

Your product is our only concern



Bucket fillers



GRUNWALD® 
Dosing · Filling · Packing



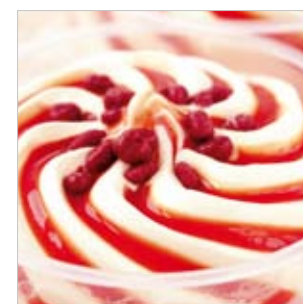
Make your vision a reality – step ahead with GRUNWALD



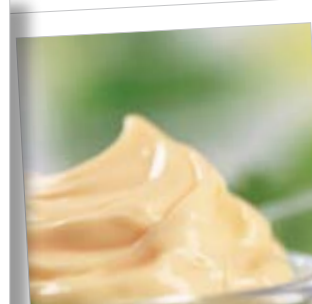
Pure technology is available from many companies but not the experience behind it. GRUNWALD have been a reliable partner in dosing, filling and packing for several decades and are known as "The Allrounder from the Allgäu".

From our origins in the Allgäu region of Southern Germany we have become distinctive and successful.

Today our filling machinery is used all over the world by the dairy industry, food producing industry, delicatessen industry, meat



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



BUTTER, MARGARINE, MAYONNAISE, DIPS, SAUCES



JAM, SPREADS, FRUIT PUREE



CREAM CHEESE, CURD



FRESHLY-PREPARED SALADS, NON-PUMPABLE READY-MEALS



DELICATESSEN SALADS



DESSERTS, SWEETS OF ALL KINDS

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. Not only are these the traditional Allgäu values but they are also the secret of our success.

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.

FLEXLINER XL-1

Our flexible bucket filler

This cost-effective, versatile bucket filler offers great flexibility.

The fully-automatic bucket filling and closing machine **FLEXLINER XL-1** is a larger development of our linear **FLEXLINER** cup filler, which is GRUNWALD's response to quickly changing market requirements.

This extremely flexible bucket filler was designed around proven GRUNWALD design features. The features available on the **FLEXLINER XL-1** demonstrate the possibilities this machine offers. Great importance is attached to operator-friendly operation, easy cleaning, smooth running, high availability, minimal format changeover times and maximum cost efficiency.

The **FLEXLINER XL-1** is suitable for handling containers from approximately 1 kg to 20 kg, with or without handle. Driven by servo-motors the machine provides reliable, controlled indexing and a mechanical speed of up to 20 cycles/minute.

FLEXLINER XL-1

Machine width: 1,000 mm
Single-lane design
Approximately 240 - 900 buckets/h
Dosing range: 1 - 20 litres



FLEXLINER XL-1

1-lane machine with laminar cabin. The magazine rods are motor-driven traversed and allow an automatic magazine adjustment to different bucket and lid sizes. Format changeover by pushing a button. No magazine exchange necessary



FLEXLINER XL-1

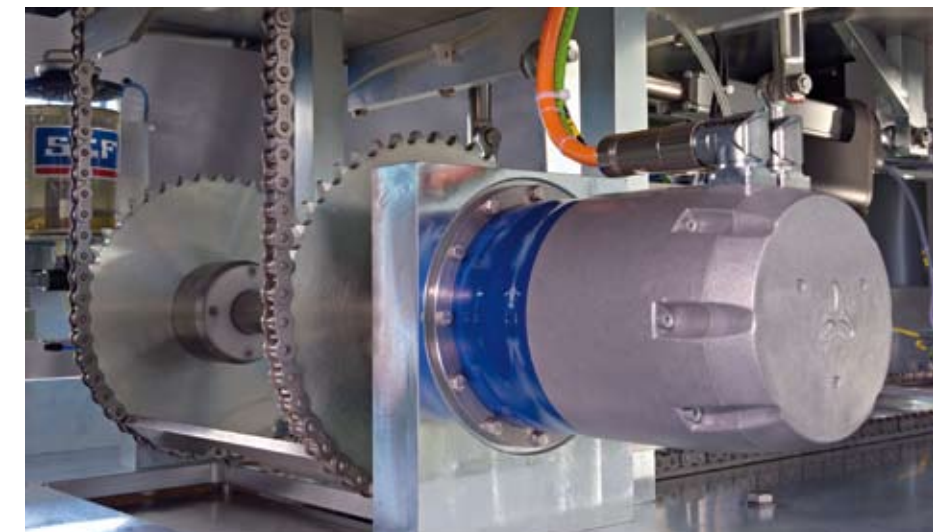
1-lane machine with twin bucket denesting offering a longer storage time, with a laminar cabin and two sealing and cutting stations mounted one after the other. Format changeover without changing the sealing heads



FLEXLINER XL-1

Innovative hygiene design

enables easy cleaning due to a reduced number of parts, rounded off corners and edges above the table plate



Bucket drive

The main bucket drive uses a servo motor for quick and precise container transport without spillage

FLEXLINER XL-2

Our high-performance bucket filler

Modern, reliable technology for high output and maximum flexibility.

