Packaging machines
for your chemical products
Innovative packaging machines demand a high level of specialization. Optima meets this requirement with innovative concepts for the development and manufacture of branch-oriented systems in its four areas of Consumer, Nonwovens, Pharma and Life Science. Continuous growth has characterized this family business since it was established in 1922. With more than 1,700 employees worldwide, Optima has deliberately chosen to maintain flexibility and customer focus as central principles.

Day after day, unimaginable quantities of food, cosmetics and chemical products are dosed, filled and packed. Many of them with machines from Optima Consumer and this for several reasons: machine flexibility, high output rates, product protection and process assurance are prime advantages. From starter models to complete lines, including some with handling and assembly functions.

Optima Consumer offers everything that makes dosing, filling and packaging easier, safer and even more economical. Optima Consumer machines are also continuously optimized with respect to the total cost of ownership. Thus they require only a minimum of service, wear and tear and replacement parts while offering long-term high performance and precise and consistent weighing results.
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Powerful dosing and packaging technologies for chemicals

Dry and liquid chemical products require specific dosing devices. The Optima Consumer volumetric and gravimetric systems for dry products allow the user freedom of choice: Extreme product protection, high output rates, high filling level precision – the ideal solution weights and unites every aspect. The same applies for liquid chemicals: the high quality dosing solutions are continually further developed and implemented by Optima Consumer.

All portioning and dosing systems are customized exactly to Optima Consumer assembly, closing and packaging machines, but can also be integrated into existing systems at any time. Additional functions are implemented in monoblock machines or complete lines.

Engineering capacities ensure that all systems meet the exact needs of the customer. Extensive projects are set up for customers as turnkey projects.

Product characteristics

- Liquid
- Pasty
- Powdery
- Granulated
- In pieces

Containers

- Glass
- Plastic
- Composite paper
- Foil
- Metal

Closures

- Screw closures
- Press-in closures
- Pump closures
- Press-on closures
- Stoppers
- Trigger and spray closures with dip tube

Machine types

- Laboratory machines
- Pilot lines
- Semi automatic and fully automatic machines
- Monoblock machines (filling and closing on one machine)
- Packaging systems for portion packs
- Complete turnkey lines
The best solution for each requirement

The processes

- Container feeding
- Cleaning
- Dosing
- Filling
- Closing
- Weighing
- Assembling
- Labeling
- Cartoning
- Coding
- Handling
- End of Line

mg – kg  ml – l  up to
Pesticides and fertilizers  
liquid

up to 180 containers/min.

This is what matters

▶ Modular construction with changing trolleys possible for contamination-free change of product
▶ Easy access enabled by compact construction
▶ Toolless and quick change of format parts
▶ Explosion-protected execution
▶ Vapor extraction

Technical details

▶ Container size: up to 300 x 450 mm
▶ Filling volume: up to 30 l
▶ Output: up to 180 containers/min.  
(depending on volume and product)

Figure shows an example: OPTIMA MDM
The processes
for liquid pesticides and fertilizers

Cleaning
- Automatic cleaning of the filling nozzles in cleaning bath or reception tulips (CIP cleaning)

Dosing systems
- Coriolis mass flow meters (MDM)
- Electromagnetic flow meters (IDF)
- Product feed via pressure vessel, pump, gravity or supplied feeding system

Filling
- Up to 16 filling heads
- Explosion-protected execution possible
- Freely programmable movement and speed of filling nozzles
- Product contacting parts can be made to specification
- Vapor extraction possible

Closing
- Positive closure transfer by Pick-and-Place system
- Quality assurance via control functions
- Torque disconnect device via friction clutch, magnetic clutch or servo for high torques

Weighing
- In-process controls available as tare weighing, shut-off, gross weighing

Further processes
- Semi and fully automatic container transfer, e. g. depalletizing, fully automatic container unscrambler, Pick-and-Place processes
- Container cleaning
- Labeling and coding
- End of line packaging, e. g. palletizing, cartoning

Fungicides, herbicides, insecticides, fertilizers
**Technical details**

- Container size: up to 300 x 450 mm
- Weight range: 5g – 25 kg

**This is what matters**

- Product savings by permanent average value monitoring and regulation (in connection with weighing systems)
- Compact construction
- Frameless machine protection with safety glass
- Toolless format changes

Figure shows an example: OPTIMA FC2 with SD2
The processes for dry pesticides and fertilizers

Dosing systems
- Auger dosing
- Fill weighers
- Volumetric dosing

Filling
- Vibration stations to settle the product into the containers and increase output in combination with accompanying hoppers
- Bulk density fluctuations are detected and immediately compensated for
- Virtually dust-free filling by lifting the container during the filling procedure
- Materials to suit the product

Closing
- Servomotor driven capping spindle with adjustable revolutions
- Positive closure transfer by Pick-and-Place system
- Quality assurance via control functions
- Torque disconnect device via friction clutch, magnetic clutch or servo for high torques

Weighing
- In-process controls available as tare weighing, shut-off, gross weighing

Further processes
- Semi and fully automatic container transfer, e.g. depalletizing, fully automatic container unscrambler, Pick-and-Place processes
- Container cleaning
- Labeling and coding
- End of line packaging, e.g. palletizing, cartoning
up to **360** containers/min.

