

## ROBOT FOOD TECH

LEADERSHIP IN PACKAGING



Nature's idea.  
Our technology.

# Welcome to ROBOT FOOD TECHNOLOGIES

## Our Team

ROBOT FOOD TECHNOLOGIES Germany GmbH with head office in Wietze in Northern Germany is one of the leading manufacturers of servo and robot controlled filling and packaging machines, food assembly lines and final packaging lines for convenience food and cosmetic products.

With innovative ideas and maximum effort we create customized solutions which optimally meet our customers' requirements. ROBOT FOOD TECH stands for innovative development, decades of competence in packaging technology and the worldwide proven LIEDER technology.



## Our employees are the heart of our machines.

Our employees are our most important capital. Behind every technology there are dedicated people that create innovations through their motivation and that push forward developments constantly. In our company, technology arises through the know-how of our senior employees combined with the innovative ideas of our junior employees. For special-purpose mechanical engineering specially trained experts are indispensable. Therefore, we train our employees ourselves in our major fields.

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### Construction department

Our construction department forms the heart piece of all our developments. Here is where the visions of our high qualified engineers are brought to paper, discussed and refined. With the aid of modern CAD programs ideas are being visualized and prepared for the manufacturing. The special requirements of our customers represent a challenge for us, which we are always happy to meet. Together, we create constructive individual solutions on a high technical level for almost every special case.

### Manufacturing department

Thanks to the latest processing machines we are able to manufacture the majority of the parts for our machines directly on site. This allows us not only an excellent quality management and short production times, as well for spare parts, but it also brings advantages in the area of research and development. As a result of the close cooperation of all the departments participating in the manufacturing process, all components of our machines are subject to a continuous optimization process.

### Sales department

Our sales team comprises longtime employees that dispose not only of commercial experience but also of profound technical knowledge of our machines. They are therefore always able to provide our customers optimal consultation and offers customized to their requirements.

### Service department

Our service team forms a crucial link between our company and our customers. The direct insights into the production that our service personnel receive when visiting our customers, provide important information to our construction department, which allow us to tailor optimally our machines to the process operations. In the event of problems, changing requirements or optimizations, our service technicians are the first point of contact for our longtime customers.



# Our machines

## Table of content

|   |                   |     |   |       |                       |
|---|-------------------|-----|---|-------|-----------------------|
| 1 | Universal lines   | 1.1 | Linear line TA                            | 1.1.1 | TA Compact            |
|   |                   |     |   | 1.1.2 | TA for ready-meals    |
|   |                   |     |   | 1.1.3 | TA for dairy products |
|   |                   | 1.2 | Linear line RCR                           | 1.2.1 | RCR for lasagne       |
|   |                   | 1.3 | Rotary machine RMS                        |       |                       |
| 2 | Cosmetic machines |     |   |       |                       |
| 3 | Filling machines  | 3.1 | Particulate filler AWF                    |       |                       |
|   |                   | 3.2 | Filling machine RCF for pumpable products |       |                       |
|   |                   | 3.3 | Filling machine FS7 for pumpable products |       |                       |
| 4 | Cleaning systems  |     |   |       |                       |
| 5 | Equipment options |     |   |       |                       |



## Universal lines

1

### 3 machines – 1,000 possibilities

Our universal lines are ideal for processing complex products such as gourmet salads, ready meals, raw vegetable salads, pizzas and many more. Their modular construction allows for individual adaptation to customer needs. Depending on the specific requirements the following lines can be equipped individually with any required station.



## Linear lines

- modular construction by combining different equipment options
- open to subsequent extension in order to adapt to changed product or production demands

### Linear line TA

- all functions servo-controlled
- hygienic design
- applicable for small, medium or large productions
- dual format plate system

1 - 10 lanes, single or double cycle

up to 30,000 containers per hour

### Linear line RCR

- all functions servo-controlled
- flexible adaptation to different formats in all three dimensions
- quick format changeover by push-button

1 - 6 lanes, single or double cycle

up to 12,600 containers per hour

## Rotary machines

- highly versatile, particularly in lack of space
- for highest hygienic demands

### Rotary machine RMS

- all functions servo-controlled
- simple handling
- compact design
- simple and fast cleaning process

1 - 6 lanes

up to 16,200 containers per hour

# Modular filling and closing concept with carrier plate transport

## Universal lines > Linear line TA

1.1

### The concept

The modular concept of our universal lines offers individual equipment options for different market requirements and different products such as butter, margarine, yoghurt, cream cheese, gourmet salads, ready meals and raw vegetable salads, even with large particulates.



