coperion

diosna coperion K-TRON gabler

kemutec unifiller vmi

# Cosmetics & personal care
## integrated solutions

coperion.com/fhn

# About Coperion cosmetics & personal care solutions

## Coperion is a global industry and technology leader in specialized solutions and integrated systems for the health and nutrition industries.

Our Health and Nutrition (H&N) experts develop and produce systems, technologies and components for the cosmetics, personal care, pharmaceutical, and nutraceutical industries. Coperion's H&N technology brands - DIOSNA, Gabler Engineering, Kemutec, K-Tron, Unifiller, and VMI - deliver industry-leading solutions built on decades of global expertise.

We offer comprehensive solutions for cosmetics and personal care products including lotions, creams, mascara, foundation and powders.

For the cosmetics and personal care markets, we offer comprehensive technology solutions for a variety of products including lotions, creams, mascara, foundation and powders.

We accompany you from the receipt of your raw materials and active ingredients, through R&D testing and pilot-scale trials, providing equipment tailored to your specific manufacturing needs. This allows cosmetic companies to reliably scale up from laboratory formulations to full production while maintaining quality, safety and efficiency at every stage.

Coperion employs more than 5,000 people with over 50 sales and service companies worldwide.

### Contents

# Why choose Coperion?

### Versatile options

Various processing technologies and integrated solutions for solid and liquid products.

### Single source supply

Full system design for peace of mind – from R&D to production processing.

### Specialized engineering teams

Ensure the design is focused on safety and efficiency.

### Reliable processing

Coperion unites renowned application experts and equipment providers, offering a comprehensive suite of solutions for all your cosmetic processing needs.

# Formulations & products

## Our cosmetic technologies are equipped with advanced features designed to ensure precision, quality, and consistency.

From makeup and skincare to hair and body care, we support the manufacturing of products that help people look and feel their best. Whether it's a smooth texture, a fresh scent, or visible results on skin and hair, our solutions help shape the beauty and well-being experiences that inspire confidence every day.

# Products

## Make-up

- Mascaras
- Lipsticks
- Makeup powders (eye shadow, foundation, etc.)
- Nail polish

## Hygiene

- Makeup remover
- Toothpaste
- Gel, soap
- Deodorant
- Mouthwash

## Skin Care

- Creams & ointments
- Oils, milk, scrubs, gels
- Hands – Face – Feet
- Hyaluronic acid

## Hair care

- Shampoos & conditioners
- Mousses
- Masks
- Lotions, creams
- Gels, oils
- Hair dyes & bleaches

## Perfumes

- Perfume
- Eau de toilette
- Cologne

## Inflammable gels & lotions

- Hair styling products (lotions, hairsprays, shine sprays)
- Deodorants & antiperspirants
- Cleaning sprays

# Formulations & products

## Processing solutions for all cosmetic and personal care formulations.

From liquids to powders, every cosmetic form comes with its own challenges – and opportunities. Our expertise spans the full spectrum of cosmetic formulations.

We provide solutions that ensure consistent quality, strict GMP compliance, and precise control over formulation attributes such as viscosity, texture, and color.

**Our mission:**

To deliver formulations that combine technical performance with consumer appeal, stability, effectiveness, and a unique sensory signature.

# Product consistencies from liquid to viscous, pasty, mousse and powder based solid products

### Liquids consistency: Liquid/liquid mixing

- Dilution, homogenization: perfumes, serums, makeup remover
- Emulsification: cosmetic milks, lotions

### Pasty consistency: Highly viscous/thick products

- Mixing of liquid/solid with high proportion of powders for products like toothpaste, masks, ointments

### Viscous consistency: Liquid/solid mixing

- Dissolution: perfumes, gels
- Suspension: gels, shampoos, pigments

### Complex/highly viscous consistency: Liquid/solid mixing

- Emulsification/gelling/ homogenization & high viscosity: cosmetic creams, mascara, foundation

### Moussy consistency: Liquid/solid/gas

- Incorporation of air or application of shear to reduce bubble size for products like shaving foam, hair mousse, body mousse etc.

### Powder based, solid consistency:

- For solid cosmetic and personal care products, toothpaste, mask, and peeling inclusions

# Cosmetic process excellence & quality

## Cosmetic formulation is a highly precise process that transforms raw materials into high-quality products.

From the introduction of raw materials to the final product, every step is carefully controlled to ensure consistency, stability, and efficacy. Our comprehensive approach guarantees that each product meets the highest standards of safety and performance.