**Technical details**
- Container size: up to 300 x 450 mm
- Filling volume: up to 30 l
- Output: up to 360 containers/min. (dependent on volume and product)

**This is what matters**
- Toolless format changes
- Explosion-protected execution possible
- Filling process can be individually set e.g. for foaming products
- Avoidance of swashing for low viscosity products
Professional cleaning agents, vehicle care products, brake cleaners, WC cleaners, concentrates

The processes for liquid washing and cleaning agents

Cleaning
- Automatic cleaning of the filling nozzles in cleaning bath or reception tulips (CIP cleaning)

Dosing systems
- Coriolis mass flow meters (MDM)
- Electromagnetic flow meters (IDF)
- Piston pump
- Product feed via pressure vessel, pump, gravity or supplied feeding system

Filling
- Up to 32 filling heads
- Explosion-protected execution possible
- Freely programmable movement and speed of filling nozzles
- Product contacting parts can be made to specification
- Piston cavity rinsing possible as option (only for piston pumps)
- Vapor extraction possible

Closing
- Positive closure transfer by Pick-and-Place system
- Quality assurance via control functions
- Torque disconnect device via friction clutch, magnetic clutch or servo

Weighing
- In-process controls available as tare weighing, shut-off, gross weighing

Further processes
- Semi and fully automatic container transfer, e. g. depalletizing, fully automatic container unscrambler, Pick-and-Place system
- Container cleaning
- Labeling and coding
- End of line packaging, e. g. palletizing, cartoning
This is what matters

- Product savings by permanent average value monitoring and regulation (in connection with weighing technology)
- Smooth surfaces for easy cleaning
- Protective housing and effective dust extraction prevent dust emission to the surroundings
- Continual self optimization of all operating parameters
- Toolless installation and demounting of the weighing pans (filling and weighing machine)

Technical details

- Volume range: 100 – 25,000 ml
- Weight range: 100 – 15,000 g
- Output: up to 320 portions/min.

Figure shows an example: OPTIMA DF

up to **320** portions/min.
The processes
for dry washing and cleaning agents

Filling and dosing systems for powders, granulates and coarse grain products

Innovative weighing technology
- Stationary and rotary model
- Volumetric and gravimetric dosing systems
- Covering a large volume area without format change
- Bulk density fluctuations are detected and immediately compensated for (in connection with weighing technology)
- Large filling range without format change
- High precision and temperature resistant weighing cells
- Product contacting metal parts in stainless steel
- Stored formula parameters can be retrieved off at any time for quick product or weight changeover
- Safe and robust mechanics
- The most modern control and drive components

Washing powder, scouring powder
This is what matters

- Easy access enabled by compact construction
- Toolless format changeovers
- Regulation available for automatic compensation of temperature fluctuations of the product

Technical details

- Packaging size: up to 300 x 450 mm
- Filling volume: up to 30 l
- Output: up to 280 containers/min.

Figure shows an example: OPTIMA SHF

up to **280** containers/min.
The processes for refined products

Cleaning
- Automatic cleaning of the filling nozzles in cleaning bath or reception tulips (CIP cleaning)

Dosing systems
- Coriolis mass flow meters (MDM)
- Electromagnetic flow meters (IDF)
- Piston pump
- Product feed via pressure vessel, pump, gravity or supplied feeding system

Filling
- Up to 16 filling heads
- Explosion-protected execution possible
- Freely programmable movement and speed of filling nozzles
- Product contacting parts can be made to specification
- Piston cavity rinsing possible as option (only for piston pump)
- Vapor extraction possible

Closing
- Positive closure transfer by Pick-and-Place system
- Quality assurance via control functions
- Torque disconnect device via friction clutch, magnetic clutch or servo

Weighing
- In-process controls available as tare weight, shut-off, gross weighing

Further processes
- Semi and fully automatic container transfer, e. g. depalletizing, fully automatic container unscrambler, Pick-and-Place system
- Container cleaning
- Labeling and coding
- End of line packaging, e. g. palletizing, cartoning
Portion packs for chemical products

up to 1,500 portion packs/min.

