



HANDTMANN DIGITAL SOLUTIONS

FOOD PROCESSING SIMPLY SMART

 **HMF**
HANDTMANN MINT BEVERAGES
Automatic parameter monitoring
to avoid misproduction

 **HLC**
HANDTMANN LINE CONTROL
Status monitoring in real time and
automatic program change for the
production line

 **HMC**
HANDTMANN MACHINE COCKPIT
Cloud integration of Handtmann machines
to increase machine availability

 **HCU**
HANDTMANN COMMUNICATION UNIT
Software for planning, controlling and
optimising the filling department



HANDTMANN DIGITAL SOLUTIONS

FOOD PROCESSING SIMPLY SMART



The market environment in the food industry places diverse demands on production companies: high quality expectations meet ambitious cost targets. Needs can fluctuate at short notice, personnel planning is becoming increasingly demanding.

To ensure economic production today, apart from highly productive machines and systems, a well-functioning process organisation with transparent data and reliable processes is also asked for.

As a pioneer in the field of networking and production data recording in filling and portioning technology, Handtmann offers a comprehensive range of intelligent digital solutions that provide efficient support to food processors in their daily work.

From the powerful HCU software through to smart assistants for the machine control system and advanced cloud applications – innovative functions help continuously monitor, control and optimise production.

Operation and production managers, technical managers and machine operators alike thus benefit from the advantages – for an improved overall result and a boost in productivity.

Embark on your digital transformation – step by step and at perfect ease with Handtmann Digital Solutions.

Food Processing – Simply Smart!



HANDTMANN COMMUNICATION UNIT

Production outputs in real time, weight optimisation and increased Overall Equipment Effectiveness

Data recording, evaluation and documentation

Batch tracking, accurate documentation of production for each filling line and recording of downtimes ensure 100 % traceability, reveal weak points and thus provide information on the potential for savings. It is possible to improve production capacity utilisation in a targeted way due to the transparency and direct comparability of the filling lines. In addition, the production parameters can be limited individually for each article. Misproduction due to operating errors is thus significantly reduced or even altogether avoided.

The new user login function directly at the machine is the basis for comprehensive documentation. Different rights can be stored for the different users in the HCU. This guarantees, for example, that only authorised persons perform interim cleaning or a metal detector test. Yet another step towards paperless production!

Remote access

The production manager can access the filling machine's user interface remotely via the HCU and view various parameters there. With remote access enabled, e.g. via TeamViewer, Handtmann specialist personnel can also verify a program's set parameters directly on the control system.



- Documentation of shift and number of operators
- Production history and overviews (representation of process data in graphics and tables)
- Remote access via HCU Center
- User login with assignment of different rights

| Artikl | Plan | Plan | Plan | Produktion | Produktion | Produktion | Produktion | Produktion | Produktion | Produktion |
|--------|------|------|------|------------|------------|------------|------------|------------|------------|------------|
| 101 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 102 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 103 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |

Current production outputs in real time – easily accessed online

With a click in the HCU Viewer, the current production outputs can be accessed in real time. This ensures an ongoing overview of current production. Problems, which may occur in connection with the operating staff, the machine or the material flow, are identified straight away.

| Line | OEE | Availability | Performance | Quality |
|--------|-------|--------------|-------------|---------|
| Line 1 | 82.6% | 95% | 85% | 90% |
| Line 2 | 78% | 90% | 80% | 85% |
| Line 3 | 85% | 92% | 88% | 92% |

OEE – Overall Equipment Effectiveness

OEE key figures provide fast overview of a production line's added value. Both productivity and losses can be clearly displayed using the three factors availability, performance and quality.



- Overview of the current OEE values per line based on availability, performance and quality
- Planning and documentation of machine cleaning and metal detector test
- Overview of the current OEE values per line
- Documentation of shift and number of operators
- Remote access for the verification of the set parameters

AUTOMATIC WEIGHT CONTROL

Weight optimisation: up to 60 % less overfilling

A variety of factors can negatively affect accurate portion weights, such as recipe, temperature or air fluctuations in the material and machine wear.

The effective solution is automatic weight control with the HCU by means of the integration of a weighing system.

Check-weighing scales linked to the network are used for an ongoing target/actual value comparison of the set values and the measured weights. A trend calculation tunes the Handtmann filling lines that are also connected to the network. The system therefore automatically adjusts the portion weight. Practice has shown that give-away can thus be reduced by up to 2 %. For a daily production of 5,000 kg and material costs of EUR 2.50 per kilogram, this adds up to potential saving of EUR 62,500.00 each year.



Smoke stick scales for potential savings with AL systems

With smoke stick scales, the weight is calculated from the average of all the portions on the smoke stick – not, as with other applications, of the individual sausages.

Weighing entire smoke sticks for less deviation, more accurate averages and a narrower spread.



- Automatic weight recording (grams)
- Correction of the set portion volume (cm³)
- Compensation of fluctuating raw material density



- Accurate weights thanks to automatic weight control
- Up to 60 % less overfilling
- Significant cost reduction

Example calculation

| Daily production (in kg) | Potential savings (in %) | Annual material savings (in kg)* | Costs per kg (in €) | Annual cost savings (in €) |
|--------------------------|--------------------------|----------------------------------|---------------------|----------------------------|
| 5,000 | 2,00% | 25,000 | 2,50 € | 62,500,00 € |

** based on 250 production days

DIGITAL SOLUTIONS
WITH **REAL ADDED VALUE**



REAL TIME



HANDTMANN COMMUNICATION UNIT

Production outputs in real time, weight optimisation and increased Overall Equipment Effectiveness

Production planning: the reliable tool for planning production volumes and transferring them to production lines.

