

KKS - your ultrasonic technology partner for the cleanest results

Ultrasonic solutions demonstrating the highest levels of effectiveness and process safety:

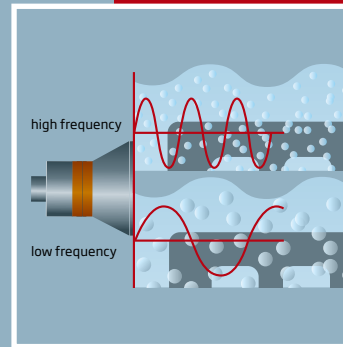
- **Customisable**
Systems for SINGLE, DUAL or MIX frequency applications
(27 & 80 kHz; 30 & 60 kHz; 40 & 100 kHz)
- **Compact and powerful**
Individual ultrasound modules up to 2000 watts
- **Communicative**
Control via bus systems or manual operation
- **User-specific**
Technical design according to process requirements

Innovative, cost-effective components and systems for seamless application

- Immersible transducers and plate transducers
- Oscillation systems for equipping tanks
- Tailored refitting and replacement of tanks
- Modular, compact and powerful generators
- Integration into control systems using Anybus module



Leading ultrasonic technology for the most stringent requirements with DUAL or MIX frequency technology




Solutions without constraints and expertise included

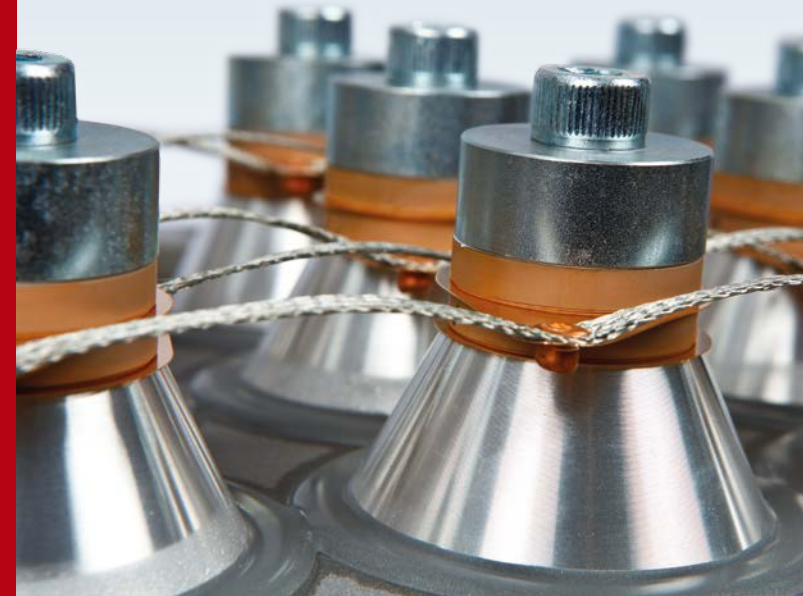


Modular generator system



KKS high-power ultrasonic technology

 Swiss Quality



))) KKS (((

High-power ultrasonic oscillation systems

We produce ultrasonic solutions demonstrating the highest levels of effectiveness and process safety.

- DUPLEX stainless steel increases resistance against cavitation erosion
- SINGLE, DUAL and MIX frequency technology
- Numerous space-saving installation possibilities
- KKS oscillation systems guarantee maximum power output

Ultrasonic transducers with maximum durability

They consist of two piezo-ceramic plates which are mechanically pre-tensioned by two metallic end pieces.

- Operational reliability
- Constant power output

The rated power of a transducer at any frequency is usually 50 watts.

Standard frequency pairings



27 and 80 kHz 30 and 60 kHz 40 and 100 kHz

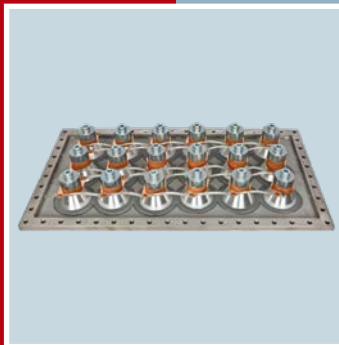


Plate transducers - space-saving and highly efficient

- Initial installation or retrofit
- Installation without reducing the bath volume



Immersible transducers - robust and flexible

- High levels of efficiency
- Targeted blast cleaning behaviour
- Many installation options



Longlife oscillation systems - maximum power density and service life

- Media with abrasive contamination
- Stringent mechanical requirement
- Use in vacuum

