

# Cavitus Generation II Foam control system

## Technical datasheet

# cavitus

Sound Technology. A Sound Investment.

### Product Overview

Cavitus BLE Foam Control Systems are innovative solutions to everyday foaming problems in the processing industry.

Easily retro fitted into new and existing lines, the Cavitus BLE foam control system is an essential piece of equipment to increase production efficiency.

The Generation II model has the latest developments in ultrasonic technology, improving the efficiency of the transducer. This enabled Cavitus to release a state of the art cool transducer that eliminates the requirement for external cooling utilities.

### Key Benefits

- Increased fill volumes
- Increased line speeds
- Improved reject rates
- Reduced CO2 consumption
- Reduced lid/cap contamination

### System Automation

The generation II model offers two control logic system options: relay logic and PLC logic. Both systems enable automation via control signals from the filling line, including output amplitude vs. line speed variability.



## Transducer/Sonotrode Assembly

<b>Line suitability</b>	<ul style="list-style-type: none"> <li>• Canning lines</li> <li>• Bottling lines</li> <li>• Filling lines with units up to 70 mm openings</li> <li>• Line speeds up to 120,000 units/hr</li> <li>• Cold fill (non aseptic) beer lines</li> <li>• Carbonated soft drink lines</li> <li>• Cold fill (non aseptic) juice lines</li> <li>• Cold fill (non aseptic) dairy lines</li> </ul>
<b>Ingress Protection class</b>	<ul style="list-style-type: none"> <li>• IP67</li> </ul>
<b>Sonotrode frequency</b>	<ul style="list-style-type: none"> <li>• 20 kHz</li> </ul>
<b>Sonotrode amplitude</b>	<ul style="list-style-type: none"> <li>• 120 <math>\mu</math>m (peak to peak)</li> </ul>
<b>Construction material</b>	<ul style="list-style-type: none"> <li>• ALTEF (Teflon/Aluminium ceramic interface)</li> <li>• Stainless steel (EN 1.4401, AISI 316, A4)</li> <li>• Titanium Alloy Ti-6Al-4V</li> <li>• Silicon HF and signal cables</li> </ul>
<b>Permissible ambient operating conditions</b>	<ul style="list-style-type: none"> <li>• Temperature (10°- 40° Celsius) continuous</li> <li>• SIP/CIP conditions (100° Celsius for 20 minutes max.)</li> <li>• Reference specific SIP/CIP conditions and material resistance prior to installation</li> </ul>

