GRUNWALD®

Dosing · Filling · Packing

Rotary-type cup fillers

Your product is our only concern

YOGHURT, DAIRY PRODUCTS, SINGLE OR MULTIPLE FLAVOURS, FILLED IN LAYERS OR IN A SWIRL PATTERN

BUTTER, MARGARINE, MAYO, DIPS, SAUCES

JAM, SPREADS, FRUIT PUREE

CREAM CHEESE, CURD, COTTAGE CHEESE, UF-WHITE CHEESE

FRESHLY-PREPARED SALADS, NON-PUMPABLE READY-MEALS

DELICATESSEN SALADS, HUMMUS

DESSERTS, SWEETS OF ALL KINDS

SWEETS

Make your vision a reality – step ahead with GRUNWALD

Pure technology is available from many companies but not the experience behind it. GRUNWALD have been a reliable partner in dosing, filling and packing for several decades.
Today our filling machinery is used all over the world by the food producing industry, delicatessen industry, meat processing industry, ready-meal producers and the cosmetics industry.

We do everything we can to help you give your product the best reception in the marketplace.
Many years experience with a large variety of products, container shapes and lid types makes it possible to develop innovative, individual, flexible and reliable machinery. This guarantees production reliability, easy operation and changeover, giving the maximum speed and flexibility for your products.

Flexibility, speed, value for money, short delivery times and prompt, reliable customer service result in long-lasting partnerships with all of our customers.

Perfect presentation and mouth-watering taste will make your product a bestseller. We understand this and we do all we can to help you achieve it.

It is a fact that to keep your product as delicious as it was when it was made, the appropriate technology is required. This is one of our key strengths.

Different designs of filler guarantee weight-accurate, non-drip filling and thus the best possible presentation of your products.

GRUNWALD®

HITTPAC AKH-019

Our compact machine

This compact filling machine combines a maximum of flexibility with outstanding value for money.

The **HITTPAC AKH-019** is a rotary machine with a proven, reliable design. The special features of this machine are its easy operation and rapid changeover to different products and packing materials.

This model is available in several versions:

- "R" with electronic cam control
- "S with PLC Control
- "RE" and "SE" with an extended basic frame, and
- "SEP" with an integrated packer which was especially developed for dairies.

The **HITTPAC AKH-019** is also suitable for filling cleaning agents and beauty products in cups and buckets (with or without handle).

HITTPAC AKH-019R
HITTPAC AKH-019S
Dimensions: 1,000 x 1,000 mm
1- and 2-lane versions
Approximately 2,500 – 5,000 cups/h
Dosing range: 10 – 1,200 ml

HITTPAC AKH-019RE
HITTPAC AKH-019SE
Dimensions: 1,200 x 1,200 mm
1- to 3-lane versions
Approximately 2,500 – 7,500 cups/h
Dosing range: 10 – 2,000 ml

HITTPAC AKH-019R

1-lane machine
with electronic
cam control

HITTPAC AKH-019SE

2-lane machine
with PLC control,
with laminar cabin
(with HEPA filter)

HITTPAC AKH-019SEP

with integrated packer.
A single processor controls both -
the cup filler and the packer.

HITTPAC AKH-019SEP

Dimensions:
2,000 x 4,000 mm
1- and 2-lane versions
Approximately
2,000 – 4,000 cups/h
Dosing range:
100 – 600 ml

HITTPAC AKH-059

Our versatile machine

This versatile rotary machine combines great flexibility and high speed with an attractive price.

The **HITTPAC AKH-059** is the biggest machine of the successful model range HITTPAC and shares it's proven, reliable design which gives easy operation and rapid change-over to different products and packing materials.

Due to the size of the machine frame the **HITTPAC AKH-059** offers sufficient space for many different stations and thus extends the possibilities available to you.

This machine can also be equipped with, for example, a packing material sterilisation system.

HITTPAC AKH-059
Dimensions: 1,750 x 1,750 mm
1- to 4-lane version
Approximately 2,500 – 10,000 cups/h
Dosing range: 10 – 2,000 ml

HITTPAC AKH-059

3-lane machine

HITTPAC AKH-059

3-lane machine
with laminar cabin
(with HEPA filter)

A further technical milestone for the food industry

With the gas injection system, developed by GRUNWALD, it is possible to produce at full cycle speed (up to 42 cycles/min.) without restriction in output and at the same time achieving a residual oxygen content of < 0.5 % in the cup.

