

INDUSTRY FOCUS

High-value powders. Zero room for error.

From aerospace-grade superalloys to battery-bound black mass, the most strategic materials in American manufacturing move through the plant as fine, reactive, specification-critical powders. GQI pairs world-class processing technologies with hands-on application expertise and responsive US-based support — helping processors screen, convey, contain, and control these materials safely, to spec, and at production rates.

We support the full powder lifecycle: atomization and primary production, additive manufacturing and powder recovery, thermal spray, powder metallurgy, and the fast-growing battery materials and recycling chain.



Fine metal powders — the fraction is the product

Reactive & combustible

Fine aluminum, titanium, magnesium, and lithium powders and dusts are explosion hazards. Equipment must be specified for these environments — sealing, grounding, and inert-gas operation included.

Chemistry that can't drift

Oxygen pickup degrades powder chemistry and closes doors to qualified applications. Screening and transfer under argon cover keeps interstitials — and product value — where they belong.

Specification-critical sizing

Powder specifications keep moving finer as these industries mature, and cuts that used to be optional are now the product itself. From millimeter fractions down to the fine end of the range, the cut point is what is being bought.

Where we make the difference

- 01 Protective screening & AM powder recovery.** Safety screening at 63–100 μm cut points removes spatter and fused particles, returning used build powder to production instead of the waste drum — at hundreds of kilograms per hour on a single compact deck.
- 02 Classification into premium fractions.** Multi-deck screening splits atomized powder into up to six precise fractions with cut points down to 20 μm — turning one wide distribution into several salable, specification-grade products.
- 03 De-dusting & fines control.** Removing superfines improves flowability, spreadability, and dosing accuracy — the difference between powder that processes and powder that fights back.
- 04 Black mass & battery materials recovery.** Screening shredded battery fractions at 0.2–6.0 mm cut points recovers the 40–50% black mass yield while separating foils, casings, and metallics — dust-tight, contained, and ATEX-compliant end to end.
- 05 Atomized metals.** Gas- and water-atomized powders leave the tower with a wide as-produced distribution and a satellite population belonging to neither end of it. Screening after atomization is what turns one heat into several qualified fractions — in contained, inert-capable execution, so chemistry does not drift between the tower and the drum.

Let's talk about your process.

Innovative Solutions. Reliable Support. Always a Step Ahead.

sales@gqind.com | +1 (773) 234-8003 | www.gqind.com

WHAT WE DO

One accountable partner. From concept through operation.

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. Equipment, parts, and the people who know both.

Screening & Separation

Tumbler and vibratory screeners with ultrasonic mesh cleaning, quick-clamp screen exchange, and up to six decks. Stainless product-contact construction with surface finishes to $Ra < 0.4 \mu m$.

Inert & Contained Handling

Argon-blanketed transfer, glove-box filling and weighing, and high-containment discharge and filling systems that protect operators and product alike.

Pneumatic Conveying

Vacuum conveying that moves fragile, abrasive, or hazardous powders gently and dust-free between process steps — cleanly integrated with upstream and downstream equipment.

Bulk Bag & Container Handling

Discharge and filling stations, docking systems, and sealed transfer containers that keep the atmosphere in and contamination out.

Dosing, Sampling & Weighing

Precision feeding, in-process sampling without breaking containment, and automated lot weighing with records for full traceability.

Lifecycle Services

Start-up and commissioning, preventive maintenance, diagnosis and repair, operator training, and modernization of legacy systems — responsive and US-based.



Contained transfer between process steps



Glove-box filling and weighing



GKM KTS 1200-2, multi-deck classification

Materials we know

Ni & Co superalloys

Titanium & Ti-6Al-4V

Aluminum

Magnesium

Copper

Iron & steels

Tungsten & carbides

Black mass

Cathode & anode materials

Lithium compounds

Graphite

Engineered for compliance: ATEX-certified screening equipment • built for combustible-metals service • IQ/OQ/DQ and FAT/SAT qualification documentation • EN 10204 3.1 material certificates • FDA-compliant product-contact materials available



Email us
sales@gqind.com

Let's talk about your process.

Innovative Solutions. Reliable Support. Always a Step Ahead.

sales@gqind.com | +1 (773) 234-8003 | www.gqind.com