MULTIVAC Systems
Applied Automation Solutions.
## Summary of contents:

<table>
<thead>
<tr>
<th>Page</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Contents</td>
</tr>
<tr>
<td>5</td>
<td>MULTIVAC Systems division</td>
</tr>
<tr>
<td>6</td>
<td>Customized solutions for your packaging needs</td>
</tr>
<tr>
<td>8</td>
<td>Project management: Planning – implementation – support</td>
</tr>
</tbody>
</table>
| 10   | Our products and services for your sector:  
|      |  • Industrial and consumer goods packaging  
|      |  • Medical and pharmaceutical packaging  
|      |  • Food packaging |
| 14   | Our product range:  
|      |  Overview of line components |
| 16   | Handling modules  |
| 18   | Quality inspection modules |
| 20   | Labelling modules |
| 22   | Line integration modules |
| 24   | The fully integrated line |
| 26   | Our range of services worldwide |
Welcome to MULTIVAC Systems!

Established in 1961, MULTIVAC is a leading manufacturer of packaging solutions for food products, sterile medical supplies and industrial and consumer goods. The growing demand for more efficient production processes and tougher quality standards in these markets means that the demand for automated packaging solutions is also rising steadily.

Now a hand-picked team of experts with many years of experience in the field of packaging automation is dedicated to the development of complete integrated, solutions from MULTIVAC Systems.

On the following pages we will introduce the full range of products available from MULTIVAC Systems: handling modules, labelling and quality inspection modules, sophisticated control technology, and the coordination of all components in automated or fully integrated lines.

Inextricably linked with the name MULTIVAC is our unique and world-class service offering. Whether you want to add a new component or are looking for someone to take on project management with overall responsibility for the setup of a fully integrated line, we are here to help - wherever you are. With our worldwide network of advisors and service technicians, we’re never far away.

Just like MULTIVAC packaging machines, automation solutions from MULTIVAC Systems combine innovative, top-class technology with the reassurance of German-built quality:

Every machine is designed to order. Manufactured from high-grade materials, hygienically designed down to the smallest detail and tailored specifically to your own packaging requirements.

Integrated solutions from MULTIVAC stand for performance, quality, hygiene and service, right down the line. And as part of that package, we work with you to explore new options and to help you keep pace with market demands, efficiently and cost-effectively: Your success is our benchmark.
Expert solutions from MULTIVAC Systems: Your success is our benchmark.

An automation solution from MULTIVAC Systems offers far more than the ideal combination of high-quality line modules. We work with you to develop the most complete, cost-effective and efficient solution for your individual requirements.

**Line expertise from MULTIVAC**

As a leading manufacturer of packaging lines, MULTIVAC has a worldwide presence in all markets. With over 60 subsidiaries and dealerships, we develop large numbers of automatic packaging solutions for our customers every year, combining top-class quality with process optimization and efficiency improvements. We call it line expertise, our customers call it success.

**Standard components for all operations, from feeding to cartoning**

guarantee optimal availability of spare parts worldwide and ensure rapid implementation of your project.

**Maximum efficiency through special custom solutions**

The high level of vertical integration at MULTIVAC means that we can design individual modules or line configurations specifically to your requirements and packaging needs.

**Fast and seamless integration of third-party components**

courtesy of the flexible MULTIVAC control system with its open architecture.

**The safe solution**

All MULTIVAC line components are **CE-compliant**. If you wish, we can carry out an **FMEA** (Failure Mode and Effects Analysis) or validation of the entire packaging line.
Professional project management: At MULTIVAC you’re in the best of hands.

The MULTIVAC project team will develop the optimum solution for you, professionally and efficiently, reducing your costs dramatically.

Experience, expertise, and an efficient organizational structure

The design and implementation of complex packaging projects and lines has developed over recent decades into one of MULTIVAC’s core competencies. As our experience has grown, so too has our internal organizational structure, which brings together everything under one roof. Our development, design and production teams work closely alongside our sector, application and film specialists. This level of integration ensures that your projects are handled expertly and efficiently, from start to finish.