HITTPAC AKH-059VG

Dimensions:
1,750 x 1,750 mm
1- to 4-lane versions
Approximately
1,200 – 4,800 cups/h
Dosing range:
10 – 2,000 ml

ROTARY 6.000

Our most successful machine

Innovative and flexible, the ROTARY machine offers both reliability and performance.

The concept of GRUNWALD-ROTARY has been a continued success story. Our customers at home and abroad successfully use this rotary machine in multi-shift operation to generate an excellent return on their investment.

The ROTARY model range is a product flexible cup filler and the basic model is already in full servo design.

We are constantly developing this rotary filler, using our innovative ideas, technical knowledge and real-world experience. We build individual machines with various specially-designed stations based upon this ROTARY chassis in response to individual customer's requirements and ideas.

ROTARY 6.000
Dimensions: 1,500 x 1,500 mm
1- to 4-lane versions
Approximately 3,000 – 12,000 cups/h
Dosing range: 10 – 2,000 ml

ROTARY 6.000

2-lane machine
with stand-alone
mobile filler MOBIFILL
and agitator in the
hopper

ROTARY 6.000

2-lane machine
with laminar cabin
(with HEPA filter)

ROTARY 6.000

2-lane machine
with integrated pasta and
powder filler for filling dry soup

ROTARY 6.000

with automatic
cup storage and angled
snap-on lid magazine

ROTARY 12.000 and 20.000

Our high-capacity machines

These machines are the flagships of the GRUNWALD ROTARY range, and like all of our rotary machines their design is based upon a set of well-proven design concepts.

Their innovative hygienic design, with the minimum number of separate parts in the working area, all without edges and corners, guarantees easy and quick cleaning.

Special features which should also be emphasised are good working access as well as a low, operator-friendly working height. Even at speeds of more than 50 cycles per minute, the ROTARY machines are incredibly smooth and efficient in operation.

Maximum availability is guaranteed by short product and format changeover times. All this can be achieved by our cost effective machines.

ROTARY 12.000
Dimensions: 2,000 x 2,000 mm
2- to 6-lane versions
Approximately 6,000 – 18,000 cups/h
Dosing range: 10 – 2,000 ml

ROTARY 20.000
Dimensions: 2,300 x 2,300 mm
4- to 6-lane versions
Approximately 12,000 – 18,000 cups/h depending on product and packaging material

2 x 3-lane up to 2 x 4-lane versions
Approximately 15,000 – 20,000 cups/h depending on product and packaging material
Dosing range: 10 – 1,000 ml

ROTARY 12.000

2-lane machine with agitator in the hopper as well as two mobile dosing systems

ROTARY 12.000

3-lane machine with laminar cabin (with HEPA filter)

Rotary table with 4-lane ROTARY 20.000 during the filling and topping of hummus

Four mobile fillers allow multiple different toppings and fillings, optionally with
- herbs and peas,
- sauce and peas or
- herbs and sauce.

The order of the garnishes is optional.

ROTARY 20.000

4-lane machine with laminar cabin (with HEPA filter) and packing material sterilisation by means of double pulsed UV(C) high-performance radiator. Guaranteed sterilisation rate: LOG 4 – at full cycle speed

OPTIONS

Format changeovers

The GRUNWALD quick-change system for cup slats is a further step towards increase in efficiency and thus allows for:

- quick format changeover times
- short dead time
- easy handling

The format changeover without tools can be carried out within 5 – 10 minutes.

Cup setter with sliding frame

Cup slat quick-change system

Mobile format trolley with enough room for the gentle storage of format set(s).

(Format) Trolley

Storage systems

Depending on the cycle speed and the de-nest height, the standard storage time for cups and lids is 3 - 5 minutes.

In order to extend the storage time there are the following options:

- angled or curved magazines normally give a storage time of 5 - 10 minutes
- fully-automatic conveyor-based storage stations for both cups and lids normally give a storage time of up to 20 minutes (see photo)

Storage system

for cups and snap-on lids/top caps

Cup indexing station

The use of a cup indexing station offers maximum flexibility. If you have small batches, or products which cannot be filled in fully-automatic operation, such as antipasti products, then pre-filled cups can be loaded into the rotary table tooling and liquids can be post-filled by means of a piston filler.

When filling pumpable products the indexing station can be quickly exchanged for a standard cup setter. Thus empty cups can be automatically de-nested from the magazine as normal and can then be filled and closed.