The fully-automatic, 2-lane bucket filling and closing machine **FLEXLINER XL-2** is a high-performance machine which gives you the flexibility required to react quickly to your customer's requirements.

The **FLEXLINER XL-2** is available with the following equipment:

- bucket de-nesting
- bucket storage
- filling station either manually cleanable or designed for automatic cleaning. The necessary CIP-unit to be provided by the customer
- sealing station
 - with rotating knives for round containers
 - with fixed blades for square, rectangular or oval containers
- snap-on lid station with separate press-on station
- discharge to the customer's existing transport unit or a conveyor

Many options are available for this machine which are described on page 14.

FLEXLINER XL-2

Machine width: 1,600 mm

2-lane design

Approximately 480 – 1,800 buckets/h

Dosing range: 1 – 20 litres



FLEXLINER XL-2

2-lane machine complete with a fully-automatic bucket storage system for a storage time of up to 10 minutes



FLEXLINER XL-2

2-lane machine with motorised height adjustment for different rectangular bucket sizes. Windows in the drive area guarding to assist preventive maintenance



FLEXLINER XL-2

Snap-on lid station

Pneumatically driven de-nesting elements guarantee the safe separation and de-nesting of all lids to be handled.

This is followed by a 2-phase press-on station. The 2-phase lid securing process presses out part of the remaining air in the bucket and guarantees secure lidding.



Lid setter drive

A servo-motor is used for simple and accurate placement of snap-on lids as well as automatic adjustment to different bucket heights

FLEXLINER XL-S

Our semi-automatic solution

A cost-effective semi-automatic solution for lower volumes.

The design of the semi-automatic bucket filler **FLEXLINER XL-S** is based on the successful **FLEXLINER XL**. Buckets are manually placed on the infeed conveyor and automatically transported to the filling station by chain-driven transport rails. The chains are driven by an frequency-controlled motor for smooth indexing without spillage. The buckets are automatically sealed with reel-fed film. An automatically operated snap-on lid station with separate press-on station for secure bucket closure is also available.

Applications:

- for all bucket shapes and sizes from 1 kg to approximately 20 kg, with or without handle
- for all food, paint and chemical products

In addition to our high-quality basic specification the following optional equipment is available:

- different filling valves
- snap-on lid station
- motorised height adjustment of the sealing and cutting station

FLEXLINER XL-S

Machine width: 1,000 mm

1-lane design

Approximately 120 – 600 buckets/h

Dosing range: 1 – 20 litres



FLEXLINER XL-S

1-lane machine

Incorporating GRUNWALD-SEMIDOS fruit-juice dosing station before the reel-fed film sealing and snap-on lid stations



Sealing and cutting station

In one working cycle the bucket is sealed with reel-fed film which is cut with hoop-steel knives in accordance with bucket shape



HITTPAC XL

Our compact machine

Our fully-automatic bucket filler for closing buckets with snap-on lids.

The fully-automatic bucket filling machine **HITTPAC XL** completes the **FLEXLINER** model range and offers a compact and cost effective solution.

HITTPAC XL

Dimensions: 1,500 x 1,500 mm

1-lane design

Approximately 400 – 1,800 buckets/h

Dosing range: 1 – 10 litres

Applications:

- for all bucket sizes and shapes from 1 kg to approximately 10 kg, with or without handle
- especially suitable for pasty products
- pasty products can be filled at a high cycle speed using either a servo-driven product pump or a piston filler



HITTPAC XL

1-lane machine

Bucket station with sliding in / sliding out magazines for quick format changeovers, CIP filler and snap-on lid station



Bucket denesting

Buckets are denested from a magazine with pneumatically driven denesting elements and are reliably placed in the rotary table by means of a mechanically driven vacuum sucker

OPTIONS

Format changeovers

Another step towards increased efficiency: the GRUNWALD quick-change system with motor-adjusted bucket and snap-on lid magazines allows very quick format changes without tools. The format change process is started via the operator touch panel.