For large and small projects

If required, MULTIVAC Systems can take on overall project management responsibility for automation projects of any size:

- Expansion or retooling of an existing line
- Design and implementation of an entire line, or
- Delivery of a turn-key packaging line

We are also happy to explore options for optimizing existing lines, such as measures to increase line productivity.
An experienced MULTIVAC project manager always heads up your project team. This skilled specialist, with a wealth of experience in the implementation of complex packaging lines, is there to advise you on all issues.
Automation systems from MULTIVAC. Always the most efficient solution.

Whether you are involved in packing food products, industrial goods or medical and pharmaceutical products; whether you want to automate production gradually or would like to install a complete and fully integrated line, MULTIVAC Systems can offer the right option for you. Customized for your products, your specific requirements and your business environment.

- **Individual components from MULTIVAC**
  Automation of individual process steps by means of handling modules, inspection and labelling modules – if you wish to add individual components you can choose from our comprehensive range of options. We offer expert advice to help you choose and also provide full technical support.

- **With a high level of vertical integration in the manufacture of our line components**, we guarantee superb quality and can also offer special solutions tailored exactly to your requirements.

- We are also happy to offer support for integrating line components from other manufacturers.

- **Turn-key projects**: We can develop turn-key packaging lines upon request.

- An experienced specialist from MULTIVAC Systems will assume full project management responsibility. He will be on hand to advise you right from the start, and will work closely with your project team to ensure that all your requirements are met.
Quality right down the line. Guaranteed.

Packaging industrial and consumer goods flexibly, efficiently and with high quality.

In the industrial and consumer goods sector, packaging is all about handling a whole variety of products in large numbers, as cost-effectively as possible. MULTIVAC systems are designed to help you meet these demands.

- **Flexible:** Right down the line. The line modules can be used in various ways for all kinds of tasks. If necessary they can be reconfigured and the entire package replaced to suit new requirements or changing market conditions.
- **High-quality:** Right down the line. The high-resolution inspection modules from MULTIVAC guarantee perfect accuracy, even for products with non-uniform textures, geometries and orientations.

In robot-assisted pick & place applications and safety of your products

- **Stand-alone or integrated:** MULTIVAC is an expert at picking from high cycle speeds and for all kinds of products. Two separate in-line units perform picking and placing with an accuracy of 100%.

Seal tester for perfect seals:

- **Seal testing:** Right down the line. The seal tester applies a gentle pressure to the package to ensure the integrity of the seal. Any leaks are detected quickly and with great accuracy.

Safeguard your products throughout the entire packaging process.

- **Validation:** Right down the line. The validation unit monitors the packaging process and, in the case of a fault, stops the entire line. Checkweighers and the MULTIVAC Vision System ensure that packs are complete, and the seal of the pack is intact. If necessary, the individual pack is re-tested.

Maintenance and support:

- **Maintenance:** Right down the line. The multivac line elements are designed for easy and thorough cleaning. The inside of the machine is easy to see and the components are easily accessible for cleaning.

Seamless monitoring during transport, storage and display.

- **Protection:** Right down the line. Appropriate packaging protects your products against damage and pilfering. In the industrial and consumer goods sector, packaging is all about handling a whole variety of products in large numbers, as cost-effectively as possible.

Suitable for all industries.

- **Industry-specific:** Right down the line. Our labeling and direct printing systems are designed with our labeling and direct printing systems.

Fast, accurate and reliable.

- **Accuracy:** Right down the line. The high-resolution inspection modules from MULTIVAC guarantee perfect accuracy, even for products with non-uniform textures, geometries and orientations.

Good flexibility and performance, and superb pack quality.

- **Flexibility:** Right down the line. The line modules can be used in various ways for all kinds of tasks. If necessary they can be reconfigured and the entire package replaced to suit new requirements or changing market conditions.

High-quality products.

- **High-quality:** Right down the line. The high-resolution inspection modules from MULTIVAC guarantee perfect accuracy, even for products with non-uniform textures, geometries and orientations.

Good flexibility and performance, and superb pack quality.

- **Pack security:** One of the great strengths of MULTIVAC packaging solutions. They operate smoothly and reliably, designed with our labeling and direct printing systems.

Rugged and durable:

- **Stainless steel:** Right down the line. All safety equipment is made from stainless steel. Clean design in MULTIVAC machines means easy cleaning, avoidance of concealed areas and cleanroom compatibility. This is achieved by engineering and modular design of the handling modules, for example, means that even concealed areas and cleanroom compatibility. This is achieved by engineering.
Systematic view of our line components

Modules for handling tasks:
Inserting, sorting and unloading, safely and efficiently.

