



Who we are

GEA is one of the largest suppliers of process technology for the food industry and a wide range of other sectors. As an international technology and engineering group, the company focuses on world-leading process solutions and components for sophisticated production processes. We strive to be the partner of choice in the industries we serve.

To enhance client access, we have implemented a new organizational structure. The former GEA segments (Farm Technologies, Mechanical Equipment, Process Engineering and Refrigeration Technologies) have been amalgamated into two Business Areas (BA): one focusing on equipment and the other on process solutions.

The two business areas, Equipment and Solutions, can now deliver greater benefits to our customers. With streamlined product innovation the time to market is optimized and, coupled with our global production networks, delivery is improved. This is all coupled with world-class service for every market we serve.

Ultimately, our new structure allows customers to obtain equipment, solutions and service of the highest quality with some of the best professional support in the industry from one source.

GEA supplies world-class precision engineering that the chemical and related industries need and rely on to develop new products, control costs and protect the environment.

What we offer

All over the world, GEA's operational sales and service activities have been combined at a country level to act as a central point of customer contact and supply our entire range of products and services.

Technical sales support and process solutions for chemical & petrochemical, cement, glass, iron & steel, the non-ferrous industry and for power & incineration plants are available at GEA, offering chemical process, chemical drying and emission control expertise.

From single components to complete process units, GEA provides tailor-made solutions for process plants and fully integrated production lines. As a single-source solution supplier, we offer a comprehensive service package by becoming fully involved with our customers — from supply to after-sales support — coupled with our global production networks and world-class delivery in every market we serve.

In our numerous in-house test centers, state-of-the-art laboratory facilities, pilot plant and test equipment is available for research, product development and large-scale industrial applications.

Working with GEA means partnering with a dedicated team of experts. Our single focus is to build, maintain and improve plant production to enhance customer performance throughout the entire lifecycle of the process line and its equipment.

We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

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Chemical applications

Solutions for chemical processes

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Applications

Inorganic



Basic inorganic chemicals such as salts and alkalis need purification prior to being used on the farm or the dining table. GEA has the experience, technology and expertise to refine the Earth's minerals through evaporation, crystallization and drying in an efficient, cost-effective and environmentally sustainable way.

Examples of our key applications include

- agrochemicals: pesticides and fertilizers derived from potash, phosphoric acid and phosphates, sulfuric acid and sulfates, nitric acid and nitrates, and pesticides.
- basic inorganic chemicals: mainly derived from mineral acids and alkalis, salts and silica.

Organic



Many organic base chemicals and intermediates are derived from refinery products and further processed into end products for consumer use. GEA provides solutions for the recovery and purification of a wide variety of organic solvents, for the concentration of organic compounds and drying of polymers. Jet vacuum pumps are often used with liquid ring pumps to create a vacuum in crude oil distillation columns.

Examples of our key applications include

- monomer/polymers • organic compounds • organic acids • organic solvents
- vacuum technology for refineries

Renewable



Many biochemicals are now produced from renewable raw materials such as starch, sugar or vegetable oils instead of fossil resources. In the near future, other kinds of biomass such as cellulose will also play a key role. A major growth driver in the biochemical industry is the biotechnological production of chemicals and compounds that would traditionally be derived from petrochemicals.

Examples of our key applications are include

- amino acids • bio-based chemicals • biofuels • oleochemicals

Industrial



The industrial chemical sector generates a vast number of products. Whether it's a liquid or spray dried item, an industrial fluid or an effluent from which a valuable by-product needs to be recovered, GEA can provide a customized process solution. GEA delivers separation, concentration, crystallization and drying expertise as well as ejector systems and pilot plants.

Examples of our key applications include

- industrial waste water • dyes & pigments • mining & metallurgy
- hard metals • ceramics • lithium battery materials

Process Emissions



The global process industry has long been associated with harmful emissions. As a consequence, manufacturers often face increasingly stringent legislation and compliance requirements, which means that suppliers such as GEA are driven to deliver smart emission reduction solutions. With the right combination of energy saving and pollution-control technology, GEA ensures that processes can be run in an economical and are environmentally friendly way.

Examples of our key applications include

- chemical production • cement • mining & metallurgy for non-ferrous metals • iron & steel
- glass production • emergency gas scrubbers

Energy Emissions



Climate change has never been higher on the global agenda. Policed by multilateral agreements, legislation is constantly tightening. Yet, environmental technologies can play a key role in enhancing plant performance. When it comes to flue gas desulfurization (FGD), for example, GEA's spray drying absorption (SDA) process can provide a competitive edge. By enhancing efficiency and limiting costs, SDA helps you to balance both regulatory compliance and finance.

Examples of our key applications include

- flue gas desulfurization in the power industry and waste incineration

Applied Technologies and Equipment

Centrifugal Separation



- Separators
- Decanters

Membrane Filtration



- Microfiltration
- Ultrafiltration
- Nanofiltration
- Reverse osmosis

Evaporation



- Falling film evaporator
- Forced circulation evaporator
- Plate evaporator
- MVR/TVR heated evaporator

Distillation



- Distillation columns
- Multi-effect rectification
- Molecular sieves
- Selected fermentations

Melt Crystallization



- IceCon® — freeze concentration
- Wash column
- Suspension crystallizer

Solution Crystallization



- Draft tube baffle (DTB)
- Oslo-crystallizer
- Forced circulation crystallizer
- Flash cooling crystallizer

Spray Drying



- Spray dryer
- Flash dryer
- Powder agglomerator
- Spray congealer

Fluid Bed Drying



- Static fluid bed
- Vibrating fluid bed
- Contact fluid bed

Solid Feed Drying



- Agitated flash drying
- Flash dryer
- Rotary dryer
- Ring dryer
- Column system

Small Scale Plants



- Pharmaceutical drying
- Liquid concentration
- Crystallization

Powder Handling



- Dosing & feeding
- Bag, box & drum filling
- Palletizing
- Pneumatic conveying

Particle Forming & Cooling



- Calciners
- Rotary coolers

Spray Dry Absorption & DeSOx



- Spray dry absorption (SDA) with rotary atomizer
- Dry, semi-dry, wet DeSOx

Dust Collection



- Dry/wet precipitator
- Ecopuls bagfilters
- Ceramic candle filter
- EP absorber

SCR Technology



- Selective catalytic reduction (SCR) plants for NOx removal
- VOC removal

Cooling & Gas Scrubbing



- Venturi /jet scrubber
- Absorption scrubber
- Hot gas quench
- Annular gap scrubber
- Laboratory gas scrubber

Energy Recovery by ORC



- Waste heat recovery units (WHRU)
- Energy recovery with ORC
- Heat exchanger

Vacuum Systems



- Combined steam jet & LRVP systems
- Multi-stage steam jet vacuum pumps
- Steam jet cooling systems

Chilling & Refrigeration



- Chilling systems
- Industrial process refrigeration
- Screw compressor systems
- Gas-booster systems
- Boil-off systems

Homogenization



- Industrial homogenizer
- Laboratory homogenizer
- Compression block
- Nanovalue & peripheral devices

Flow Components



- Hygienic valves
- Aseptic valves
- Hygienic pumps
- Cleaning technology

Ejectors



- Ejectors
- Mixers
- Thermal vapor compressors

Product Testing & Prototyping



- Simulation & testing
- Standard & special analytics
- Inhouse & rental pilot units
- Proof of line concepts
- Small sample production
- Process development & optimization

Service



- Commissioning
- Optimization
- Predictive & preventive maintenance
- Spare parts