Main advantages of our quick-change system:

- maximum flexibility
- addition of further bucket sizes is possible without additional costs
- considerable time-saving as magazine exchange is not required
- no exchange of heavy format parts necessary
- no damage to format parts possible

Magazine rods

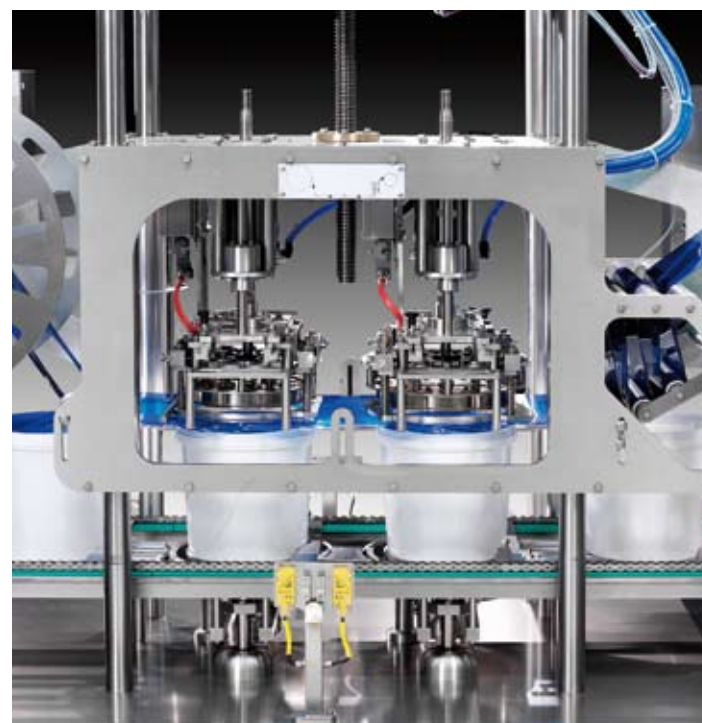
Motor-driven traversing of magazine rods for automatic magazine adjustment to different bucket and lid sizes. No exchange of format parts necessary



Format changeover at the cutting and sealing station is easily achieved via a button on the operator panel without the need for exchange format parts. The sealing tool for the second format is pre-heated and immediately ready for use.

Cutting and sealing station

Two reel-fed sealing heads are permanently mounted with separate supports for two different bucket sizes for perfect bucket positioning



Storage systems

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

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

- twin bucket de-nesting stations to double the storage time
- fully-automatic extended storage stations via conveyors for a storage time of up to 10 minutes

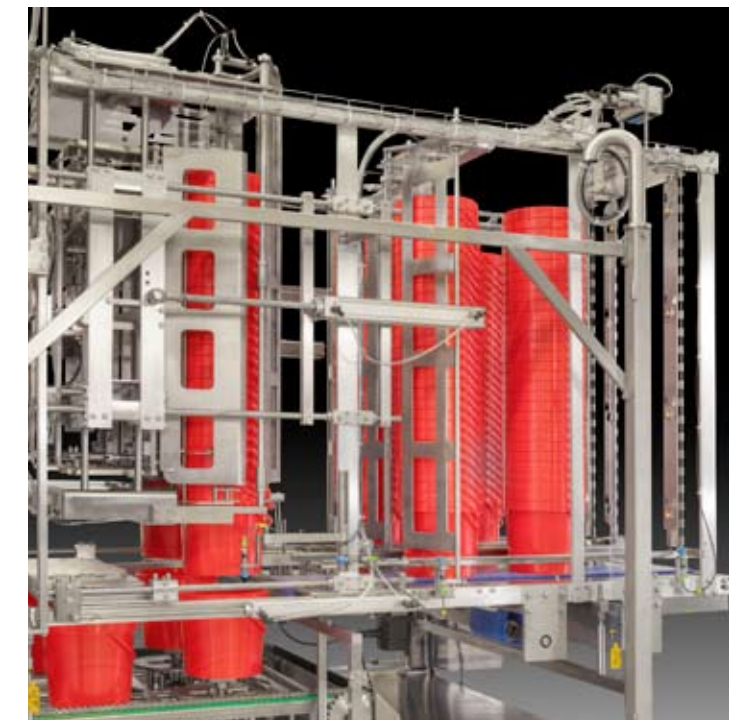
Twin bucket de-nesting stations

for extended production time



Automatic storage system

using a conveyor for the maximum storage time possible



OPTIONS

Hygiene levels
Product shelf life

In order to guarantee or extend the shelf life of products different hygiene levels are available:

- laminar airflow
- sterile air cover
- bucket sterilisation using a mixture of steam and H₂O₂ (Hydrogen Peroxide)
- film or snap-on lid sterilisation by means of UV(C) radiators

Bucket sterilisation

uses a mixture of steam and H₂O₂ to thoroughly sterilise the inside of the bucket



Dosing systems

The empty bucket is first tared on the weigh cell and then 70 % – 80 % of the total volume is filled at high speed. The remaining volume is dosed at a reduced speed for greater accuracy.