### Raw material handling and preparation

- **Storage:** Ingredients are stored under controlled conditions to preserve quality (temperature, humidity, light exposure)
- **Preparation:** Raw materials are weighed, sieved, or pre-treated before being introduced into the formulation
- **Dosing:** Accurate measurement of each component ensures proper formulation and repeatability

### Mixing & homogenizing

- Wide variety of processes for liquid to semi-solid products: dilution, dissolution, suspension, homogenization, dispersion
- Simple agitation and complex processes requiring multiple mechanical and physical effects
- Triple-agitation technology allows efficient mixing of challenging formulations
- Wide variety of processes for semi-solid to powder-based solid products: powder mixing, blending, granulating, drying, extruding, and pelletizing

### Air incorporation & deaeration

- Air incorporation creates light textures in foams and mousses
- Degassing under vacuum removes trapped air, preventing defects in the final product

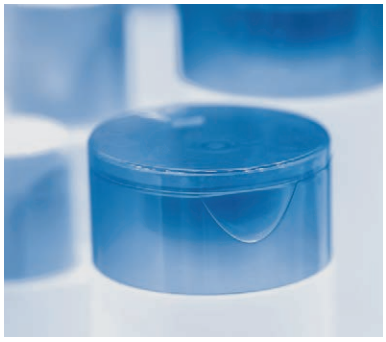
### Thermal control

- Melting of waxes and fats ensures homogeneous blending
- Controlled cooling stabilizes emulsions, gels, and creams while preserving texture

### Cleaning and sterilization

- CIP (Clean-in-place) and SIP (Sterilization-in-place) guarantee equipment is free from contaminants, ensuring product safety

# Quality, traceability & controlled environment



## Producing excellence requires outstanding process control.

- **Repeatability**
  Every batch meets strict specifications to ensure consistent quality, texture, and performance
- **Cleaning and sterilization**
  CIP and SIP procedures maintain the highest hygiene standards
- **Traceability**
  Every ingredient, step, and batch is fully documented for compliance and safety

**Cosmetic manufacturing demands rigorous attention to repeatability, traceability, and cleanliness.**

Our technologies are designed to meet the strict requirements of controlled environments. Cleanrooms are equipped with precise specifications for:

- Materials and surfaces used in construction
- Temperature and humidity control
- Air quality management
- Regular maintenance and monitoring

By carefully managing every stage, from raw material introduction, storage, preparation, and dosing, to dispersion, mixing, thermal control, and sterilization, we ensure each cosmetic and personal care product achieves the highest level of excellence in quality, safety, and performance.

GMP COMPLIANT

FDA 21 CFR Part 11

Gamp

Our specialized engineering teams ensure our technologies meet all hygiene and safety guidelines and restrictions.

# Processing liquids

## We cover multiple applications such as: Liquid, semi-liquid, viscous, and semi-solid products like creams, gels, lotions, shampoos, and toothpastes.

Cosmetics and personal care products are designed to interact with the body in specific ways, and many parameters must be carefully controlled depending on the intended effect – whether to hydrate, protect, provide anti-aging benefits, enhance, highlight, mask imperfections, add volume, or cleanse.

Formulations can be complex depending on the desired effect. Ingredients, mixing tools, processing conditions all influence the stability, safety, and effectiveness of the final product. Choosing the right process and technologies is essential.

**We offer entire integrated systems - everything from a single source.**

# Liquid mixing: Diluting, dispersing, homogenizing & emulsifying

## Our laboratory and pilot range is designed for maximum versatility, ideal for trials, formulation development, and small-batches.

Our mixers can handle a wide range of raw materials and rheologies, allowing you to explore different processes with precision. They are perfect for experimenting and fine-tuning formulations before scaling up.

### Laboratory trials

**VMI** Turbotest

**VMI** R51

**VMI** Ultralab

vmi

| | Benchtop mixers | | |
|---|---|---|---|
| **Models** | **Turbotest®, Turbotest Up** | **R51, R51E**** | **Ultralab®** |
| Scale | Lab scale | Lab scale | Lab scale |
| Capacity (in litres) | 0.25-20 | 4.5 | 0.5-3 |
| Benefits & properties | Diversity of mixing tools, mixer covering a wide range of containers/ beakers, ergonomic design and intuitive touchscreen interface with 2-3 user modes, reproducibility of process parameters | Planetary mixer, versatility with 3 interchangeable tools; robust, safe and hygienic design, can be equipped with heating unit and vacuum pump | Double agitation options located peripheral and central, thermal regulation options allow cooling/ heating, application of vacuum/ pressure, touchscreen interface |