Cup indexing station

for pre-filled cups

OPTIONS

Dosing systems

Depending on the requirements rotary-type GRUNWALD machines can be equipped with between 1 and 3 piston fillers, and optionally with dosing systems for handling products which are non-pumpable.
The following dosing systems for various types of product can be integrated into GRUNWALD rotary machines:

- multi-head weighers
- chamber fillers
- vibratory fillers
- auger fillers

All dosing systems can be equipped with a downstream checkweigher or an integrated inline weigher with tendency control. If the product density fluctuates, then dosing volume is re-adjusted fully-automatically.

Inline weighing

Cups are lifted and weighed by electronic weighing cells directly after the main filling station. The inline weigher immediately assesses the weight of the cups and automatically adjusts the fill volume according to the average weight, thus reducing the number of incorrect cups as well as keeping the standard deviation to a minimum.

This inline weighing system can be used with very high cycle speeds of up to 50 cycles per minute.

Using a reject station for faulty cups, any under- or overweight cups are automatically rejected at the outfeed conveyor area.

Piston dosing system EASYCLEAN

Designed in accordance with EHEDG guidelines to meet the maximum of hygiene requirements

Inline fruit dosing

When filling fruit yoghurt the fruit preparation is directly metred and then dynamically mixed just in front of the piston filler. This allows a quick change of the fruit products and the product loss is minimised.

Integrated weighing system

Mobile dosing systems

Frequent product and format changes for product diversity in daily production as well as high machine availability and easy operation of the filling machine are one of the most important criteria of the food industry for investments in new filling and packing machines.
The combination of GRUNWALD cup filling machines with the mobile filling technology of the GRUNWALD-MOBIFILL and the GRUNWALD-FLEXODOS is the ideal solution.

This unique GRUNWALD machine concept allows both pumpable and non-pumpable products to be filled on the same GRUNWALD cup filling systems. All product-specific settings of the dosing systems used are stored in the control of the cup filling machine. Therefore, several identical dosing systems can be used rotationally in the same dock-in station without readjustments, without modification and without complex technical installations.

Due to the complete exchange of the dosing system with all product contact parts the GRUNWALD filling machine will be allergen-free within less than 5 minutes. The disconnected dosing systems are cleaned independently of the filling machine. Alternately with further mobile dosing systems the cleaning can take place during production and therefore outside the production room.

Dosing ranges: 20 ml – 1,900 ml, depending on the design of the filler
Available in 2- to 6-lane versions

The mobile dosing systems for pumpable and non-pumpable products are interchangeable 1:1

They can be used rotationally in the same dock-in station

FLEXODOS

2-lane
View in and on the dosing chamber during the filling of grated carrots

Two mobile dosing systems – SEMIDOS and cereal filler (in the front)

connected to a GRUNWALD rotary-type machine. The cup filler is equipped with a laminar cabin (with HEPA filter) as well as pulsed UV(C) high-performance radiator for bucket and lid sterilisation

OPTIONS

Hygiene levels
Product shelf life

GRUNWALD guarantees, that GRUNWALD filling machines achieve maximum quality, food safety and hygiene standards by using up-to-date, forward-looking technolgies.

The new GRUNWALD hygiene concept results from the interaction of the following technical developments and innovations:

- **Packing material sterilisation**
  using pulsed light high-performance UV(C) radiators with a guaranteed sterilisation rate of at least LOG 4, partly ≥ LOG 5, at the maximum cycle speed
- **Pre-filler and main filler**
  designed in accordance with EHEDG guidelines to meet the maximum of hygiene requirements
- **Laminar cabin**
  designed as semi-tunnel, clean room class 5, Hepa filter EN ISO 14644.

Packing material sterilisation

with 2-phase pulsed light high-performance radiators in the hygiene tunnel of the UC rotary-type cup filler ROTARY 20.000UC

Fully-automatic interior cleaning

of the UC rotary-type cup filler ROTARY 20.000UC

Spraying nozzles for foaming and rinsing the rotary table and the hygiene tunnel. Subsequent interior drying with heated air guarantees maximum product safety for the next production run.