The solution for portion packaging

The demand for portion packaging, in both nonwoven and plastic packaging materials, has increased constantly since their introduction. Optima offers filling and packaging machines specially designed for the rational and flexible manufacture of small packaging sizes. The special features of the different products and the typical ways in which they are packaged can be taken into account individually by the modular construction. The quality of the product has first priority. With the integrated combination of dosing and weighing technology, high output rates with the highest level of filling precision can be achieved.

Processes

- Manufacturing machine for portion packaging
- Dosing systems: Auger dosing, drum dosing, net weighing system, multi-head weighing machines
- Assembly and closure systems
- 100% weight control
- Welding and sealing technology for metal, plastic or nonwovens
- End of line packaging for portion packaging

This is what matters

- Modular system
- Integrated controls / components
- Only one operator panel for all function modules
- Function modules can be moved on a patented track system
- Multi-lane and intermittently working model
- Servo-driven dosing technology
- Individual lanes can be switched off
- Integrated weighing technology
- Robust construction for operation under harsh conditions
- Quick and easy cleaning
Functional Closures – Closure with additional function(s)

With modularly designed filling and assembly machines Optima Consumer provides solutions for closures with additional functionalities. Several machine functions can be integrated: Dosing systems for contents, sorting and assembly of various components and in addition control functions for the leak tightness of the closure. Particularly important for the closure’s reliability is the accuracy of the manufacturing process.

This is how it works:
With activation of the Functional Closure - also called Ingredient Release or Dispensing Closure - liquid or dry contents automatically gets released into the container. Functional Closures are applicable for chemical concentrates, to achieve a longer shelf-life in the closure and guarantee safe dosing. Further applications are possible for food items, cosmetics or OTC.

Processes
- Sorting
- Transporting
- Dosing (dry and liquid)
- Foil sealing
- 100% leak tightness check for all seals
- Mounting of various components
- Coding
Your product in the bag
Intelligent solutions for a multitude of applications

Bag in Box

Inline Production

This is what matters
- Inline pre and post processing
- Linear, one line or multi-lane projects
- Format changeover times of less than a minute due to interchangeable filling systems
- Fully automatic CIP cleaning

Figure shows an example: OPTIMA BiBM
Liquid in bag

A new packaging form, in the next trend. The applications for bag or refill packs for concentrates, liquid soaps and cleaning agents are diverse.

Processes
- Bag production or bag feed
- Bag labeling on both sides
- Leak detection
- Filling station with mass flow and inductive dosing systems
- Ventilation facility
- Closing station
- Placing in pucks or cartons

Optima offers individual solutions for dosing, closing and secondary packaging processes for liquids and viscous products.
With the acquisition of an Optima machine all the benefits of a long-term partnership are united. For example, regular maintenance by the experts of our globally available service network minimizes the risk of machine downtime. Optima emergency service is available to customers around the clock in person, via tele-service and online.

Perfect service needs an extensive spare parts warehouse. Our proven logistics system guarantees that the replacement parts reach you in the shortest possible time. Original replacement parts are of course in Optima quality.

We also offer you an extensive selection of format parts that enable you to respond flexibly to market changes. In particular, components and modules such as manipulators, robots and line automation, sorting modules and conveying systems are available.

Service begins when the machines are taken into operation. Individual training concepts lead to confident handling of the user friendly technology. A further aspect is that it is not always necessary to invest in new machine systems. Innovative machine upgrades and individual conversion packages from Optima bring your machines up to the latest state of technology.

Consulting, development and integration of various systems to ensure faultless filling and packaging processes e.g. SCADA systems, line monitoring, track & trace solutions or optical inspection systems all belong to our daily business.
Your contact partner
We are at your service

Our Service Team is at your disposal!

Our hours of business:
Monday – Friday
7:00 am – 5:00 pm (CET)

We can also be contacted on our Service-Hotline 24 hours a day:
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Packaging machines for your food products

- Instant products
- Soups & Sauces / Spices - dry and liquid
- Concentrates

Packaging machines for your cosmetic products

- Body care
- Hair care
- Decorative cosmetics
- Perfume

OPTIMA - Excellence in Packaging

- Milestones
- Globally active, close to the customer
- Service global
- Nonwovens
- Consumer
- Pharma
- Life science

Service worldwide – A Comprehensive Service Program

- Start up
- Produce
- Maximizing availability
- Optimize
- Develop further

Semi-automatic machines

- Auger dosing feeders
- Filling and weighing machines
- Liquid filling
- Closers

We will be pleased to send you further information.