** E variant contains frequency converter



## Pilot production

**VMI**
Planetary
Mixer

**VMI** Vacuum
Homogenizer
Trilab


vmi

| | Pilot mixers | |
|---|---|---|
| **Models** | **PH DT, PH Digy** | **Trilab** |
| Scale | Small-batch | Pilot scale |
| Capacity (in litres) | 10-80 | 10-50 |
| Benefits & properties | 3 interchangeable tools, compact and ergonomic design, intuitive touch screen interface (Digy version), easy cleaning, preset and programmable speeds | 3 independent coaxial agitation movements, scalable pre-production vacuum mixer, intuitive touch screen interface, data logging for traceability |

# Liquid mixing: Diluting, dispersing, homogenizing & emulsifying

## For full production, our mixing solutions focus on efficiency, traceability, and large-scale output.

Equipped with vacuum, heating/cooling, and clean-in-place (CIP) systems, our solutions ensure smooth operations and deliver consistent, high-quality products at scale.

### Production mixers

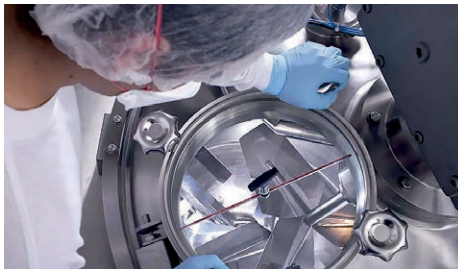
**VMI** Mobimix

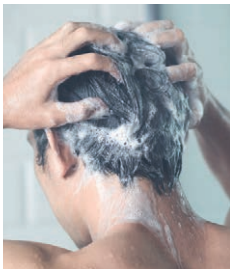
**VMI** Phebus

**VMI** Ultimix

vmi

| | Production mixers | | |
|---|---|---|---|
| **Models** | **Mobimix, Telescopic Mobimix** | **Phebus** | **Ultimix** |
| Scale | Production scale | Production scale | Production scale |
| Capacity (in litres) | 10-2000 | 80-200 | 200-600 |
| Benefits & properties | Mobile, liftable mixer; great versatility, ideal for pre-mixes,touchscreen interface for easy set up of parameters, wide range of tools, safe design, integration possible, into Atex environment | Compact and ergonomic planetary mixer, 3 interchangeable tools, Digy touchscreen for programming, removable mixing bowl on wheels | High output planetary mixer, wide variety of interchangeable tools, operates under vacuum or pressure, optional integrated CIP intuitive touchscreen interface or HMI |



## Turnkey mixing solutions

Integrate Trimix mixers, melters, and multiple production tanks into a single, seamless mixing solution

vmi

| | **Turnkey mixing solutions** |
|---|---|
| **Models** | **Trimix** |
| Scale | Production scale |
| Capacity (in litres) | 150-10000 |
| Benefits & properties | High-performance vacuum homogenizer for production, 3 independent, complementary stirring movements, clean-in-place (CIP) system or sterilization-in-place (SIP), thermal regulation, vacuum/ pressure and vacuum introduction of raw materials into the emulsifier or via open tank/ open |

# Liquid feeding

## In applications where liquids need to be fed, pumps and tanks are combined to provide controlled liquid feeding.

Loss-in-weight liquid feeders on high accuracy load cells provide accurate continuous gravimetric flow control of liquids. Heated units can also be provided if material viscosity is an issue or for feeding temperature-sensitive materials. Depending on the application requirements, additional equipment such as mixers can be supplied as well. Liquid feeders are suitable for many different industries and prove their reliability in daily use when feeding pastes or liquids into the production process.

**Coperion** Liquid loss-in-weight skid, Model K-ML-SFS-P-7.5L

coperion K-TRON

| | Liquid loss-in-weight (LIW) feeders | |
|---|---|---|
| **Models** | LIW K **ML-P, SFS-P, D5-P Liquid Feeder Mini** | **Feeder skids** |
| Scale | Lab scale | Lab scale, production scale |
| Capacity (in litres) | 7.5 | <300 |
| Benefits & properties | Specialty design high accuracy liquid loss-in-weight feeders, can be designed for a wide variety of viscosities and liquid properties, ideal for metered liquid addition to mixers, extruders, granulators | |

# Liquid material transfer

## Efficient production environments require gentle material handling to ensure reliable ingredient transfer, smooth operation and consistent results.

Transfer pumps provide compact and economical solutions for creams, lotions and other liquids without compromising quality or consuming valuable production space. Products can be pumped directly from bowls, totes or pails with precision and ease which minimizes manual intervention. Easy integration with depositors allows for automated dosing and filling.

