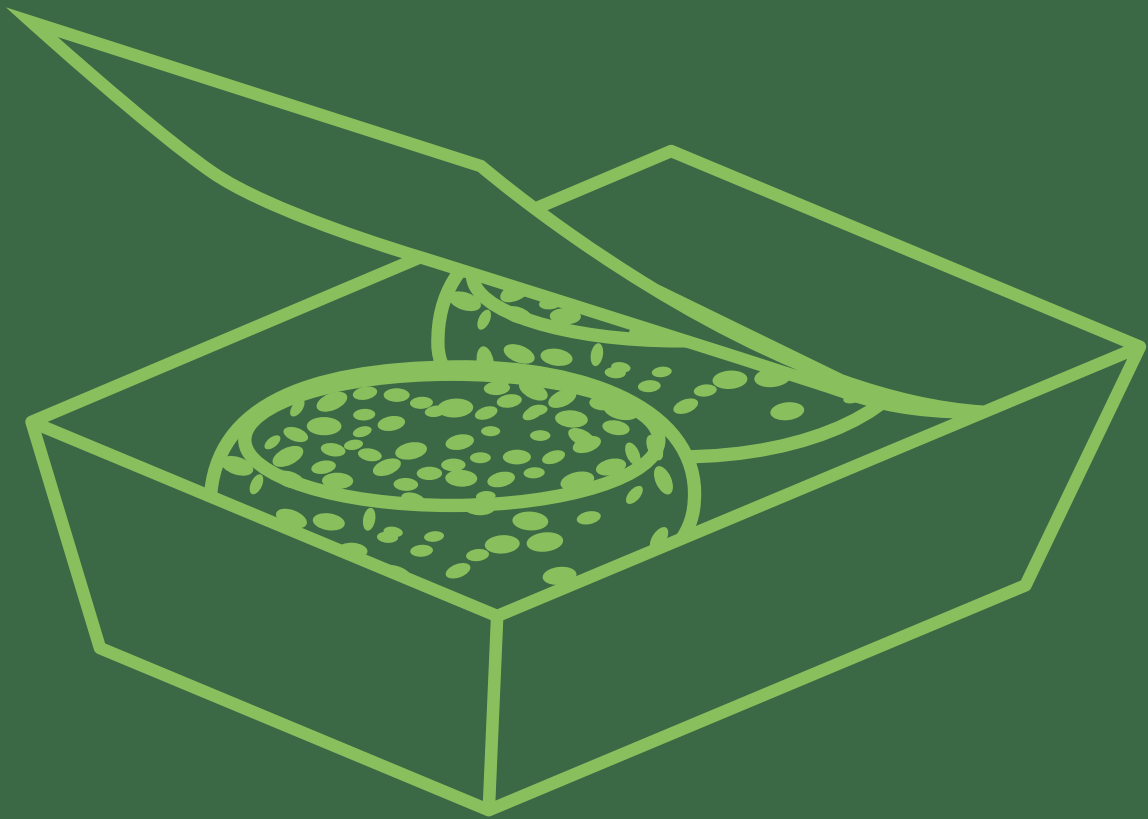


CONVENIENCE





WE KNOW A THING OR TWO ABOUT CONVENIENCE

The trend towards convenience products is no longer driven only by the sharp rise in single households and their increasing demand for packaged small amounts of products that are ready to eat. Private consumers in general are looking for high-quality dietary ideas that are as quick and easy to make as possible. Caterers are also being forced to look for alternatives by cost and efficiency pressure in kitchens, so they are trying to generate innovations and new food experiences to keep up with changing seasonal trends. The demand for affordable, sustainable, healthy and innovative products is rising steadily. Convenience products becoming higher quality and often taste as good as home-made food.

For you as a manufacturer, this means new opportunities, but also new challenges: how can you respond quickly to new requirements in production? How can you implement innovative product ideas easily? How do you achieve consistent, standardised quality? How can you keep up with ever-stricter national regulations in food production?

Automating your production processes using machines that are reliable, safe and flexible can help you to meet these growing demands. But the challenges are considerable, and it helps to have a reliable partner by your side. That's why at VEMAG, you are at the centre of all our activities. Working in a continuous

and close dialogue with our customers, we develop machines and attachments that meet your needs and offer high performance, versatility and precision.

We will gladly advise you about how to make your production ready for the future.

