

INDUSTRY FOCUS

Hazardous dust, handled like it matters.

Chemical powders and granules rarely make handling easy: they corrode the equipment, are hazardous to health, cake in the hopper — and a significant share of them form explosible dust clouds. GQI pairs world-class processing technologies with hands-on application expertise and responsive US-based support — helping chemical processors screen, convey, contain, and control difficult powders safely and at production rates.

We support specialty and commodity chemistry alike: pigments and dyes, polymer additives, detergents and surfactants, fertilizers and ag-chem, adhesives, resins, and intermediates.



Dust-tight processing line for chemical powders

Combustible dust is a design input

Where a dust hazard analysis identifies explosible dust, the K_{st} and P_{max} values belong in the equipment specification — sealing, grounding, and pressure-shock-rated components included, built for combustible-dust service.

Chemistry attacks the equipment

Alloys, elastomers, and membranes have to match the product — 304 where it can, 316L and special steels where it must, PTFE and FKM where rubber gives up. Corrosion-appropriate materials are chosen at specification, not discovered in service.

Exposure & escape

Toxic and hazardous powders make every open transfer point a liability — for the operator breathing it and the housekeeping crew chasing it. Contained transfer keeps the product in the process.

Where we make the difference

- 01 Safety & check screening at rate.** Remove lumps, agglomerates, and foreign material at truck receiving and ahead of packaging or reaction steps — high-frequency control screeners run up to 200 tons per hour through a single machine.
- 02 Contained FIBC, drum & sack handling.** Discharge and filling stations with dedusting connections, liner clamps, and hazardous-dust executions built to your Class / Division / Group area classification.
- 03 Conveying through classified areas.** Vacuum and pressure conveying with conductive builds and grounding, explosion protection on filter receivers, and rotary valve options rated for 10-bar explosion pressure shock.
- 04 Flow promotion & delumping.** Artech Flowsonic ultrasonic flow aids keep caking, hygroscopic powders like titanium dioxide, calcium carbonate, and zeolite discharging steadily — and in-line lump breakers give downstream equipment consistent product.

Let's talk about your process.

Innovative Solutions. Reliable Support. Always a Step Ahead.

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WHAT WE DO

Specified for the hazard. Supported for life.

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. For chemical processors, every request starts with the material record: corrosivity, toxicity, and combustibility data captured before a single component is picked.

Screening & Classification

GKM tumbler and vibratory screeners from gentle 20 μm classifying to 200 tph control screening — with dust- and gas-tight decks and builds for hazardous-dust zones (ATEX-certified).

Bulk Handling & Containment

Hecht sack dump, drum, and FIBC filling and discharge stations with dust extraction and high-containment options — specified against the product's exposure and area classification.

Pneumatic Conveying

Airlocks, diverters, cyclones, filter receivers, and blower packages specified from the material backward — combustible-dust screening with DHA, K_{st} & P_{max} captured up front.

Flexible Connections & Grounding

Filcoflex connections with conductive and antistatic membranes for hazardous-dust zones 20/21/22 — standard builds explosion-tested to 1.5 bar — plus PTFE and FKM options where chemistry demands them.

Flow Promotion & Lump Breaking

Ultrasonic flow aids, vibrators, bin activators, and in-line lump breakers — matched to the failure mode, the material, and the vessel, not the habit.

Aftermarket & Field Service

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



GKM control screener for safety screening



Filter receiver for vacuum conveying



Jacob-style flexible connection

Materials we know

Pigments & dyes

Titanium dioxide

Polymer additives

Detergents & surfactants

Fertilizers & ag-chem

Adhesives & resins

Carbonates & fillers

Specialty intermediates

Engineered for compliance: equipment built for combustible-dust service, specified from your DHA (ATEX-certified builds available) • Class / Division / Group hazardous-area executions • conductive membranes & grounding • corrosion-matched alloys & seals • EN 10204 3.1 material certificates



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