

INDUSTRY FOCUS

Recover more. Downgrade less.

In recycling, separation quality is the business model: the sharper the cut, the purer the fraction, the higher the price it commands. But recycled streams fight back — feed composition changes truck to truck, contaminants are abrasive, and shredded battery material adds combustibility to the list. GQI pairs world-class processing technologies with hands-on application expertise and responsive US-based support — helping recyclers screen, dedust, recover, and contain variable streams at production rates.

We support black mass recovery from shredded batteries, PET flake fractionating and dedusting, recycled glass cullet, plastics reprocessing and regrind, metal and powder reclaim, e-scrap fractions, and industrial byproduct recovery.



Reprocessed flake — the cut decides what it is worth

The feed never stays the same

Recycled inputs vary in size distribution, moisture, and contamination from lot to lot. The screening system has to hold its cut point anyway, and shrug off the surprises that arrive with the load.

Purity is the price ticket

A recovered fraction is worth what its contamination allows. Sharper separations upgrade the same input into higher-value outputs — the difference between selling a product and paying to landfill a byproduct.

Abrasion eats margins

Glass, metals, and mineral fillers grind away screen cloth, liners, and elbows. Wear-resistant builds and fast screen exchange decide whether maintenance is a line item or a lifestyle.

Where we make the difference

- 01 Black mass recovery from shredded batteries.** Shredded cells fractionate into foils, casings, and black mass. GKM KTS tumbler screeners reach the cut points the duty actually needs — 0.2 to 6.0 mm — recovering the 40–50% black mass fraction while separating aluminum, copper, and steel. ATEX-certified, dust-tight, and contained end to end.
- 02 PET flake fractionating & dedusting.** Washed flake has to leave the line at a uniform size, dust-free, and static-controlled before it can be extruded or sold as recycle. Tumbler screening sets the fraction and takes the dust out; the machine is grounded against the charge PET builds in handling; and screen cleaning holds the cut so the mesh never blinds mid-campaign.
- 03 Recycled glass cullet.** Cullet is sized to what the furnace or the secondary market will accept, with fines and light organic residue taken out of the good fraction — and it is among the most abrasive streams in the plant, so the build matters as much as the cut.
- 04 Dedusting regrind & contained loadout.** Vibratory dedusting pulls fines out of flake, regrind, and granulate before extrusion or sale, and FIBC filling with dedusting connections sends recovered product out clean, contained, and to spec.

A note on PET. Recycled-content rules drive the demand — California requires 25% postconsumer resin in CRV beverage containers from 2025, rising to 50% in 2030 — and recycle earns that only if it leaves the line uniform, dust-free, and static-controlled. GKM screens both ends: the tumbler fractionates and dedusts finished flake, and a vibratory machine returns the wash water to the wash instead of the drain.

Let's talk about your process.

Innovative Solutions. Reliable Support. Always a Step Ahead.

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WHAT WE DO

Built for streams that fight back.

GQI curates proven technologies from trusted manufacturers and stands behind them for the full life of the installation, from our headquarters in the Chicago area — wear-appropriate builds for variable feeds, and the screens, parts, and service to keep recovery lines running.

Separation & Recovery Screening

GKM tumbler screeners with up to six decks and seven fractions, mesh openings from 20 µm to 25 mm, plus high-frequency vibratory machines for dedusting and control screening at rate.

Wear-Resistant Screens & Rescreens

Diffusion-hardened wire mesh delivers up to ~3× wear life on abrasive streams, and the rescreen loop re-meshes your existing frames at a fraction of new-frame cost.

Bulk Handling & Containment

Hecht FIBC discharge and filling, sack dump, and drum stations with dust extraction and contained executions — including builds for combustible battery-material streams.

Flexible Connections & Flow

Filcoflex connections in heavy-abrasion and conductive membranes with grounding for dusty, classified areas — plus Artech ultrasonic flow aids where fine recovered powders bridge and cake.

Pneumatic Conveying

Vacuum and pressure conveying components with wear liners, lined diverters, and hardened builds for abrasive recycled materials — specified from the material backward.

Aftermarket & Field Service

Factory-trained commissioning, preventive maintenance, repair, and quick-ship screens and parts — responsive and US-based, for our brands and others.

Black mass: where the cut point is the product

Shredded cells fractionate into foils, casings, and black mass — the fine cathode and anode fraction, with residual aluminum, copper, and steel still to separate. It runs 40–50% of the feed at bulk densities from 100 to 1,000 g/l, so the machine has to hold its cut across very wide material behavior.

GKM screens this on the **KTS** tumbler, with relief decks — up to six — to sharpen the separation, and ultrasonic mesh cleaning where the finest 0.2–0.4 mm cuts are needed to lift black mass quality. Every GKM machine is ATEX certified, a clip-on dust-tight seal keeps the fraction in the machine, and quick clamps with manual or pneumatic deck lifting keep a screen change from becoming a shift.



GKM KTS 1200-2 — multi-deck tumbler for black mass duty

Streams we know

Black mass

Cathode & anode materials

Foils & casings

PET flake

Plastics flake & regrind

Glass cullet

Metal powder reclaim

Shredded e-scrap

Industrial byproducts

Engineered for compliance: ATEX-certified machines for battery-material streams • dust-tight clip-on sealing • wear-resistant diffusion-hardened mesh • ISO 9001:2015 screen fabrication • EN 10204 3.1 material certificates



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