**Unifiller**
iPump transfer pump


**Unifiller**
iSpot compact series depositor


unifiller

| | Pumps |
|---|---|
| **Model** | **iPump Transfer Pump** |
| Scale | Production scale |
| Capacity (litres/min) | 20 |
| Benefits & properties | Our compact transfer pump, the iPump quickly transfers products without sacrificing quality or production space |

unifiller

| | Depositors | |
|---|---|---|
| **Models** | **iSpot Depositor** | **Compact series depositor (Tabletop), Compact series depositor (Mobile/Powerlift)** |
| Scale | Production scale | |
| Capacity (deposits/min) | 60 | 80 |
| Benefits & properties | Draw and portion smooth products directly from a bowl or pail for a no-mess depositing machine | The Compact is a production workhorse with a wide deposit range, able to meet versatile depositing needs. It can be fitted with many accessories and attachments customized |

# Processing solids

## Solid forms are widely used in the cosmetics and personal care industries.

This includes powders, granules, and (micro)pellets. When choosing a process and technology, several aspects must be considered. The characteristics of the targeted intermediate and final products are crucial for the desired quality, quantity, safety, and efficacy.

We accompany you on every stage, from R&D to production – with their expertise and our integrated system solutions.

**Our Coperion process experts for:**

- Ingredient handling
- Material handling
- Pneumatic conveying
- Dispensing & feeding
- Mixing & homogenizing
- Granulating
- Drying
- Extruding
- Spheronizing
- Coating

**We offer entire integrated systems - everything from a single source.**

# Solid feeding

## Accurate powder feeding is essential for consistent and efficient processes.

Whether handling fine, floodable, cohesive, or free flowing materials, our wide range of feeding technologies ensures flexibility and precision. Options include screw and vibratory feeders, and weigh belt systems, available in various volumetric or gravimetric configurations to create the optimal solution for any application. All systems deliver repeatable accuracy, from lab to production scale. Additionally, a special line of screw and vibratory feeders has been developed specifically for the strict hygiene requirements of applications in the cosmetics and personal care industry.

**K-Tron** Twin screw microfeeder


**K-Tron**
Twin screw feeders


coperion K-TRON

| | Twin screw feeders | Screw feeders |
|---|---|---|
| Scale | Lab scale - production scale | Production scale |
| Benefits & properties | Volumetric or high accuracy gravimetric feeding, continuous, even mass flow with minimal pulsations, screw filler gently moves bulk material to the throat and into the feed screws, drive assembly completely enclosed in SST housing, modular design | Quick and easy disassembly for service and maintenance |

Note: Actual feed rates depend on individual material characteristics and screw type. At higher screw speeds a poorly flowing powder will not achieve the full throughput possible with a free-flowing material due to reduced degree screw fill. Also the screw type (concave, auger, spiral, double auger) impacts the feeding rate.




**K-Tron**
Receiver
& feeder

**K-Tron**
Loss-in-
weight
vibratory
feeder

coperion K-TRON

| | **Vibratory feeders** |
|---|---|
| Scale | Lab scale - production scale |
| Benefits & properties | Volumetric or high accuracy gravimetric feeding, continuous, even mass flow with minimal pulsations, PH-V200 hygienic tube tray has no corners and is easy to clean, tray access for cleaning through ferrule clamps, drive assembly completely enclosed by hygienic silicone cover, lower maintenance requirements due to the absence of mechanical wear parts, modular design |

# Solid mixing, granulating & drying

## Homogeneous mixing of solid mixtures in high-shear mixers (HSM) ensures uniform distribution.

By spraying liquid onto solid mixtures, the granulation process, in either a HSM or a fluid-bed granulator, transforms dry powder into free-flowing, stable granules with improved handling e.g. controlled-release properties. Drying, such as in fluid-bed or single-pot systems, gently removes residual moisture while preserving product integrity. These scalable processes, easily transferable from lab to full production, and ensure an efficient and consistent product quality.