CONTENTS

4	Endlessly Diverse Products
6	Efficiency And Precision
8	Filling
10	Dividing Into Lanes
11	Shaping And Cutting
12	Filling Receptacles
14	Coextrusion
16	Multi-Lane Depositing And Loading
18	The VEMAG Modular Principle For Maximum Flexibility
20	Our Machines And Everything That Goes With Them
22	Strong Together For Your Success
26	Nothing Can Beat It: The VEMAG Double Screw
28	Machine Analysis And Production Planning With Smart Link 4.0
30	VEMAG: Your Reliable And Competent Partner

ENDLESSLY DIVERSE PRODUCTS

How do you want to design your product range?

The trend towards convenience products is continuing, not only in private households, but also in catering, which is forced to look for alternatives by cost and efficiency pressure in its kitchens and to generate innovation and new eating experiences that keep up with seasonal trends.

The market is seeking foods that taste good, while complying with a growing scepticism among consumers about additives. VEMAG helps give you freedom in production. Our flexible machine systems allow you to extend your product portfolio whenever you want to. Savoury or sweet, meaty or vegetarian, straight or with filling – the production possibilities are endless.

Meat-based products

- Round Meatballs, with/without Filling
- Filled Chicken
- Patty Products like Burgers and Hamburg Steaks
- Cylindrical Products like Cevapcicis
- Rectangular Products like Fish Fingers
- Products in Strips like Beef Jerky
- Filled Sausages

Vegetarian products:

- Croquettes, Duchess Potatoes
- Mozzarella Sticks
- Cheese Balls with Filling
- Veggie Burgers
- Veggie Sticks
- Fruit Bars
- Potato Parcels





Products in Cups, Tins and Jars:

- Delicatessen Salads
- Paté Sausage
- Cooked Sausage
- Salami
- Ham Hock in Aspic
- Brawn
- Head Cheese

Products in Fantasy Shapes:

- Round
- Cylindrical
- Square or Rectangular
- Other Shapes on Request

Filled Products:

- Meat Pouches with Filling
- Chicken Kiev
- Biftegis
- Gouda Balls with Tomato Salsa
- Filled Fish Croquettes

Products with Coatings and Toppings

- Fish and Meat with Coatings
- Fish Fillet with Topping or Sauce

EFFICIENCY AND PRECISION

Opening up of opportunities in processing.

Filling Receptacles

Accurate to the gram: filling jars, tins, cups uniformly and without dripping



Coextrusion

Filling position precisely in jacket, outer coating completely closed, perfectly synchronised filling and portioning processes to achieve reliable portion accuracy



Placing in Receptacles and Trays

Precise positioning and dependable placement for an efficient packaging process



Filling

Gentle handling of raw materials and a uniform feeding guarantee maximum product quality and a perfect downstream processing



Dividing into Lanes

Because the filling flow is divided with perfect consistency, portion control in each lane is accurate to the gram, guaranteeing problem-free subsequent processing and automation



Shaping and Cutting

Consistent shaping and precise portioning, as well as clean cutting of the filling flow



FILLING



FILLING

Infeed – inlet – feeding system – outlet: Each stage of filling individually adjustable to create a unique product.

The filling process plays an important part in the industrial production of food products. Different parameters such as geometry, component size and function, from the inlet to the outlet, all influence fundamental product characteristics. You decide which properties your product should have, and we adapt our machine fully to your requirements. This helps you achieve perfect weight accuracy in your products, a drastic reduction of giveaways and big savings on resources and costs. Continuous product infeed, constant, powerful vacuum performance and gentle feeding of the filling material all ensure that the downstream attachments and

automated line systems are perfectly supplied with top-quality product.

Our powerful vacuum fillers convey your products carefully and along the shortest possible feeding distance, with minimised dwell time: This prevents smearing, minimises leftovers and guarantees perfect hygiene.

The benefits:

- Excellent product quality
- Gentle processing
- Reduces giveaway and therefore saves money
- Adapt and improve your products perfectly

VEMAG filling technology for products the way you imagine them



DIVIDING INTO LANES

Precision, lane by lane.

Our flow dividers are the perfect solution to achieving a consistent, multi-line product application. The filling material is supplied by a vacuum filler. This works continuously. Avoiding pressure peaks helps guarantee uniformly excellent product quality combined with absolutely identical output of multiple product strings. This allows the system to fill your quality products with exactly the right weights under any production conditions.

The structure of our flow dividers is optimised in terms of flow-control and can be adapted entirely to your requirements: Number of lanes, diameter, centre to centre

spacing, product shape – all these can be freely selected. Furthermore VEMAG flow dividers can be integrated into many different production lines, including ones for the multi-lane processing of filled, viscous and fluid products.

