

ULTRASONICS — DISCHARGE & FLOW AIDS

Retire the hammer.

Fine, cohesive powders bridge over outlets, rathole through silos, and cake onto walls — and the traditional fixes are brute force: knockers, vibrators, and air blasters that hammer the vessel, deafen the plant, and still leave product behind. Ultrasonic flow promotion is the opposite instinct. Small transducers apply high-frequency, low-amplitude micro-vibration directly to the wall, breaking the static friction between product and surface — so material flows because it can't grip, not because it's being beaten loose.



Ultrasonic discharge aid on a conical hopper, tuned from the control unit

Bridging & ratholing

Cohesive powder arches over the outlet or tunnels a channel through the vessel — live capacity shrinks and flow stops without warning.

Caking & carryover

Product left clinging to walls contaminates the next batch and slows every changeover. Ultrasonic excitation keeps surfaces releasing — toward complete residual emptying.

Brute force backfires

Hammer blows and vibrators stress welds and can crack vessels over time — ultrasonic excitation causes no such damage, with no disturbing noise to insulate against.

Where it works

- 01 Silos, hoppers & bins.** Transducers mounted to cones and walls (ideal on 2–6 mm wall thickness) promote mass flow and near-complete emptying — and can be added to existing vessels at any time.
- 02 Chutes, pipes & process equipment.** Transfer points, screw conveyors, dosing units, spray towers, and mixing chambers — anywhere sticking and buildup interrupt the process.
- 03 The hard-to-flow list.** Titanium dioxide, PVC resins, and fine or electrostatically charged powders that shrug off conventional flow aids are exactly where ultrasonics earn their keep.
- 04 Around the clock, in any zone.** Low power draw, suitable for 24-hour operation, ATEX 22 approved for dust atmospheres — with on-site testing available on your material before you commit.

Ultrasonic vs. classical flow aids

	Ultrasonic	Mechanical / pneumatic
Continuous flow	High	Medium
Residual emptying	High	Low–Medium
Noise	Low	Medium–High
Running costs	Low	Medium–High

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ULTRASONICS — FINE SCREENING

Screen down to 20 μm . Without the blinding.

The finer the cloth, the faster it blinds: near-size particles wedge into the openings, sticky products smear across the wires, and throughput collapses just when precision matters most. Ultrasonic debinding solves it at the source. A microprocessor-controlled generator drives a sound-transmission ring bonded to the mesh, spreading ultrasonic waves across the entire screen surface and cutting the friction between product and wire — so the cloth stays open while the machine keeps running.



Ultrasonic generator with sound-transmission ring bonded to the screen

Throughput, multiplied

Product passes the mesh faster, so fine-screening capacity rises sharply on the same screening surface — often the difference between one machine and two.

Cuts down to 20 μm

Ultrasonic excitation makes production screening practical at cut points that plain cloth simply can't sustain.

Tuned to the task

Amplitude and frequency bandwidth are adapted to each screen and product. The patented approach prevents resonance hot spots and reduces mechanical load on frame and mesh.

Clean by design

Converter and cabling stay outside the machine — no foreign-particle risk in the product zone. Contamination-free screening for food and pharmaceutical work.

Gentle on the cloth

No balls, brushes, or mechanical cleaning wearing at the wires — screening accuracy goes up while mesh damage goes down.

Retrofit any machine

Designed to mount on new or existing screening machines — and available with ATEX specification for hazardous areas.

Better together

Deblinding hardware works best when the screen is built for it. GQI supplies ultrasonic-ready replacement screens and rescreens — bonded transmission rings included — along with transducers and components, for most makes and models of screening machines.

Prove it on your product. On-site testing is available — we'll demonstrate ultrasonic performance on your material, in your plant, before you commit. Ask us about a trial.



Email us
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Let's talk ultrasonics.

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