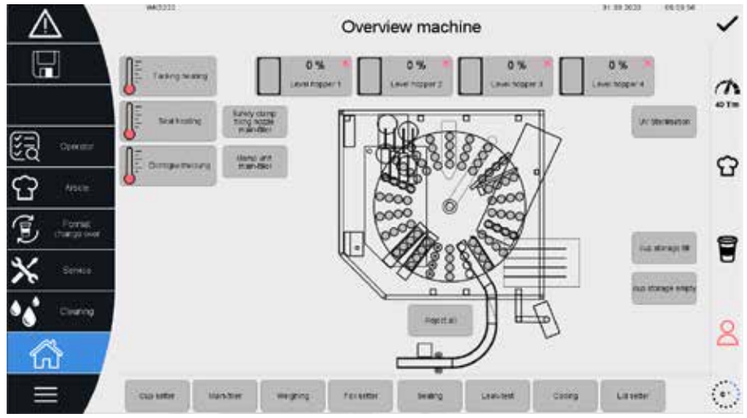
The gas injection system without evacuation developed by GRUNWALD allows for production without reduction in production speed, that is at full cycle speed (up to 42 cycles/min.) and achieving a remaining oxygen content of < 1 % (with homogeneous products < 0.5 %) in the cup at the same time. This new gas injection system offers clear advantages compared to the system used for evacuation / gas injection (MAP procedure) so far.

Remaining oxygen content < 0,5 %

at full cycle speed (up to 42 cycles/min.)

Operator convenience

The standard equipment on all GRUNWALD rotary-typ cup filling machines includes a 15.6-inch infrared colour message display. The screen is made of scratch resistant laminated safety glass which makes it much more durable than conventional resistive message displays. The clear design offers excellent levels of operator clarity.



Production Data Management System

Efficient tool for:

- Collection of data by sensors and controls (PDA system GRUNWALD ProDAS)
- Data transfer to different interfaces (OPC-Server)
- Evaluation of the system data

This analysis tool supports the planning and evaluation of the entire filling line in order to analyse and increase its efficiency.

OUR PROGRAMME

You have the product.
We have the technology.

In order to meet our customers' requirements with their different products, flexible machinery is needed.

To solve the most difficult tasks requires continuous innovation from our designers, programmers and development engineers. Forward thinking and customer focussed innovation are the keys for a successful machine concept. The best customised solutions arise from first consulting with our customers to ensure that we fully understand their requirements.

GRUNWALD cup filling machines not only succeed because of their durable and sophisticated design, but also by the range of optional equipment that is available and their versatile modular drive technology.

Drive
- pneumatic – for auxiliary functions
- mechanical – step-by-step cam-driven motion
- electronic – servo drive

Format changeover
- fully-automatic height adjustment
- rapid format changeover system without tools to guarantee a changeover time of between 5 and 10 minutes
- movable stations– format parts do not have to be changed

Extended storage stations for cups and lids
- curved, extended magazine rods for cups and snap-on lids
- fully-automatic storage systems for cups and snap-on lids giving a storage time of 10 - 20 minutes.

Miscellaneous
- leak test station
- inline checkweigher
- reject station for leaky or underweight cups

Fillers
- Piston filler / rotary valve filler
- Piston filler EASYCLEAN designed in accordance with EHEDG guidelines to meet the maximum of hygiene requirements
- Dosing system MOBIFILL for a product changeover time of < 5 Min.

Filling nozzles
- Tappet valve
- Membrane valve
- Rotary valve
- Wire cutter
- Open pipe nozzles

Types of lidding
- Sealing of aluminium/plastic
- Sealing of aluminium/aluminium
- Sealing of aluminium/glass
- Sealing of plastic/plastic - pre-cut or reel fed
- Snap-on lid

Sealing technology
- Pneumatic heat sealing
- Mechanical heat sealing
- Servo-driven heat sealing
- Hydraulic heat sealing
- Ultrasonic sealing

Cleaning
- Manual cleaning
- Intermediate cleaning
- CIP
- SIP

Hygiene
- Laminar airflow
- Sterile air covers
- Cup and lid sterilisation using UV(C) high-pressure radiators

Electric components
- Modern electronic processor control with operator guidance via a graphical message display
- Electronic cam control with dwell time compensation
- Automatic batch start-up and completion programme
- Remote fault diagnosis via internet (or modem)
- Production data acquisition system
- Transfer of production data via OPC server

Rotary-type cup fillers

Universal design HITTPAC / ROTARY

Ultraclean design ROTARY UC

Rotary-type bucket fillers

Universal design HIITPAC XL / ROTARY XL

Ultraclean design FLEXLNIER XL

Inline cup fillers

Universal design FOODLINER

Ultraclean design FOODLINER UC

Inline bucket fillers

Universal design ROTARY XXL-UC

Ultraclean design FLEXLINER XL UC

Mobile dosing systems

Stand-alone mobile fillers
MOBIFILL FLEXODOS

SEMIDOS

VIBRATORY FILLER / PEA FILLER

SERVODOS

GRUNWALD company building with the new assembly hall 4 and the multi-storey car park (on the right in the picture)

Design department

Manufacturing hall

Assembly hall

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