**DIOSNA** Laboratory high-shear mixer granulator

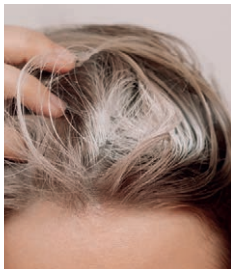

**DIOSNA** Vacuum high-shear mixer granulator


diosna

| | **Pharmaceutical (P) high-shear granulators (HSG)** |
|---|---|
| **Models** | **P1 - P1250** |
| Scale | Lab scale - production scale |
| Capacity (in litres) | 0.25 - 1350 |
| Benefits & properties | High efficiency thanks to fast mixing times with maximum quality and optimum homogeneity for difficult mixtures |

| | **Single Pot - HSG & Vacuum dryer (VAC)** |
|---|---|
| **Models** | **VAC10 - VAC1250** |
| Scale | Lab scale - production scale |
| Capacity (in litres) | 2 - 1200 |
| Benefits & properties | Wet granules are produced and then dried under vacuum, stripping gas (compressed air or nitrogen) can be added and finely distributed while drying, mixing tool is equipped with a wall scraper |



**DIOSNA** Minilab rapid change (RC) modular laboratory processor fluid bed module

**DIOSNA** Universal mixer

diosna

| | **Fluid bed processors** |
|---|---|
| **Models** | **Minilab RC, Midilab RC, CAP150 - CAP1250** |
| Scale | Lab scale - production scale |
| Capacity (in litres) | 1 - 1350 |
| Benefits & properties | Remote maintenance access, Extensive batch data acquisition and documentation, Mini and Midilab module exchange to coater |

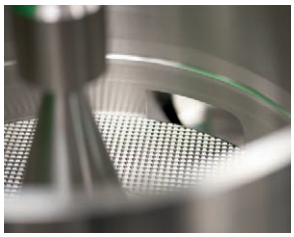
diosna

| | **Universal mixer granulators** |
|---|---|
| **Models** | **V10 - V1600** |
| Scale | Lab scale - production scale |
| Capacity (in litres) | 10 - 1702 |
| Benefits & properties | High efficiency thanks to fast mixing times with maximum quality and optimum homogeneity for difficult mixtures, optional double jacket for heat applications |

# Spheronization technologies

**Extrusion and spheronizing are effective processing technologies to form micro pellets, pellets, and granules used in cosmetic and personal care products like highlighter pearls, peeling, toothpaste, lotions, and more.**

(Micro)pellets and granules meet these needs, and spheronizer technology is effective for manufacturing high-quality, uniformly sized granules. A product-specific geometry of the rounding disc profile results in a perfect product shape. We offer complete pellet manufacturing systems, from mixing to extrusion, spheronizing, drying, and coating - ensuring quality and consistency from lab to production scale.



**Gabler**
Spheronizer

gabler

| | **Spheronizers** |
|---|---|
| **Models** | **Spheronizer R-250, Spheronizer R-400 - R-700** |
| Scale | Lab scale - production scale |
| Capacity (kg/h) | <10 |
| Benefits & properties | Individual and ergonomic for ideal product flow, parts that come into contact with the product can be dismantled in a few simple steps and are easy to clean, a crane assists the operator in installing and removing the disc, geometry of the rounded disc profile can be adapted to specific products |

# Extrusion technologies

## Extrusion is a continuous process where a powder blend is compacted and forced through an orifice under a variety of control parameters.

With help of extrusion technology wet granules can be processed to extrudates which can then be shaped into pellets or granules. In wet extrusion, liquids or solvents are added as binders to achieve the desired consistency and product properties. The clamshell design of our extruders allows for quick cleaning and fast product changeover.

