

TECHNICAL SPECIFICATION

Measurement of cavitation noise in ultrasonic baths and ultrasonic reactors

Withhold



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Measurement of cavitation noise in ultrasonic baths and ultrasonic reactors

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT OF CAVITATION NOISE IN ULTRASONIC
BATHS AND ULTRASONIC REACTORS**

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Technical Specification IEC 63001 has been prepared by IEC technical committee 87: Ultrasonics.

The text of this Technical Specification is based on the following documents:

Draft TS	Report on voting
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Full information on the voting for the approval of this Technical Specification can be found in the report on voting indicated in the above table.

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INTRODUCTION

Ultrasonically induced **cavitation** is used frequently for immersion cleaning in liquids. There are two general classes of ultrasonically induced cavitation. **Transient cavitation** is the rapid collapse of bubbles. **Stable cavitation** refers to persistent pulsation of bubbles as a result of stimulation by an ultrasonic field. Both **transient cavitation** and **stable cavitation** may create significant localized streaming effects that contribute to cleaning. **Transient cavitation** additionally causes a localized shock wave that may contribute to cleaning and/or damage of parts. Both types of cavitation create acoustic signals which may be detected and measured with a **hydrophone**. This document provides techniques to measure and evaluate the degree of cavitation in support of validation efforts for ultrasonic cleaning tanks and cleaning equipment, as used, for example, for the purposes of industrial process control or for hospital sterilization.

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