Using the very latest flow divider technology, such as our patent offset rotor, we are able to do entirely without drive systems. This saves you as a customer on the cost of maintenance and power.

The benefits:

- Perfectly controlled flow rate guarantees accurate weights in every lane and in every application
- An intelligent without drive system guarantees high product quality by controlling temperatures and optimising costs (for energy or maintenance)
- Easy to operate using a portioning computer

Precise multi-lane flow-control, flexible operation



SHAPING AND CUTTING

Efficient and innovative machines for perfectly shaped, versatile products.

Are you looking to make perfectly formed products that you and your customers love? The VEMAG Convenience systems are the right products for you. Our team of outstandingly trained technologists, designers and technical draughtsmen are exceptionally customer oriented. And what they love most is customising designs. The solutions we offer for products with exact weights that keep their shape are as diverse as the kinds of shape we can offer. Our machines form precise products made of all kinds of different raw materials, divide filling flows accurately, and apportion mixtures into exact weights. Ball or drop shaped, cylindrical or ellipsoid, filled or unfilled: there are

no limits to your creativity because our machines are so versatile and flexible. Ball control systems shape meatballs, cheese block formers create blocks of cheese, and interchangeable nozzle blocks on our flow dividers make it easy to change from one shape of product to the next.

VEMAG helps you open up new market shares with innovative products.

The benefits:

- Outstandingly formed products on account of gentle VEMAG filling technology
- Your innovative products can be reproduced reliably at a constant quality using highly developed machine technology, high-quality components and intelligent controllers
- Utilise resources optimally to maximise profits
- Ingenious machine designs make setting up quick and reduce downtime to a minimum
- Forming plates and nozzles are easy to change, facilitating diverse products
- Blade or wire for optimum cut quality
- Viscous products can be hot-filled

Shaping and cutting exactly the way you want



FILLING RECEPTACLES



FILLING RECEPTACLES

Clean, quick portioning.

Convenience products are often sold in tins, jars and trays. Jars and tins especially are enjoying a renaissance because of growing resistance to plastic packaging. Our can filling systems are exact, fast and reliable when portioning mixtures that are anything between liquid and highly viscous. The edges of the containers remain clean and filled quantities are absolutely identical.

The filling pattern is excellent, including on the jar base, because the container is lifted. Your selected volume on the PC-Controller is portioned through a filling head with a ball lock by a portioning cylinder. The portions are cleanly cut off at a precise weight, with the help of a blade rotating around the ball. The usual drip-

ping is prevented. Even thick sinews are cut through easily.

This fully automated line portions multiple lanes into cups, trays and other receptacles. The filling speed is infinitely adjustable up to 120 receptacles per minute using an intuitive graphic display. This ensures that it meets industrial requirements. Our can filling systems are extremely economical because they can portion so effectively, and they optimise production capacity.

The benefits:

- Products that nobody else can make: can even cut sinewy meat, such as raw ham hock, using a rotating blade
- Fast, precise filling
- Clean container edges
- Suitable for a wide range of viscosities, meaning flexible applications
- Flexible: a wide range of tin and jar formats and sizes
- Product can be fed in from either side
- Minimal giveaway and optimised manpower result in profitability
- Quick and easy to clean

Excellent filling pattern by lifting receptacle during filling



CUTTING, PLACING AND HANGING SAUSAGES



COEXTRUSION

Flexible manufacturing for product diversity.

Sausages, croquettes, balls or pouches: with some products, it really is what is inside that matters most. Filled products with thick, coarse and very soft fillings can all be made easily using the VEMAG Convenience System. And they can be made in multiple rows.

Combining different foods into one product opens up completely new possibilities and flavour experiences. It is a particularly

effective way of setting yourself apart from your rivals and winning over your customers with ground breaking products.

Our machines position fillings precisely and close the ends securely. Products with open ends are of course possible too. The shape is retained even after preparation.

The benefits:

- High output
- Attractive product pattern and accurately distributed mixture thanks to proven VEMAG feeding technology
- Filling positioned accurately in outer product coating
- High production output and constantly accurate weight – even in multi-lane applications thanks to patented flow divider technology
- Identically shaped products that can be reproduced daily guarantee high customer satisfaction
- Downstream automation and packaging systems can be supplied and controlled easily using centralised operation

Filling positioned accurately in outer product coating





MULTI-LANE DEPOSITING AND LOADING

Efficient automation for the subsequent processing of your products.