#### Format changeover

The carrier plate transport is equipped with a freely parameterizable servo drive which allows for an optimum adaptation of the acceleration and braking processes to individual circumstances. The machine can be delivered with format plates with a special aluminium alloy or made of stainless steel.

#### Dual format plate system

The dual format plate system combines two different formats within one conveyor system. The machine carries out a double advance feed for every cycle.

#### Optional quick changeover system

With the optional quick changeover system the format plates are automatically released from their fixation.

#### Combination with aggregates

Depending on the product to be processed the TA can be equipped with aggregates such as our particulate filler AWF, our filling machine RCF for pumpable products or multi-head weighers.

#### Servocontrol

A continuous servo control of adjustment and drive units does not only reduce the energy consumption of the machine, but it also facilitates a trouble-free adjustment to different properties of the product to be filled. All relevant parameters are being saved within the program, thus ensuring a high reproducibility which at last becomes most clearly visible in the uniform appearance of your product.

#### Standard equipment

- container denester
- carrier plate conveyor
- ejector and pusher
- discharge conveyor to the right, left or straight on

#### Output range

- conveyor with up to 10 lanes
- single or double advance feed
- up to 30,000 containers per hour

#### Equipment options

See chapter 5 of this brochure



### Our machine that grows with your business

Its compact construction makes the TA-COMPACT as place-saving as a rotary machine but at the same time it offers all benefits of a modular linear line. This makes it an ideal investment for small and medium-sized businesses aiming at fast growth.



The TA-COMPACT is based on the long-term approved TA-construction type from ROBOT FOOD TECHNOLOGIES and offers all its benefits, such as long-life cycle, hygienical design, low wear, low staff requirements for operation and high availability.



#### Output range

- 1-3 lanes, single or double cycle
- up to 10,800 containers per hour

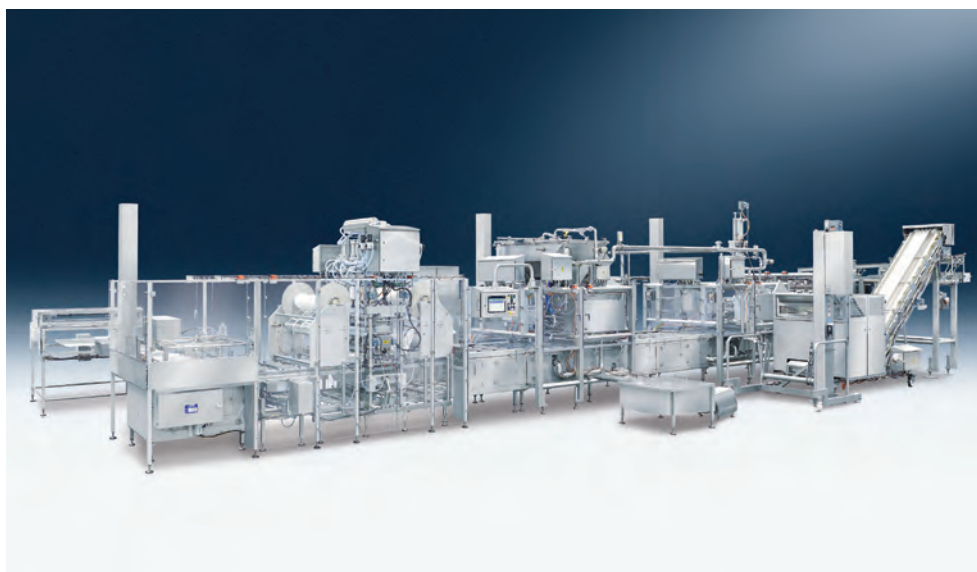


# An investment for generations

Universal lines > Linear line TA > TA for ready-meals

1.1.2

Ready meals  
within seconds



## Standard equipment

- container denester
- carrier plate conveyor
- heat-sealing station with knife punching tool
- ejector and pusher
- discharge conveyor to the right, left or straight on