The servo-driven lowering / lifting unit for the filling valve(s) guarantees a clean and almost bubble- and foam-free fill of products which are difficult to fill.

Product feeding

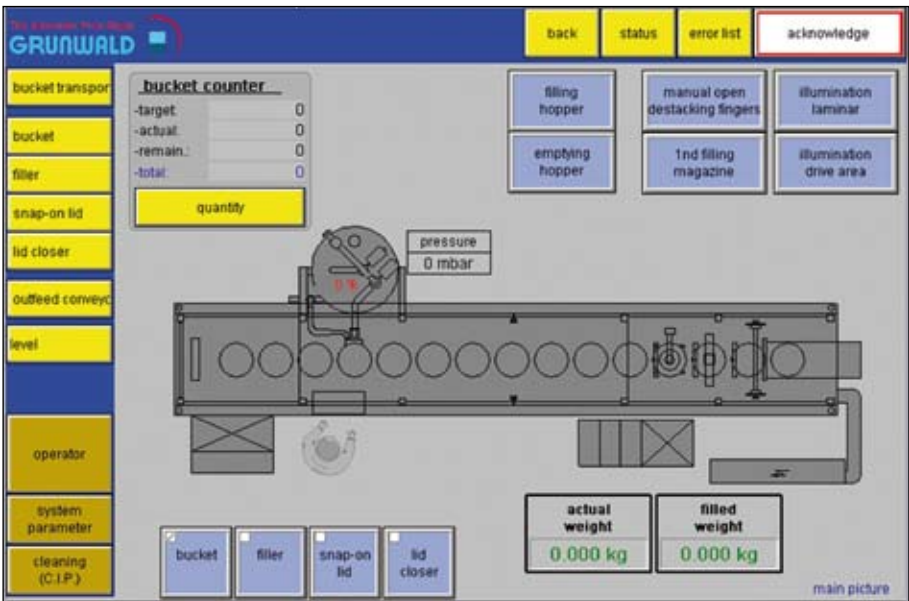
This machine uses two frequency-controlled product feeding pumps with optional product hoppers, automatic level control and product agitators for filling quite different products



OPTIONS

Operator convenience

The standard equipment on all GRUNWALD inline bucket filling machines includes a 12 inch infrared colour touch panel. 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.



Recording of production data

Production data acquisition system
"McDat"
(option)

To help improve the productivity of filling and packing machines all machine production data can be recorded for analysis using the "McDat" system, thus allowing improvements and adjustments to be carefully targeted where they will have the most affect.

The "McDat" continuously operates in the background automatically collecting data. This can then be evaluated on the touch panel or on an external PC via Ethernet connection.

McDat - (Auswertung WK4711)										
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- aus dem eigenen Störungen		3	100:00:47	00:00:14	7,88	Produktionsdauer 00:23:15 00:27:44				
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- 1. Folienbezeichnung		1	00:00:11	00:00:11	0,54					

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 bucket 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
- electronic – servo drive

Format changeover

- format quick-change system without tools for all stations
- motor-driven traversing of magazine rods for different bucket diameters
- motorised bucket height adjustment

Extended packing material storage

- twin bucket de-nest stations
- fully-automatic storage system for buckets and snap-on lids with storage times of up to 10 minutes

Cleaning

- manual cleaning
- intermediate cleaning
- CIP

Filling nozzles

- open pipe nozzle
- rotary valve
- tappet valve
- membrane valve (with hedgehog-type nozzles)

Hopper

- hopper up to 150 litres
- hopper lid
- hopper insulation
- hopper agitator
- product drain valve
- level probe
- capacitive level measuring

Types of lidding

- reel-fed film seal
- reel-fed film seal and snap-on lid
- snap-on lid

Hygiene

- laminar airflow
- sterile air cover
- bucket sterilisation using a mixture of steam and hydrogen peroxide
- film and snap-on lid sterilisation by means of UV(C) radiators

Electronics

- 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 McDat
- Production data transfer via OPC server

Other options

- leak test station
- lexan cover plates in the drive area
- drainage channels
- external control box
- separate operator panel
- operating side on the left or the right

Rotary-type machines

- ROTARY
- HITTPAC

Inline machines

- FOODLINER
- FOODLINER UC (ultra clean)
- FLEXLINER
- FLEXLINER UC (ultra clean)

Bucket lines

- FLEXLINER XL
- HITTPAC XL

Dosing machines

- SERVODOS
- FLEXODOS
- MEGADOS
- SEMIDOS



ROTARY



HITTPAC



FOODLINER



FOODLINER UC



FLEXLINER



FLEXLINER XL



SERVODOS



FLEXODOS



MEGADOS



SEMIDOS



Administration building



Assembly hall



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Dosing · Filling · Packing

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