If you are operating complex production lines and you want to divide your products up into multiple lanes so that they can be packaged automatically, you need a really good way of loading your products. VEMAG shuttle conveyors are available in different lengths, can be integrated perfectly into our production lines and are suitable for a wide range of products. At up to 40

strokes per minute, they place down your products in the direction your packaging machine operates.

Our shuttle conveyors are the ideal addition to the FM250 forming machine, the MMP220 minced meat portioner and all VEMAG cutting systems.

The benefits:

- High rates of transfer to downstream processes on account of powerful servo drive
- User-programmed placement pattern allows product to be positioned to the nearest millimetre
- Can be used flexibly for a wide range of products
- Easy to operate
- Easy to clean using low pressure washers

High loading performance into downstream processes



THE VEMAG MODULAR PRINCIPLE FOR MAXIMUM FLEXIBILITY



Modularity is what our machines are all about. And that means there are no limits to your product range.

VEMAG's big portfolio of machines, attachments and accessories is like a box of building blocks from which you can select the modules you want to assemble the solution for you.

For you as a user, it means that once you have purchased the core system, a VEMAG

filler, you can design your production the way you want using a combination of different attachments and suitable accessories. So you do not have to buy a new machine for new products: all you need is the right accessories or an attachment.

VEMAG attachments and accessories are

system components whose technology and operation are tailored exactly to our machines. That means you always have the perfect solution from a single source.



OUR MACHINES AND EVERYTHING THAT GOES WITH THEM

Our VEMAG filling and portioning solutions provide you with powerful, flexible systems that can be combined with our attachments and accessories to enable a wide range of products, efficiently supporting even the most complex production processes.



Ball Control BC236



Ball Control BC237



ASV811



2-up Crimper



FST883



FM250 Forming Machine



Cup Filling Line



FKFII



Filling Head 981

OUR MACHINES AND EVERYTHING THAT GOES WITH THEM.



AML273



Coex891



Coex894



SC260-263 Shuttle Conveyor



MTL280 - 283



**STRONG TOGETHER
FOR YOUR SUCCESS**



YOUR PRODUCT ...is Number One.

At VEMAG, our top priority every day is to be there for our customers in every way. We consider your product the most valuable asset, and we want to protect it, refine it, improve it and make it even more professional.

That will give you an edge and your customers as well. We develop, perfect and install every vacuum filler, every attachment and every complete line so that you can achieve your objectives with a wide range of functions:

- Excellent products, designed and produced exactly the way you want them
- VEMAG machine technology is highly flexible, enabling amended and newly developed products to be made easily on existing VEMAG lines to produce the best possible outcome
- Optimised standards that ensure guaranteed reproducibility and product safety for your end-customers

Our product managers and food technologists are there to assist you and are in constant dialogue with our development department in order to make your products even better using improved machine technology.



LESS RAW MATERIALS ...for more sales

Only once your product is as perfect as you want it can we think about improving yields. We understand that good food has to be competitive, which is why our own teams of experts are always using and developing their knowledge to allow you to get more of your high-grade raw materials into sellable products. That means more profit, and also less waste.

- Optimised weight accuracy and less giveaway allow you to deliver only what you are going to be paid for.
- Higher yield reduces your costs. For example, have you ever calculated what 1% less casing or raw material and ingredients could do for your profits, thanks to VEMAG's intelligent filling technology?
- Perfect product lengths and geometries reduce packaging problems and improve your packaging costs. They also eliminate high waste costs.

Together we can work out how your process combined with our technology can generate added value for you, precisely by using less raw material.





LESS RISK

...more customers

VEMAG fillers and VEMAG lines offer endless features, making them low-risk production systems that give you more time to concentrate on what is important. Every time we develop anything, we think about your safety and the hygiene standards you build your business on. We were leading the world in some areas while other companies hadn't even started there.

- VEMAG supplies the world's first vacuum filler with 3-A Sanitary Standards.
- VEMAG fillers allow you to remove stoppers and feed units hygienically, quickly and easily in the filling direction so you can clean them. This means you can clean seals properly because it is quick and easy to do, and practical for operators.
- The vacuum channel between the feeding system and vacuum pump is much shorter and easy to clean. VEMAG is at the top of the industry when it comes to hygiene standards.
- VEMAG feeding technology makes product distances shorter and with fewer corners in the product flow. Hygiene is outstanding, and the products are better.
- Fewer parts in the feeding system mean better hygiene. There are also fewer parts to lose.