## Output range

- conveyor with up to 6 lanes
- single or double advance feed
- up to 12.600 containers per hour

## Equipment options

See chapter 5 of this brochure



### Hygiene comes first



#### Advantages of LIEDER Machines for dairy products

- **individual adaptability** by modular design, various equipment options, a wide range of services and retrofitability
- **very high hygienic standard** by hygienic design, CIP/SIP cleaning and optional packaging sterilization
- **highest flexibility** by modern servo technologies and quick format changeover
- **highest output** by modern technology, a high degree of automation and operator-friendly handling
- **excellent availability** by high quality, longevity, process control and remote servicing



#### Output range

- conveyor with up to 10 lanes
- single or double advance feed
- up to 30,000 containers per hour

For highest hygienic demands as in the dairy industry the filling and packaging lines of our TA series can be tooled up with the following optional equipment:

- efficient, reliable packaging sterilization
- ultra-clean equipment with closed housing, laminar flow zone with sterile air
- and automatic CIP/SIP systems



# Maximum flexibility and high efficiency combined with high payback

Universal lines > Linear line RCR

1.2

## Highly flexible linear line RCR

Highly flexible bar transport for quick format changeover by push-button without time-consuming changes of format plates. Absolute flexibility and optimization of production times thanks to our unique patented bar conveyor.



### Patented format changeover

- **absolut flexibility** by our unique patented bar transport
- **quick adaptation** to different packaging formats in all three dimensions
- **optimization of production times** due to format changeover within a few minutes

### Standard equipment

- container denester
- bar conveyor
- ejector and pusher
- discharge conveyor to the right, left or straight on

### Combination with aggregates

Depending on the product to be processed the RCR can be equipped with aggregates such as our particulate filler AWF, our filling machine RCF for pumpable products or multi-head weighers.

### Output range

- conveyor with up to 6 lanes
- single or double advance feed
- up to 12,600 containers per hour

### Equipment options

See chapter 5 of this brochure



From dough-cutting  
to cheese-filling –  
everything from a single  
source

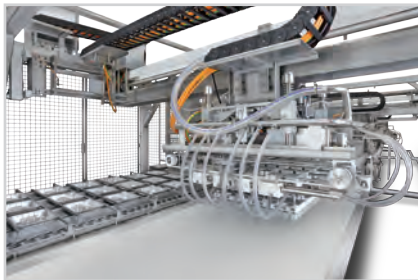
#### Our line – your advantages

- the whole line from one single source
- all stations are controlled centrally from one main operator panel
- all functions servo-controlled
- minimum product loss
- large weight range
- format and product changes by push-button
- reproducibility of product quality
- optimum product presentation

#### Process steps

Our lasagne line covers the following process steps:

- dough feeding towards cutting machines
- dough cutting lengthways and crossways
- transport of cut lasagne sheets
- automatic loading of the container magazine
- container denesting
- transport of containers in bar conveyor
- filling of sauce
- placing of lasagne sheets in the container
- filling of cheese
- outfeed of filled trays
- transport to oven



#### Filling machine RCF for sauces

- high weight accuracy
- consistent layer thickness
- fully automatic cleaning of suction and product lines guarantees high hygienic standard
- temperature-controlled hopper
- minimum product loss due to process control
- control of product level in the hopper



#### Gantry robot

- up to 6 servo-controlled axes
- exact picking and placing of lasagne sheets
- optimum position of the lasagne sheets in the trays
- parameters are individually stored for every tray size to allow quick adaptation to new formats
- CIP
- simple handling
- lasagne sheets are not folded



# Efficiency makes the difference

Universal lines > Rotary machine RMS

1.3

Everything rotates  
around efficiency



## Advantages which count in your production

- all functions servo-controlled
- maximum flexibility
- high output
- RCF filling machine with mobile chassis or integrated in the machine frame
- CIP/SIP

## Combination with aggregates

Depending on the product to be processed the RMS can be equipped with aggregates such as our particulate filler AWF, our filling machine RCF for pumpable products or, multi-head weighers.