MULTIVAC handling modules are automated in safe varieties of tasks, quality and automatically.
Insertion of products, sorting of packs, rejection of defective packs, and automation and repositioning of packs. They can be configured to meet a wide range of products, pack formats, and packaging stages.

Available in various formats with 2 or 4 axes.

We offer a number of different models, according to the size of the workspace and the functions and performance your require. From the compact 2-axis module as a space-saving alternative to conventional sorting solutions to the sophisticated 4-axis module for inserting non-rigid products like steaks, fish fillets or pancakes.

A perfect match to your products and pack types:
with a consistently modular design and interchangeable gripper systems.

Quick and easy to operate:
MULTIVAC handling modules have their own controls with a user-friendly interface. For added convenience they can also be operated centrally from the IPC terminal on the packaging machine.

For use alone or in combination:
MULTIVAC handling modules can be easily integrated with other MULTIVAC machines to form complete packaging lines. MULTIVAC handling modules offer a wide range of formats.

We will gladly include modules from other manufacturers in our packaging lines, such as slicers, portioners, feeders, multihead weighers and checkweighers, labelers, etc.

For product and pack-transparent applications we also offer conveyor belts and mechanical sorters/channelizers.
Elimination of foreign bodies in your packaging.

X-ray inspection
Consumers demand products that have been thoroughly checked. The X-ray inspection systems (MR 811) can detect metallic and non-metallic foreign bodies, such as stone, glass or bone, even in metal packaging. They can also check that the contents are complete. So your packs only contain what they are supposed to contain.

Metal detection
The metal detectors (MR 831) comply with the highest quality standards. They are extremely easy to use and detect metal impurities with a high degree of detection sensitivity. They are reliable at both low and high cycle speeds. An added advantage of our metal detectors is that they can also be integrated into checkweighers.

Weight checking
The checkweighers (MR 821) have a high-speed weighing cell with digital signal processing, guaranteeing perfect results, even in difficult conditions. The patented AFV system compensates for ambient conditions and optimizes the packaging line’s cost-effectiveness. It is also easy to use and reliable, even in continuous operation.
Labelling modules: Flexible and accurate. Even at top speed.
Flexible solution for print layout and printing

Direct printing and labelling systems for pack design, mandatory information, sales promotions, etc. - MULTIVAC labelling systems offer the ideal solution, whatever your requirements.

Labelling systems

for efficient and flexible all-over, side, top, bottom or front labelling. Combinations of these variants are also possible, of course. The labelling system can be integrated into a packaging machine or used as a stand-alone element in the packaging line (conveyor belt labeller).

Direct web printing systems:

Print a variety of information directly on the packaging material. The flexible solution for all types of applications.

- Suitable for all materials
- Ideal for both harsh environments and cleanrooms
- For expiration dates or lot numbers, texts, logos and barcodes and also for complex large-format high-resolution pack layouts
- Compatible with printers from all leading manufacturers
- Suitable for all printing methods: hot embossing, thermal transfer, inkjet or thermal inkjet printing
- Can be integrated into the IPC 05/06 control system with MLC or used as a standalone unit with its own controls

The following chart contains the relevant selection criteria and will help you make your decision.

<table>
<thead>
<tr>
<th>Batch number / date with long running times</th>
<th>Batch number / date with short running times</th>
<th>Batch number / date at 'high speed'</th>
<th>Text, logos, barcodes</th>
<th>Harsh environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injet print</td>
<td>Thermal transfer print</td>
<td>Hotfoil print</td>
<td>HP-inkjet print</td>
<td></td>
</tr>
</tbody>
</table>

The HP-inkjet (Thermal Inkjet) print is only suitable for printing onto paper!

Well suited | Suited | Less suited | Not suited
MULTIVAC Line Control. Convenience and transparent processes.

The central MULTIVAC Line Control (MLC) is used to coordinate the components of your packaging line. The MLC guarantees fast and accurate processes and is easy to use. It can also be used for networking and transferring production data to your organizational and data structures.

The MULTIVAC Line Control: Order control and traceability in automated lines

The MULTIVAC Line Control allows every packaging line parameter to be monitored, recorded and evaluated.