Wide range of applications

- Medical technology
- Pharmaceutical industry
- Precision engineering
- Watch-making industry
- Vacuum technology
- Coating technology
- Mould cleaning
- Water treatment
- Aviation and space industry
- Food industry
- Optics
- Electronics

Ultrasonic - what we offer

- Comprehensive advice on efficient and effective use
- Flexible in-house production for optimal solutions in the shortest possible time
- All components available with DUAL frequency technology:
27 & 80 kHz / 30 & 60 kHz / 40 & 100 kHz

What sets us apart

- Years of experience with ultrasonic components
- The latest technology and equipment
- Ultrasound systems in customised designs
- Complete solutions from a single source
- Designs comply with national and international standards and laws (SN / EN / UL)

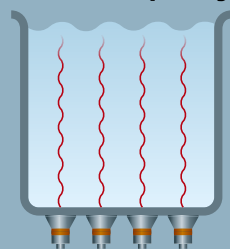
Certified to:



KKS ultrasonic technology and its control options

Using sequential or simultaneous ultrasonic treatment at two harmonious frequencies, such as 27 kHz and 80 kHz, extraordinary cleaning results can be achieved in relatively short processing times.

SINGLE frequency



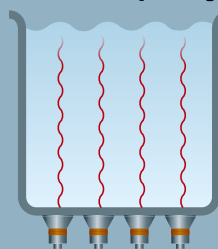
27 kHz



SINGLE frequency:

The generator operates at one frequency.

DUAL frequency



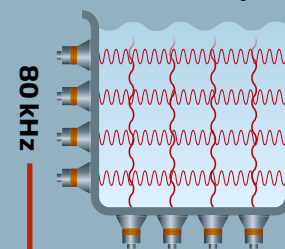
27 or 80 kHz



DUAL frequency:

For more flexibility the tank can be operated at two ultrasonic frequencies for cleaning.

DUAL/MIX frequency



27 kHz



DUAL/MIX frequency:

Simultaneous ultrasonic treatment at MIX frequencies for maximum levels of cleaning efficiency.

Generators



Technical data	KKS FT-TM generator	KKS FT-MG generator
Model	Table-top housing	Module housing or 19"/4HE-FT rack
Dimensions (W × H × D) mm	150 × 91 × 400	532 × 196 × 400 (550)
Ideal application area	Single and multiple chamber cleaning systems	Multiple chamber cleaning systems
Concept	Individual generator	Module generator with control module and power modules
Ultrasonic output watts	50 – 2000	50 – 8000 (4 modules à 2000)
System efficiency	> 95%	
Power regulation 10 – 100%	✓	
SINGLE ultrasonic frequencies	27 / 30 / 40 / 60 / 80 / 100 kHz	
DUAL ultrasonic frequencies	27 & 80 / 30 & 60 / 40 & 100 kHz	
Technical features	Automatic frequency modulation / sweep / microprocessor control / monitoring / degas function / short-circuit and no-load protection / automatic power stabilisation / automatic frequency optimisation	
Fault messages	✓	
Operation	manual / remote control	manual / remote control / fieldbus
Analogue interface	D-Sub9 / analog	D-Sub25 / analog
Anybus interface	✓	✓
19" rack	-	✓

Generator modularity - added value for you

- Customisable configuration
- Cost-saving
- Benefits and power optimised
- Flexible application



Ultrasonic power module

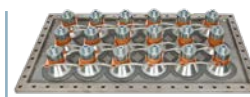


Operating module for manual operation and control



Anybus control module - flexible integration into higher-level control and monitoring systems

Oscillation systems



Technical data		Glued directly onto the tank	Immersible transducers	Longlife oscillation systems	Plate transducers
Material		Duplex stainless steel 1.4462			
Membrane thickness	mm	2 + 3	2 + 3	5	2
Dimensions	mm	in accordance with requirements	vary depending on output, e.g. 320 × 200 up to 900 × 450		
Volume	Litres	15 to 250	from ~ 200		
SINGLE frequency	kHz	27 / 30 / 40 / 60 / 80 / 100			
DUAL frequency	kHz	27 & 80 / 30 & 60 / 40 & 100			
US technology		SINGLE / DUAL / MIX			
Output	watts	300 to 2000 per tank side	300 to 2000 per transducer	300 to 2000 per transducer	300 to 2000 per transducer
Vacuum-tight design on request		--	--	✓	--
Special materials		--	✓	✓	✓

The dimensions stated are guidelines. We are happy to provide you with the optimized dimensions and output for your specific applications.

We would be happy to discuss your specific ultrasound needs with you, simply get in touch.
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