OUTSTANDING AVAILABILITY

...another aspect of VEMAG Service

What happens if your product is not ready to sell on time? No product often means no sales, which not only reduces turnover, it can annoy your customers a lot and even drive them into the arms of your competition. VEMAG Service includes lots of ways of avoiding that:

- VEMAG machine concepts include 'Function First'. From the drawing board onwards, we try to make functions as durable as possible. A good example is our vacuum fillers' box-in-box system, which doubly encapsulates electronic parts.
- Quick set-up times mean more time for production. VEMAG lines can often start producing a completely new product simply by replacing a small attachment or module, which is quick and easy.
- VEMAG trains agency and branch office technicians at its VEMAG Academy. This means our international service standards are always improving for your VEMAG solutions, and it means you receive, from installation onwards, the service that will secure your investment over the long term and make your product available to meet your customers' demands flexibly.

NOTHING CAN BEAT IT: THE VEMAG DOUBLE SCREW



NOTHING CAN BEAT IT: THE VEMAG DOUBLE SCREW

At the heart of our fillers are VEMAG double screws. No other feeding technology is as flexible when it comes to adapting to your product.

Lots of options in terms of pitch, diameter, length, compression, profile and much more all mean one thing: your product is perfect.

Perfection in precise weights or whole pieces of muscle – specialist or compromise, or both?

Every cleaning process enables the double screw to be changed quickly. You might want to change the product quickly, or service parts of the pump. The feeding system consists of just two parts: the housing

and the double screw.

VEMAG technology enables you to use components such as double screw parts that are made entirely out of stainless steel. This makes it more durable, and also improves hygiene levels.

A major benefit of VEMAG double screw technology, one which protects your products, is the first-in-first-out principle: the filling material is continuously force-fed. A system such as rotary vanes can drag the product several times through the pump, whereas the mixture that arrives first at the double screw is what arrives first at the outlet.

The benefits:

- Ideal for adapting to your product
- Handles raw materials gently
- Flexibility for new product ideas
- Outstanding weight accuracy even at high outputs
- Optimised yield providing more sellable product
- Uniquely hygienic feeding system
- VEMAG filling- grinding technology: The ideal in-line extension and next step for sensitive products
- Easy to disassemble and clean
- Lower service costs

RELIABLE, EXPERT PARTNER



MACHINE ANALYSIS AND PRODUCTION PLANNING WITH SMART LINK 4.0

Evaluate machine data effectively and quickly – and remotely: so you can know what is happening on which line, and when. All this is possible with the latest VEMAG Smart Link 4.0.

VEMAG Smart Link 4.0 is an operating and product data collection system which allows you to evaluate your filling data at any given time and date. VEMAG Smart Link records internal machine parameters.

It means you can see exactly what is happening at a glance. Power consumption, pressure levels at the sausage grinder and other information can be viewed, compared and evaluated. This allows you to identify any weak points that may exist, as well as things you can improve and continue. It allows you to see what is actually

happening right now. Filling data is transferred and stored, in the filler as well if you want.

This means that machine data such as product filling weights, quantities achieved, machine running times and much more can be viewed centrally, such as at your central office. This improves planning quality.

The benefits:

- Be ready for IoT: Networking your machines improves your production
- Receive a constantly updated insight into your primary production figures. One of the things this enables is accurate product costing
- Optimise costs by reducing giveaway and using resources more effectively
- Achieve production security and constant quality by optimising your machine settings
- Achieve transparency and traceability by automatically documenting your production data



RELIABLE, EXPERT PARTNER



VEMAG: YOUR RELIABLE AND COMPETENT PARTNER

Service and maintenance: we are there for you worldwide.

At VEMAG we consider service part of our DNA: you, the customer, are always at the centre of our activities.

VEMAG service technicians, subsidiaries, agencies throughout the world: we will always provide you with outstanding service wherever you are, and we define manufacturer standards to keep it that way, including at our VEMAG Academy. VEMAG Service in Germany and our offices and agencies abroad will support you from the installation of your machine, throughout compre-

hensive training, and whenever repairs are needed.

You can rely on:

- Global support
- Service technicians trained worldwide by the VEMAG Academy
- Sound technological training
- Practice-based technician and user training



The VEMAG Customer Centre: Space for innovation.

Make your vision a reality with us and discover how you can improve your production. We can show you individual components and complete production lines at our VEMAG Customer Centre. We will show you, under realistic conditions, how you can make a wide range of foods.

Experience VEMAG up close and in action — our competent advisers are there for you.





VEMAG Maschinenbau GmbH
Weserstr. 32
27283 Verden, Germany

www.vemag.de