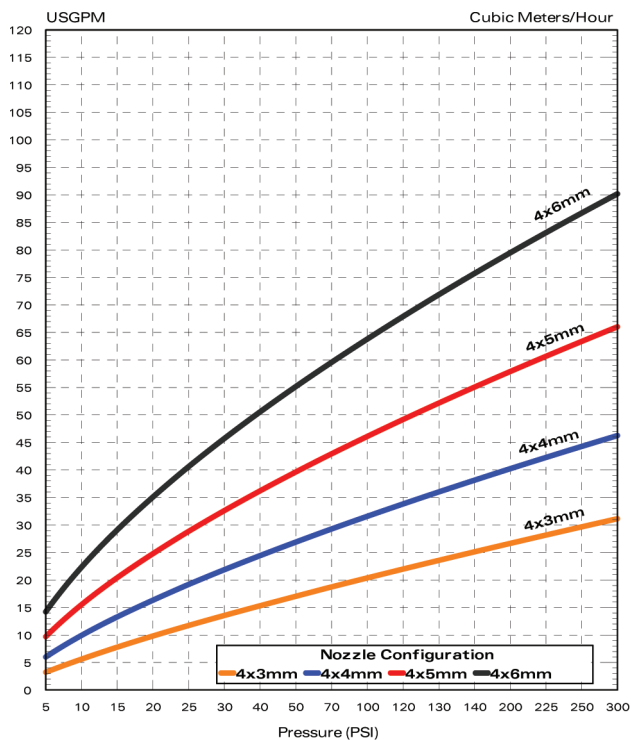
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## General Dimensions

## Jet-Length (Radius)