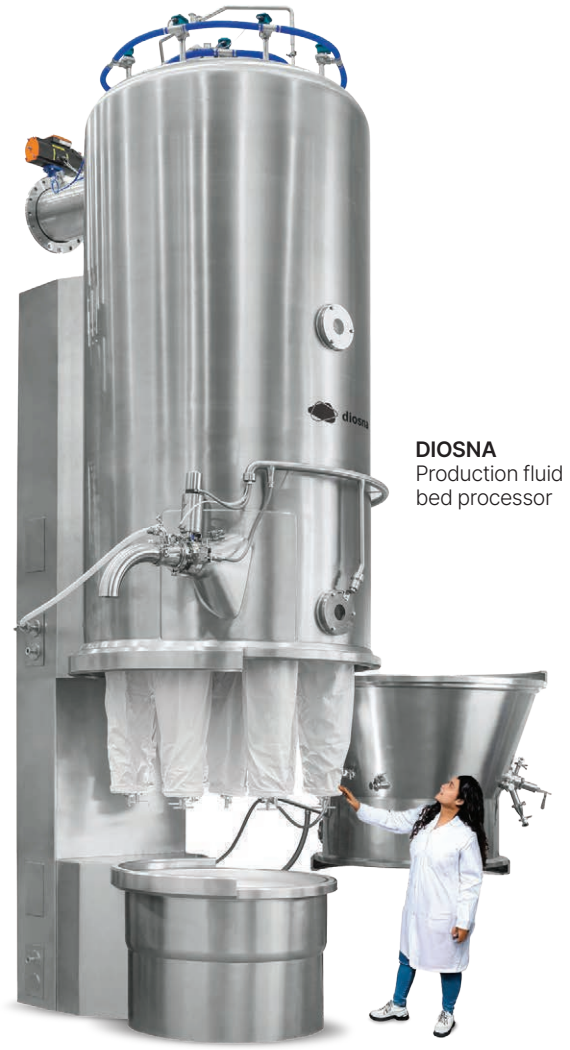

**Gabler** Extruder
& Spheronizer &
**K-Tron** Feeder


gabler

| | **Extruders** |
|---|---|
| **Models** | **Extruder DE-40 - 140** |
| Scale | Lab scale - production scale |
| Capacity (kg/h) | <950 |
| Benefits & properties | Easy cleaning, process part cylinder divided in upper and lower shell, independent heating zones, configurated co-rotating screws for all process requirements, integrated into a complete line or stand-alone |

# Pellet coating technologies

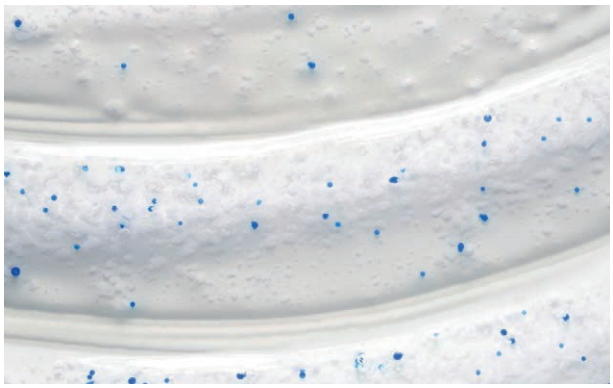
**Coating of pellets and granules can be greatly performed in fluid-bed processors using the Wurster method. Coatings ensure stability by protecting the product, coloring, and visual effects.**

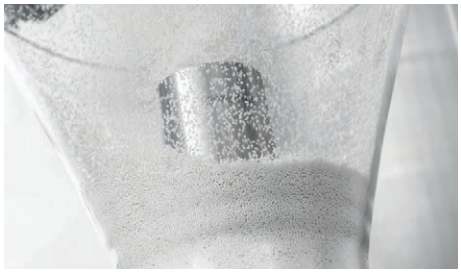


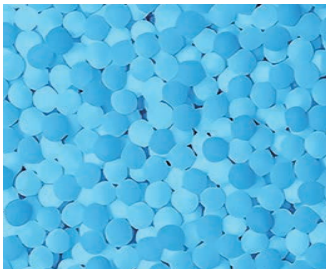
**DIOSNA**
Production fluid bed processor

diosna

| | **Fluid bed processors** |
|---|---|
| **Models** | **CAP150 - CAP1250** |
| Scale | Production scale |
| Capacity (in litres) | 200-1350 |
| Benefits & properties | Pellet/Granule coating performed with Wurster method, remote maintenance access, extensive batch data acquisition and documentation; min-max filling volume: 30%-90% + calculate with fallowing factors: Drying: 0.9, Granulating: 0.8, Coating: 0.6 which can result into a lower min filling volume <30% |







**DIOSNA**
Laboratory fluid bed processor

**DIOSNA** Pilot fluid bed processor


diosna

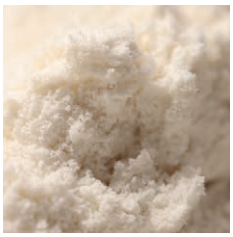
| | **Fluid bed processors** |
|---|---|
| **Models** | **Minilab RC, Midilab RC, CAP10-80 RC** |
| Scale | Lab scale, pilot scale |
| Capacity (in litres) | 1-105 |
| Benefits & properties | Pellet/Granule coating performed with Wurster method, remote maintenance access, extensive batch data acquisition and documentation, rapid change to Coater, glass components, tool free disassembly; min-max filling volume: 30%-90% + calculate with fallowing factors: Drying: 0.9, Granulating: 0.8, Coating: 0.6 which can result into a lower min filling volume <30%. |

