

# SONOSUB MULTI )) SONIC DIGITAL MULTI ))

Ultrasonic multifrequency modular generators and transducers

SURFACE TECHNOLOGY



- Digital frequency generation and control
- Multi-frequency with 40, 80 and 120 kHz for coarse, fine and superfine cleaning
- The SONIC DIGITAL MULTI is available as a two-frequency and three-frequency device
- Constant power output – digitally controllable between 10 – 100%
- Separable generator and control console
- Interface for monitoring and controlling process-relevant functions
- Switched mode power supply
- High efficiency – low heat build-up
- Optimized operational reliability

**SONIC DIGITAL MULTI modular generators** can generate up to three frequencies in a single device. This allows ultrasonic cleaning systems to be made smaller and more flexible.

#### ➤ High flexibility, optimum efficiency

##### **3:1 for multifrequency generators by Weber Ultrasonics**

The innovative SONIC DIGITAL MULTI sets new standards in the field of ultrasonic cleaning technology. With the SONIC DIGITAL MULTI submersible transducer, flexible cleaning systems can be created for coarse, fine and superfine cleaning. Parts that need different kinds of cleaning can also be accommodated in a single system.

Digital frequency generation and control, constant power output and the interval function ensure that the parts are cleaned extremely precisely.

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## ► SONOSUB MULTI transducers

with laser-welded capsule are high-precision 3-frequency ultrasonic transducers with a broad range of applications.

## ► Highest efficiency through fewer transducer elements

The SONOSUB MULTI ultrasonic transducers by Weber Ultrasonics use just one set of identical transducer elements. This offers several physical advantages:

On standard transducers, the transducer elements that are not currently being used are still exposed to the sound field, due both to the vibrating surface on which they are positioned and the liquid used to transmit the ultrasonic energy. This takes up energy that would otherwise be used to clean the parts.

Thanks to its design, a single set of special transducer elements (such as the SONOSUB MULTI) needs significantly less space for the same performance. There are no elements "in the way" that can vibrate and drain energy from the ultrasonic field. The energy saved in this way is used for the actual purpose, cleaning the parts.

The use of just one set of identical multifrequency transducer elements also prevents the undesired weakening of the ultrasonic output associated with stiffening when multiple transducers are positioned close to one another (see the 1st illustration on the right) and only one third of the elements is used to generate the ultrasonic energy in each case.



SONOSUB MULTI

## ► SONOSUB MULTI transducers

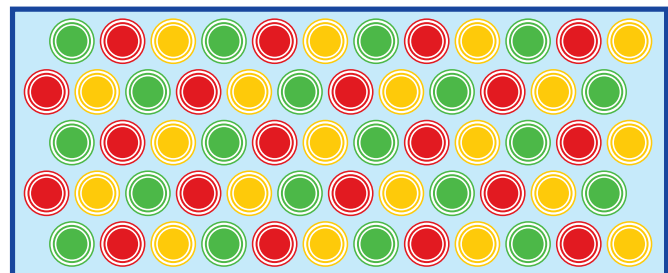
are designed for fine, superfine and coarse cleaning. As true 3-frequency ultrasonic transducers, each transducer element can generate three frequencies.

## ► More power in a smaller space

Why go without efficiency? Traditional ultrasonic transducer elements offer relatively low efficiency and require significantly more space than the innovative solution by Weber Ultrasonics: **A single multifrequency transducer element with optimum efficiency.**

## Comparison based on the example of a 1000 W submersible transducer

- **Traditional:** A transducer element is needed for each frequency (shown in red, yellow and green in the illustration).

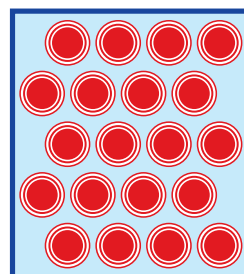


Mounting dimensions: 900 x 450 mm, 60 elements.

## ► Weber Ultrasonics:

### Solution with just one transducer element.

Extremely effective arrangement of the multifrequency ultrasonic transducer elements for three frequencies (40, 80, 120 kHz).



Mounting dimensions: 400 x 350 mm, 20 elements.