## Output range

- up to 6 lanes
- up to 16,200 containers per hour

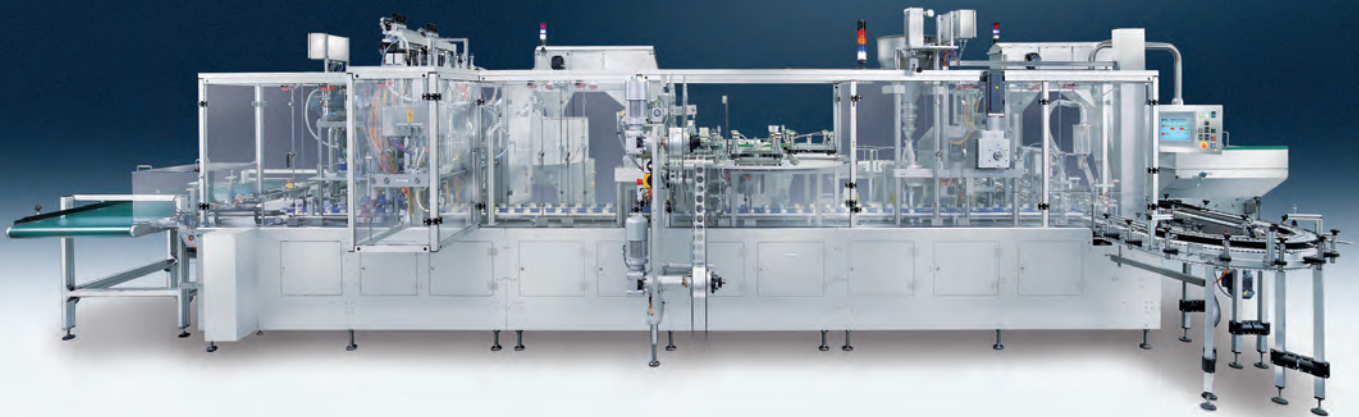
## Product range

- gourmet salads
- dairy products
- margarine
- jams and many more



# Anti-Aging for your production

## Cosmetic machines from ROBOT FOOD TECHNOLOGIES



2

LIEDER cosmetic lines fulfill highest demands regarding output, flexibility, weight accuracy and product presentation. All functions are servo-controlled and freely parameterizable. The modular concept offers individual equipment combinations for different production requirements.

### Advantages of our cosmetic lines:

- **individual adaptability** by modular design, various equipment options, a wide range of services and retrofittability
- **highest flexibility** by modern servo technologies, a wide dosing range and quick format changeover
- **highest output** by modern technology, a high degree of automation and operator-friendly handling
- **excellent availability** by highest quality, longevity, process control and remote servicing
- **highest hygienic demands** are met by smooth surfaces, CIP / SIP capability as well as easy-to-clean components based on our experiences in the food industry



# Anti-Aging for your production

## Cosmetic machines from ROBOT FOOD TECHNOLOGIES

2

### Standard equipment

- carrier plate conveyor
- jar supply via storage table
- RCF filling station
- heat-sealing station for pre-cut foils
- screwing station with servo-controlled vacuum heads
- discharge conveyor

### Technical specification

- all functions servo-controlled
- format plates in quick changeover version
- automatic height adjustment via recipe selection

### Packaging

- plastic jars
- glass jars
- tins
- dispensers



### Closures

- heat-sealing of foil lids, pre-cut or from rollstock
- heat-sealing of film lids, pre-cut or from rollstock
- crimping of foil lids, especially for tins
- shive to cover the product
- slip-on caps
- screw caps
- pistons for dispensers
- bottom caps for dispensers

### Output range

- 1 lane up to 65 jars/minute
- 2 lanes up to 130 jars/minute
- single or double cycle



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### Cosmetic machines from ROBOT FOOD TECHNOLOGIES > Equipment options



#### Jar supply

- jar supply via storage table or external supply system
- acoustic and visual alarm, when recharging is necessary



#### Dust and particle exhaustion

- to remove foreign particles from the jars



#### Filling system

- up to 4 servo-controlled axes
- highest filling accuracy for smaller to larger filling weights
- optimum filling pattern thanks to servo-control
- jar rotation device
- ideal product cut-off and minimum nose formation
- entirely heatable filling unit
- quick changeover system
- manual or automatic CIP/SIP cleaning



