

Ultrasonic Sieving for Laboratories

UIS250L ultrasonic sieving tower

The ultrasound technology is used for the acceleration of sieving processes alternatively or complementary to the classical low frequency vibrators. Especially in case of very fine materials ultrasound is often the only possibility to enable the sieving process at all.

Hielscher Ultrasonics has developed a worldwide unique technology especially for exciting common laboratory ring sieves (according to DIN ISO 3310/1 or ASTM E 11-95) with diameters of 100mm up to 400mm. A ring sonotrode that fits the sieve is excited by the ultrasonic processor UIS250L. The ring sonotrode transmits the oscillation via the sieve frame to the screening surface. With the help of the clamping fixtures the neighboring sieves are also excited. In contrast to the ultrasonic sieving processes known until now, in which each sieve needs its own ultrasonic excitation, this is a very inexpensive and flexible solution.

Another advantage of this exciting

principle is that the transducer is situated outside the material to be sieved.

This technology can be used for dry or wet sieving, as well as for cleaning the sieves. The ultrasonic components can be retrofitted in already existing sieving towers and can even be used in combination with vibrators. In this case the delivery scope consists only of the ultrasonic processor UIS250L and the ring sonotrode, which will be fitted into the common laboratory ring sieves of most manufacturers (see table).

An accessory set is necessary for a complete sieving tower. The set consists of a basic platform, tension bars with rapid tension nuts, a bottom receiver and a top cover.

On request we can also offer the required laboratory analysis sieves.



ultrasonic excitation on a sieving tower with 4 laboratory sieves, diameter 200mm



sieve diameter	ring sonotrode	accessory set
100mm	RIS100	SZS100
150mm	RIS150	SZS150
200mm	RIS200	SZS200
203mm (8")	RIS203	SZS203
305mm (12")	RIS305	SZS305
400mm	RIS400	SZS400

Other dimensions for the ring sonotrodes can be realized on request.

Technical specifications of the ultrasonic processor UIS250L:

generator

frequency	24kHz, automatic control
power	250 watts
power control	amplitude 20-100%

power supply	230V~, 2A, 48-63Hz, 115V~, 4A, 48-63Hz
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transducer

version	in stainless steel housing
dimensions	Ø48mm, length 160mm
weight	1.2kg

For wet sieving of extremely small volumes we offer special sieves with mesh size down to 5µm and the corresponding ultrasonic technology.