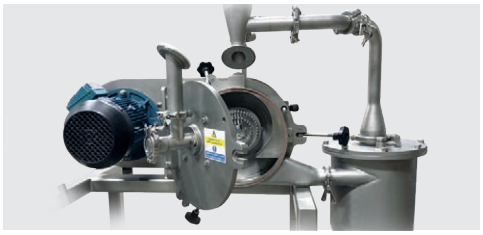
# Milling & sifting

## Milling and sifting, as process intermediate steps, for accurate and fluent processing of powders.

Controlled and accurate fine grinding of health products requires high standards of hygiene and cleanability. Meeting the most stringent requirements including prevention of cross contamination between batches, or of the lubricant contaminating the mill chamber is vitally important in the health industry. Sifting impacts the accuracy and homogeneity of flawless mixtures. It is effective for size classification, separates material that isn't of the required size, ensures removing unwanted material, and de-risks wet and dry granules, and powder handling.

**Kemutec**
KEK Cone Mill





**Kemutec** Universal Mill

kemutec

| | **Universal Mill** |
|---|---|
| **Model** | **1-5 H/WB** |
| Scale | Lab scale - production scale |
| Particle size range D50*, µ | 100 – 20** |
| Benefits & properties | Easily accessible, adjustable mill speed, caters to differing products and particle size requirements, easy and efficient cleaning |

kemutec

| | **Cone Mill** |
|---|---|
| **Model** | **CM120 - CM340** |
| Scale | Lab scale - production scale |
| Particle size range D50*, µ | 500 – 250** |
| Benefits & properties | Hygienic - CIP, easy to clean, enclosed screen inspection, gentle grinding, low energy form of size reduction, no dusting and heating |

kemutec

| | **Air Classifier Mill** |
|---|---|
| **Model** | **-** |
| Scale | Lab scale - production scale |
| Particle size range D50*, µ | 20-10** |
| Benefits & properties: | Fine powder grinding, includes air-classifying wheel with an independent drive for precise control over "particle cut point" selection, control of grinding temperature and particle size distribution |

*D50 stands for the median particle size where 50% of the particles are smaller and 50% are larger and shows the average median particle size which has been reduced during a milling process.

**Standard range can be extended to coarser or e.g. in the case of deagglomeration - finer sizes

# Solid material transfer

## Efficient material handling ensures reliable ingredient transfer and continuous production, even with materials that exhibit challenging flow properties.

Pneumatic transfer modes, via dilute or dense phase, vacuum or pressure, can provide safe and efficient transfer of even the most difficult flowing powders. Our K-Tron pneumatic conveying technologies handles materials like powders and pellets. Supporting dense and dilute phase vacuum transfer, they ensure safety, cleanliness, and easy cleaning. Suitable for standalone or integrated use, these systems optimize ingredient transfer in cosmetic, personal care, and health applications.

**K-Tron** P10
Pneumatic receiver


**K-Tron**
P30
Pneumatic
receiver

**K-Tron**
P100
Pneumatic
receiver

**Coperion**
Hygienic side entry
receiver (HSER)

Reverse air pulse cleaning system for cleaning cartridge or bag and dislodging filtered material

coperion K-TRON

| | Pneumatic receivers |
|---|---|
| **Model** | **P10 Pneumatic receiver** |
| Outlet | With butterfly valve |
| Material capacity | 7 dm3 (0.4 ft³) |
| Conveying capacity | Up to 600 kg/h (1,320 lb/h)* |