#### High precision punching tool for rollstock material

- foil unwinding and cutting residues rewinding system
- reduction of cutting residues
- quick changeover system for punching tools
- exactly centered application
- also useable for shives
- pre-sealer



#### Equipment for the heat-sealing station

- heat-sealing of plastic jars with jar centering device
- special multistage heat-sealing procedure for glass jars to optimally equalize unevennesses of the sealing rim
- crimping station
- heat-sealing parameters (temperature, sealing time and pressure) can individually be adjusted



#### Screwing station

- screw cap supply via unscrambling system or storage table
- servo-controlled screwing head, torque-controlled with forward/backward rotation in multi-axial design
- final screwing head
- gripper tool especially for susceptible screw caps



#### Discharge of jars

- control station for screwed caps
- ejector for not properly screwed caps

# The automated hand filling

## Filling machines > Particulate filler AWF

3.1

### The best employee you could ever have

- wide range of products
- short product changeover time
- fast cleaning process
- high payback
- space-saving design
- operator-friendly



### Advantages which count in your production

- equipped with a mobile chassis the AWF can be used for different recipes at different positions on a production line
- the AWF can be ideally adapted to different products by push-button
- filler components in quick changeover version
- easy-to-clean design for filler components
- automatic filling process – no permanent operator required
- automatic product supply via flighted elevator or lift and tip device for euro bins

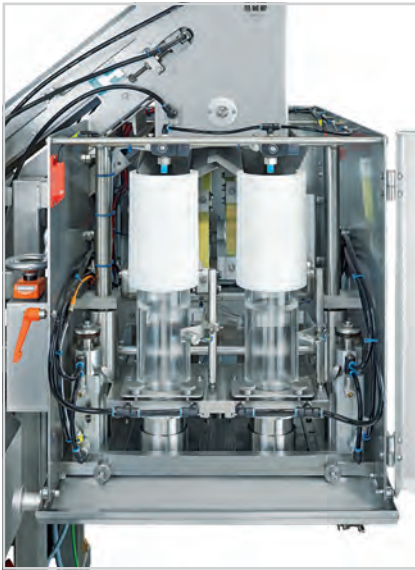
### Technical specification

|                         |                                  |
|-------------------------|----------------------------------|
| Volume adjustment       | continuously adjustable          |
| Filling volume          | 10g to 5000g                     |
| Electrical connection   | 230/400 V, 50 Hz                 |
| Output per filling head | up to 24,000 containers per hour |
| Number of filling heads | 1 to 10                          |



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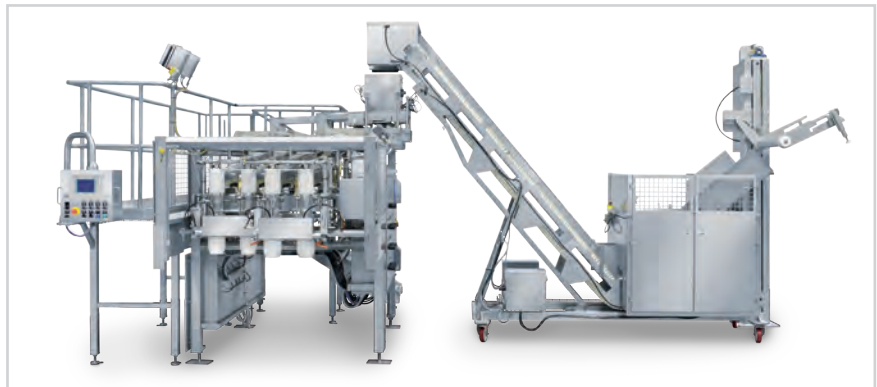
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AWF  
with flighted  
elevator

### Equipment

- spaghetti feeder for long-fibrous and lumpy products
- flighted elevator
- lift and tip device
- mobile chassis



### Conveyor for spherical Products such as

- tomatoes
- meatballs
- falafel
- etc.