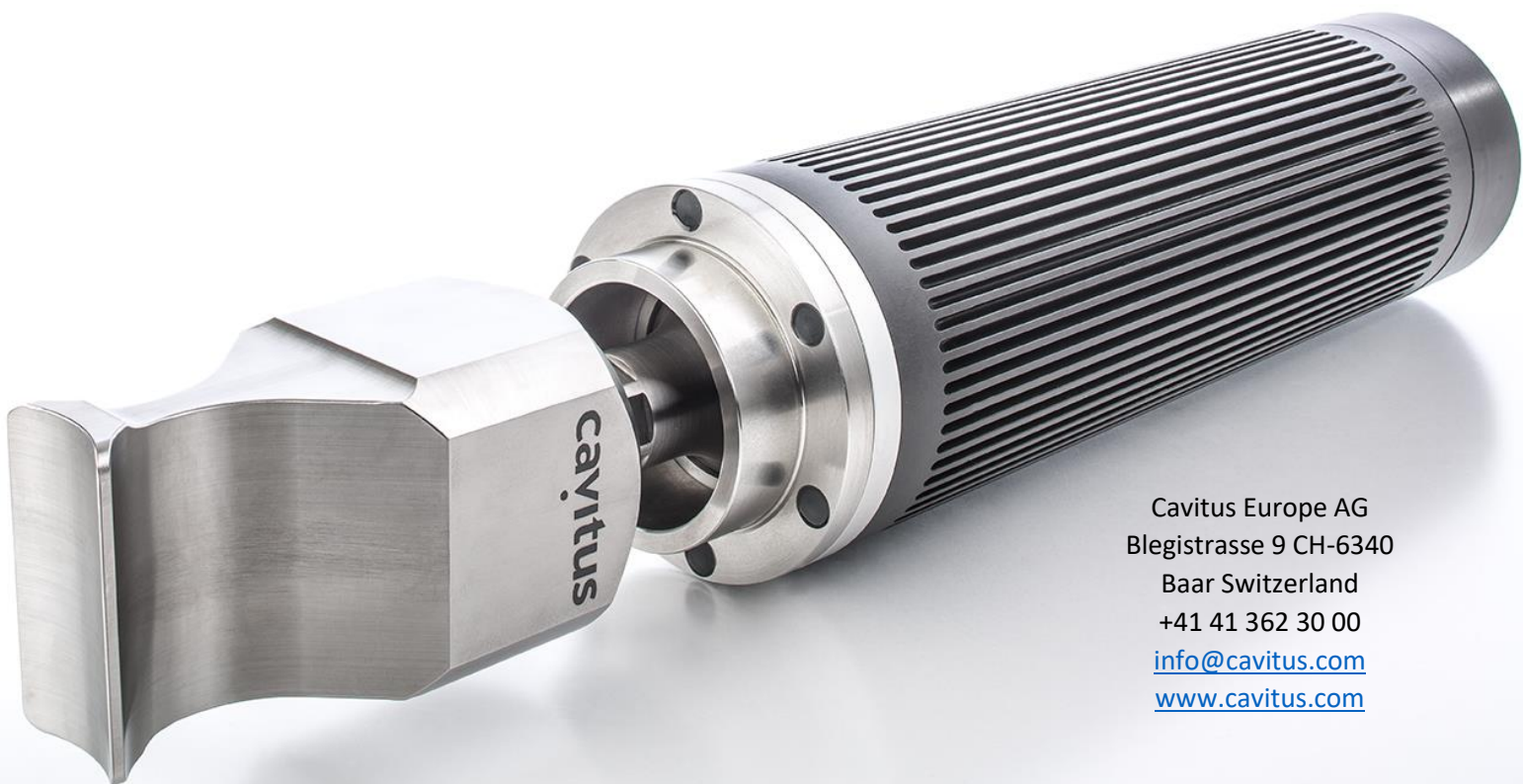
## Control Cabinet

<b>Power requirement</b>	<ul style="list-style-type: none"> <li>• Single phase</li> <li>• 180-260 V</li> <li>• 50-60 Hz (<math>\cos \phi &gt; 0.95</math>)</li> <li>• 15 A</li> <li>• 2.5 mm<sup>2</sup></li> <li>• 150 W (peak)</li> <li>• 75 W (continuous)</li> </ul>
<b>Ingress Protection class</b>	<ul style="list-style-type: none"> <li>• IP66 (without cooling fan)</li> </ul>
<b>Automated control Input signals</b>	<ul style="list-style-type: none"> <li>• Line speed (via 0-10 V, or 4-20 mA analogue)</li> <li>• Ultrasound start (24 V DC impulse signal)</li> <li>• Ultrasound stop (24 V DC impulse signal)</li> <li>• 24 V DC for relay output signals</li> </ul>
<b>Automated control Output signals</b>	<ul style="list-style-type: none"> <li>• Ultrasound running (24 V DC continuous signal)</li> <li>• Ultrasound alarm (24 V DC continuous signal)</li> </ul>
<b>Cooling option</b>	<ul style="list-style-type: none"> <li>• Cabinet extraction fan</li> </ul>
<b>Construction material</b>	<ul style="list-style-type: none"> <li>• Brushed stainless steel (EN 1.4301, AISI 304, A2)</li> </ul>
<b>Permissible ambient operating conditions</b>	<ul style="list-style-type: none"> <li>• Humidity (20%-80% (non-condensing))</li> <li>• Temperature (10°- 40° Celsius)</li> </ul>

## Control Logic System Options

<b>Control logic systems</b>	<ul style="list-style-type: none"> <li>• Option 1 - Relay control logic</li> </ul>	<ul style="list-style-type: none"> <li>• Option 2 - PLC control logic</li> </ul>
<b>Component packages available</b>	<ul style="list-style-type: none"> <li>• Siemens</li> <li>• Allan Bradley</li> </ul>	<ul style="list-style-type: none"> <li>• Siemens</li> <li>• Allan Bradley</li> </ul>
<b>Control interface</b>	<ul style="list-style-type: none"> <li>• Manual push buttons</li> </ul>	<ul style="list-style-type: none"> <li>• 4" touch panel</li> </ul>
<b>Automated control capability</b>	<ul style="list-style-type: none"> <li>• Continuous internal frequency management (20 kHz)</li> </ul>	<ul style="list-style-type: none"> <li>• Highly regulated continuous internal frequency management (20 kHz)</li> </ul>

	<ul style="list-style-type: none"> <li>• Continuous internal power management (max 1.2 kW)</li> </ul>	<ul style="list-style-type: none"> <li>• Highly regulated continuous internal power management (max 150 W)</li> </ul>
<b>Safety features</b>	<ul style="list-style-type: none"> <li>• System shutdown with power overload</li> <li>• System shutdown with frequency shift</li> <li>• System shutdown with manual 'emergency' power cut button</li> <li>• Performance level D/SIL2 dual channel emergency stop interlock</li> <li>• System shutdown with filling line enclosure opening</li> <li>• System fault with transducer temperature breach</li> <li>• System fault with control cabinet temperature breach</li> </ul>	<ul style="list-style-type: none"> <li>• System shutdown with power overload</li> <li>• System shutdown with frequency shift</li> <li>• System shutdown with manual 'emergency' power cut button</li> <li>• Performance level D/SIL2 dual channel emergency stop interlock</li> <li>• System shutdown with filling line enclosure opening</li> <li>• System fault with transducer temperature breach</li> <li>• System fault with control cabinet temperature breach</li> <li>• System shutdown with cabinet door opening</li> </ul>
<b>Additional features</b>		<ul style="list-style-type: none"> <li>• Continuous fault logging for root cause analysis</li> <li>• Remote diagnostics capability</li> <li>• Define linear functions for output amplitude vs line speed variability via the touch panel</li> <li>• Manual amplitude override feature during automation mode</li> <li>• Security login codes for various levels of access</li> </ul>



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