coperion K-TRON

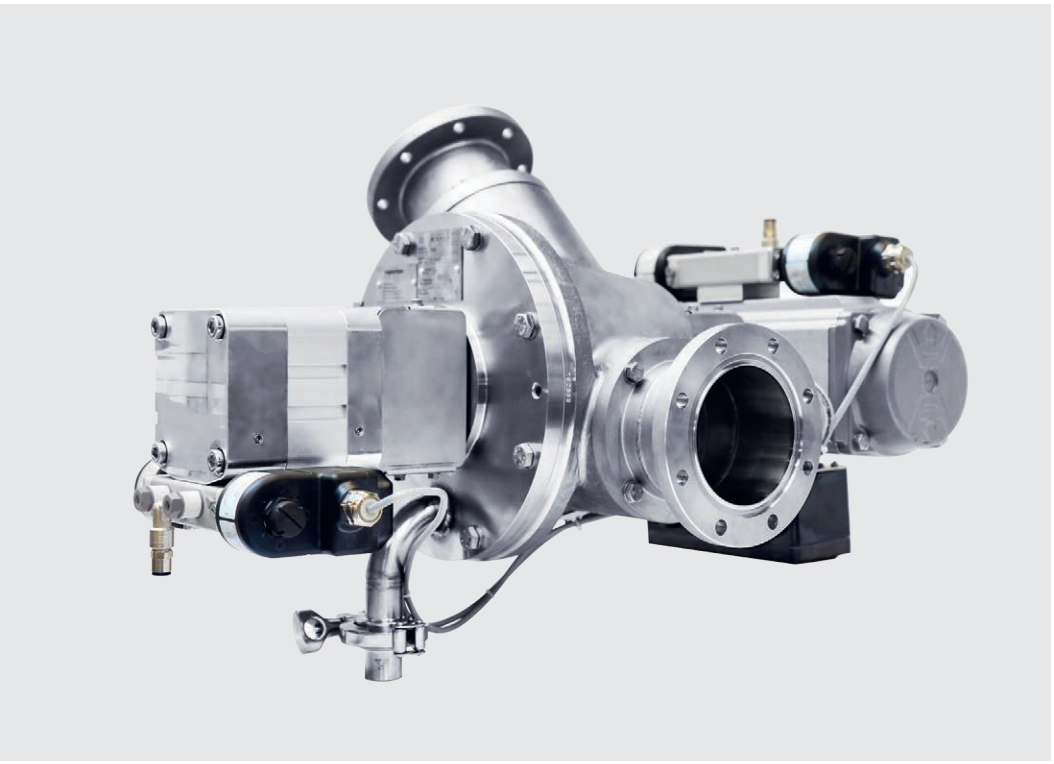
| | Pneumatic receivers |
|---|---|
| **Model** | **P30 Pneumatic receiver** |
| Outlet | With butterfly valve |
| Material capacity | 27 dm3 (1 ft³) |
| Conveying capacity | Up to 1,000 kg/h (2,200 lb/h)* |

coperion K-TRON

| | Pneumatic receivers |
|---|---|
| **Model** | **P100 Pneumatic receiver** |
| Outlet | With butterfly valve |
| Material capacity | 90 dm3 (3.2 ft³) |
| Conveying capacity | Up to 3,600 kg/h (7,920 lb/h)* |

*All conveying rates are based on a distance of 15 m (50 ft) and bulk density of 0.5 kg/dm3 (31 lb/ft3).
Rates vary with material characteristics, conveying distance and plant layout

# Components (valves, etc.)



## We offer superior batch and continuous plant solutions, leveraging extensive experience and design expertise.

Our systems are optimized for solids processing across all applications, from laboratory to production scale. The complete portfolio ensures seamless throughput, while integrative and peripheral components are essential for system functionality.

**Integrative components**

- Airlocks
- Diverter, rotary valves
- Secondary filters

**Peripheral solutions**

- Bulk bag unloading
- Dust collection
- Feed bins & bag dump stations


## Qualification services & controls capabilities

Coperion's Health & Nutrition technologies provide an extensive array of validation documentation based on the lifecycle approach, including FRS/FDS, FAT, SAT-IQ and SAT-OQ.

Custom system PLC controls are available to meet 21 CFR Part 11 compliance. Detailed HMIs can be provided to perform a wide array of advanced functions including recipe and ratio controls, barcodes/tracking and complete system alarm analyses. Our automated systems are in conformance with GAMP5.

# Aftersales services


## Maintaining excellence in your products through process validation, trials, and expert aftersales support.

### Project management

- Comprehensive project analysis ensures the right equipment is selected for each formulation

### Test and Innovation Centers

- Our dedicated Test and Innovation Centers worldwide allow us to conduct trials using your raw materials, validate processes, and leverage our process expertise to ensure optimal performance, reliability, and safety. This hands-on approach enables us to provide tailored solutions, to support your specific manufacturing needs

### Standards & regulations

- Equipment is developed in compliance with cosmetic standards. During design, critical steps are validated to guarantee long-term performance: PID validation, functional analysis, GMP compliance, risk management, and adherence to regulations such as 21 CFR Part 11 and GAMP 5

## Documentation & validation

- All phases include detailed documentation and testing for Installation Qualification (IQ) and Operational Qualification (OQ). Industrial units are fully assembled and tested via Factory Acceptance Test (FAT), shipped, reassembled, and validated on-site through Site Acceptance Test (SAT), ensuring reliable, high-quality cosmetic production
- A highly experienced team is available to intervene anywhere in the world, providing remote maintenance, audits, preventive maintenance, and tailored service contracts, ensuring your equipment and production lines continue to operate at peak efficiency


## Complete aftersales solutions

coperion

diosna coperion K-TRON gabler kemutec unifiller vmi

# Cosmetics & personal care
## integrated solutions

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