# Filling machines for pumpable products

## Filling machines > RCF

3.2

### RCF – the ultimate filling machine

Precise and clean filling of pumpable products even with particulates

- high output
- ideal weight accuracy
- gentle product handling
- CIP/SIP cleaning
- up to 5 servo-controlled axes
- filling and decoration in a single step



#### Advantages that count in your production

- all axes freely parameterizable
- ideal adaptation of filling performance in case of sudden product consistency changes during production
- available filling programmes
  - positioned filling
  - layered filling
  - filling and decoration in a single step
- mobile chassis for application on different production lines
- no permanent operator necessary

#### Technical specification

|                         |                                  |
|-------------------------|----------------------------------|
| Volume adjustment       | continuously adjustable          |
| Design                  | stainless steel                  |
| Electrical connection   | 230/400 V, 50 Hz                 |
| Output per filling head | up to 67,200 containers per hour |
| Number of filling heads | 1 to 16                          |



#### Equipment

- 4th and 5th servo-controlled axis for decoration purposes
- CIP design
- mobile chassis

#### Special-purpose solutions for the product supply to the filling unit

- compensator
- screw feed hopper
- hopper with or without agitator
- double-walled hopper, heatable

#### Diving cut-off nozzles specially fit to the products

- clean filling
- weight-accurate

### FS 7 – The flexible basic model for growing mid-size companies



#### Equipment

- various applications at low purchase costs
- best suitable for small production enterprises
- for pumpable liquid to pasty products, with or without particulates
- flexibly usable on different production lines due to mobile chassis
- single- or twin-lane model with an output of up to 4,800 containers per hour (depending on product and filling volume)
- all components with direct contact to the product can be easily dismantled for cleansing purposes without any tools
- easy operation via touch screen
- recipe memory for up to 30 recipes



# Guaranteed standard of hygiene

## Cleaning systems > Single or multi-tank CIP systems

4

### A clean affair

Hygienic production is essential in today's food production and demands are rising continuously. CIP (cleaning in place) is therefore the ideal method to guarantee a reproducible hygiene standard.

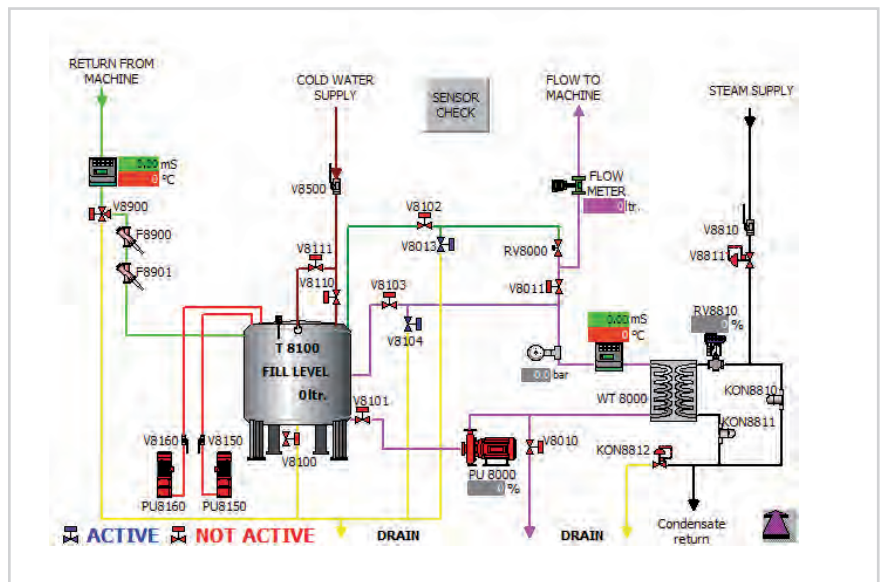


Our CIP systems are fitted with the state-of-the-art control systems for:

- water
- caustic
- acid
- sanitation
- pressure
- temperature
- time
- flow measurement

The programme steps are freely programmable and can therefore be adapted to the food products and machines to be cleaned.

In addition the complete CIP process with all parameters can be documented automatically in the CIP machine.



### Technical specification

|                 |                     |
|-----------------|---------------------|
| Tank size       | 2000 to 5000 litres |
| Number of tanks | 1 to 6 tanks        |

- fully automatic operation including the necessary pumps and valve technology
- freely parameterizable control system

# Flexibility in the choice of equipment

## Equipment options

5

### Various combinations for any purpose

Our lines have a modular design and can be equipped individually as required.