It offers a wide range of functions, including:

- Coordination of functional elements
- Product tracing
- Product conversion
- Connection to MES (Manufacturing Execution System), ERP (Enterprise Resource Planning) or BDE systems

The MULTIVAC Line Control is the ideal solution for

- Integrating the line into the company’s organizational and data structure
- Providing product traceability with process data, or
- Adding equipment from other manufacturers.

MULTIVAC Line Control: With its easy-to-read touch screen, clear graphics, recipe memory, etc., the computerized system is exceptionally simple to use.
The IPC control unit on the MULTIVAC packaging machine synchronizes material flows:

- **On a packaging line with MULTIVAC modules** the operating terminal on the packaging machine is your system control center: From here you can control not only the machine itself but also peripheral MULTIVAC equipment like handling modules, vision systems, labellers, etc. This is where all line components are controlled and recipes are managed - from a convenient location and via an easy-to-read touch screen.

- **Even if your packaging line includes components from other manufacturers**, such as slicers, portioners or multihead weighers, the various processes can be synchronized centrally from the IPC control system on the MULTIVAC packaging machine.
A single source is better. MULTIVAC is best.

“The whole is more than the sum of its parts” - this is especially true when it comes to our fully automated complete lines. Optimum results and maximum quality are achieved with minimal resource consumption - and that’s a fact.

MULTIVAC Systems.
A strong partner by your side.

- For MULTIVAC, line expertise means uncompromising quality in design, execution, manufacturing, installation and servicing.
- The team from MULTIVAC Systems will develop an individual automation solution for you, tailored precisely to your product, your company and the needs of your market.
- Our worldwide MULTIVAC network of over 800 advisors and service technicians guarantees maximum machine availability.
Complete lines from MULTIVAC: Efficient and reliable.

- **High output**: All handling tasks are performed by automatic multi-axis robots. They operate accurately and at high speed, just like MULTIVAC packaging machines.

- **Optimized cycle times**: Various models and possible combinations of line modules minimize the distance traveled by your products during the packaging process. All system components are entirely compatible with one another and are fully integrated. From day one.

- **High flexibility - short changeover times**: The die change process on the new packaging machines is extremely quick. So you waste no time when you switch to a different production lot or packaging type.

- **Uncompromising pack quality**: 100% inline checking is provided by ultra-accurate weighing instruments and inspection systems. The entire packaging process is controlled, monitored and documented by the MULTIVAC Line Control. It ensures transparency and seamless traceability for each lot and for each individual pack.

**We’re here to help**

Whatever questions you may have about line components from MULTIVAC Systems or the integration of components from other manufacturers, you will find an expert advisor from your local MULTIVAC organization waiting to help you. Addresses, phone numbers and email addresses can be found at www.multivac.com
Top-class lifecycle service. Worldwide.

Wherever you are, we’re there for you.
With almost 50 years of experience in the development and manufacture of packaging solutions, MULTIVAC is one of the sector’s leading manufacturers. We have established a global service and sales network, with over 60 subsidiaries and dealerships on all continents.

Over 800 advisors and service technicians worldwide are on hand to assist you and to ensure the maximum availability of your systems. You can count on us for top-class service and expert advice!

Comprehensive range of services:
- From the initial consultation through aftersales support, our service team will look after you and fully empower your team to operate, maintain and care for your equipment.
- Skilled line experts offer customized training programs for you and your employees, either at one of our training centers worldwide or on your own premises.
- Fast worldwide delivery of original spare parts maximizes the availability of your machines.
With MULTIVAC Systems, you’re in the driver’s seat.

The best way of ensuring lasting success is to respond flexibly to new demands and market opportunities. MULTIVAC will support you all the way:

- The specialists at MULTIVAC Systems are constantly monitoring the latest trends and developments.

- Together with our new “Retrofitting” division, we will advise you on how to upgrade your existing machines, for example if you are introducing new production concepts, relocating or wish to respond quickly to current trends or customer needs.

- In our new application center at our headquarters in Wolfertschwenden, experienced packaging and film experts are developing innovative packaging concepts for you.

You benefit from the synergies that only the unique service organization of a leading manufacturer in the packaging sector can offer!

That’s MULTIVAC.