#### Container loader

- automatic container loading
- storage time of up to 15 minutes

#### Cap loader

- automatic cap loading
- storage time of up to 15 minutes



#### Dust and particle suction system

- servo-controlled lowerable device for removing dust and particles from the empty containers
- the dust and particle suction system is located between the container denester and the filling station

#### Heat-sealing stations

- stainless steel heating elements
- electrical heating with easy-to-change heating element
- adjustable and variable sealing parameters (time, pressure and temperature)
- high precision temperature controllers to keep the adjusted sealing temperature constant
- adjustment of sealing times via operator panel, independent of the machine speed
- double pneumatic drive units in series to avoid damages or discolorations of the sealing foils in case of production stops
- mechanism to lift the sealing station for cleaning or maintenance purposes

#### Gassing systems

- standard undercover gassing: 5% residual oxygen in head space
- LIEDER Ultra gassing: 1% residual oxygen in head space

# Flexibility in the choice of equipment

## Equipment options



### Heat-sealing station for pre-cut foils

- magazine for pre-cut foils
- denesting and placing of pre-cut foils by turning head
- pre-sealer to fix the foil on the rim

### Heat-sealing station with knife-cutting tool

- knife-cutting tool for processing foil from rollstock
- foil unwinding and rewinding system with separate drives to reduce waste
- material foil control



### Capping station

- magazine for pre-cut plastic caps
- control of stacking height
- denester and applicator to place the caps on the cup

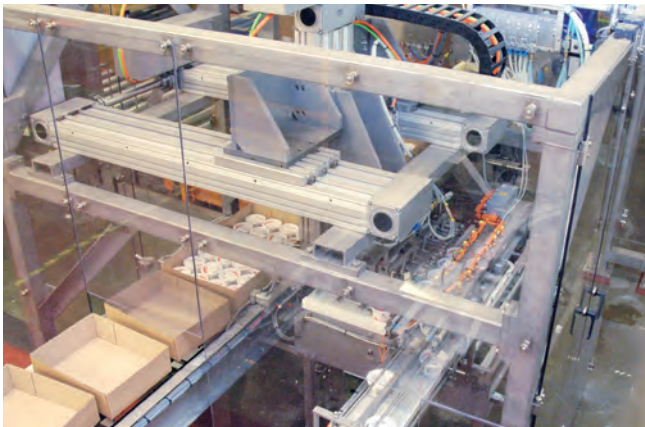
### Special closing systems

- inductive
- crimping
- screw-capping

Filling stations for special products such as pesto, water-oil emulsions, herbal mixtures etc.



### Special solutions



### The perfect solution for any requirement

Even complex projects are no problem for us. We take on every challenge and offer our customers individual solutions for any type of filling or packaging.

5

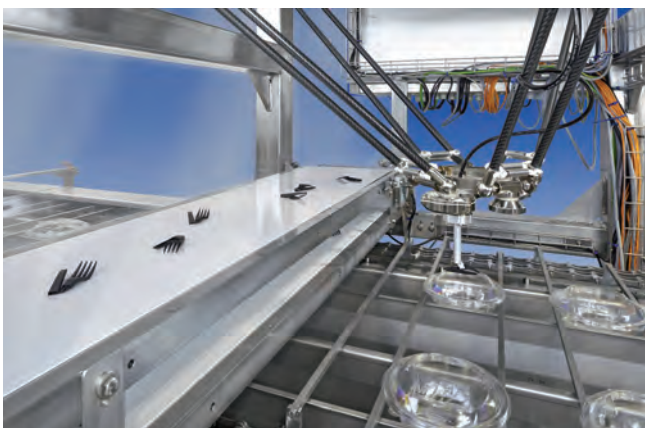


#### Gantry robot GR-P

- gripper head for picking several cartons at the same time
- freely programmable packing arrangement on the pallet
- automatic pallet magazine
- automatic pallet feeding and outfeeding

#### Gantry robot GR-T

- gripper head adjustable to different dimensions
- changeover to different cup, tray and carton dimensions
- output up to 400 cups/hour



#### Pick & Place systems

- forks, sauce packages etc. can be placed into salad bowls or other containers by means of robot systems

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