Production line availability, the number of operators and the product to be filled are automatically taken into consideration. The order list is transferred to the vacuum filler control system easily and centrally with just a click of the mouse. And complete production can start right away. However, not only production volumes are considered. If, for example, interim cleaning is necessary due to a product change, this is automatically planned and documented according to the cleaning rules.

HCU – the leading software solution for planning, control and optimisation in the field of filling and portioning systems.

SIMPLE DATA TRANSFER

The production data is saved in a database, and can be selected using the HCU Viewer and then exported directly to Excel. When data is exported to Excel, individual pivot tables and graphs are automatically created, such as machine operating time per day, quantities per day or month, signals from the metal detector per machine, item or day, as well as hourly output per line, item or day. Via the Handtmann Data Interface (HDI), targeted data exchange with other data recording systems is easy.

| ORDERS | | | | |
|---------------------|---------------------------|------|-----|----------|
| Date / time | Product information | kg | min | Personal |
| 30.9. 05:05 - 07:59 | 530 - Bockwurst | 3193 | 174 | 4 |
| 30.9. 08:00 - 08:30 | 00000 - Break | 30 | 30 | 0 |
| 30.9. 08:31 - 09:15 | 530 - Bockwurst | 807 | 44 | 4 |
| 30.9. 09:16 - 09:21 | 00000 - Zwischenreinigung | 5 | 5 | 0 |
| 30.9. 09:22 - 11:11 | 543 - Wiener Pute | 1000 | 109 | 4 |
| 30.9. 11:12 - 11:59 | 531 - Wiener | 587 | 47 | 4 |
| 30.9. 12:00 - 12:30 | 00000 - Break | 30 | 30 | 0 |
| 30.9. 12:31 - 19:44 | 531 - Wiener | 5413 | 433 | 4 |



- Fast planned volume allocation
- Production planning under consideration of filling product management (e.g. allergens)
- Production plan can be accessed directly on the vacuum filler control system
- Flexibility when making planning changes



- Planning and documentation of machine cleaning and metal detector test
- Over- and undercapacity is avoided
- Clear and reproducible processes
- Continuous overview of production



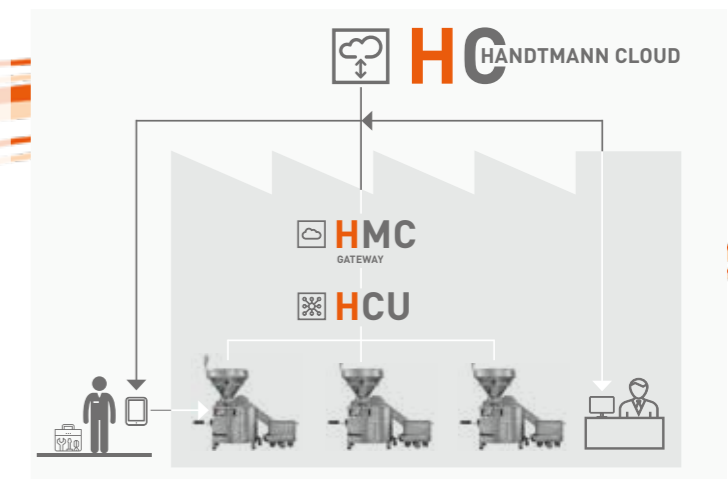
HANDTMANN MACHINE COCKPIT

Cloud integration of Handtmann machines to increase machine availability

The new Handtmann Machine Cockpit connects Handtmann filling and portioning systems with the Handtmann Cloud. Important information such as operating hours, pressure curves, error messages and machine status are continuously stored in the cloud. Via online access, the user receives an up-to-date overview of production – retrievable on mobile devices anywhere and anytime. The cloud solution offers initial key figures for identifying weak points in production – without the need for manual recording of reasons for downtime. If defined parameters, such as the permissible filling temperature for the product, are exceeded or undercut, the user is informed immediately. Misproduction is thus reduced or avoided altogether. In the event of technical failure or if maintenance is due, the responsible technician can react immediately to reduce downtimes. Once approval has been granted, a qualified Handtmann employee connects to the machine control system via remote access in order to verify or optimise specific settings.

Premium machines with maximum availability!

Handtmann machines are designed for dependable operation over a long service life. Regular maintenance work is a necessary measure to ensure a long service life and reliable availability of machines. Unplanned downtimes can thus be avoided and operating costs be kept low. Based on live data, the Handtmann Machine Cockpit delivers important information to this end. The due date of the next maintenance, for example, or possible error message are clearly displayed not only to the customer but also to the responsible Handtmann contact.



- Status monitoring of Handtmann machines
- Evaluation over the machines' life cycle
- Automatic messaging function to a defined group of people
- Monitoring and documentation of status and error messages



- Site-independent access to the data
- Real-time information about the status of the machine
- Identification of weak points without manual recording of reasons for downtime
- Enhanced service planning to increase machine availability
- Support of maintenance planning by the Handtmann contact
- Faster troubleshooting in case of problems
- Verification of parameters via remote access



CONNECTED*

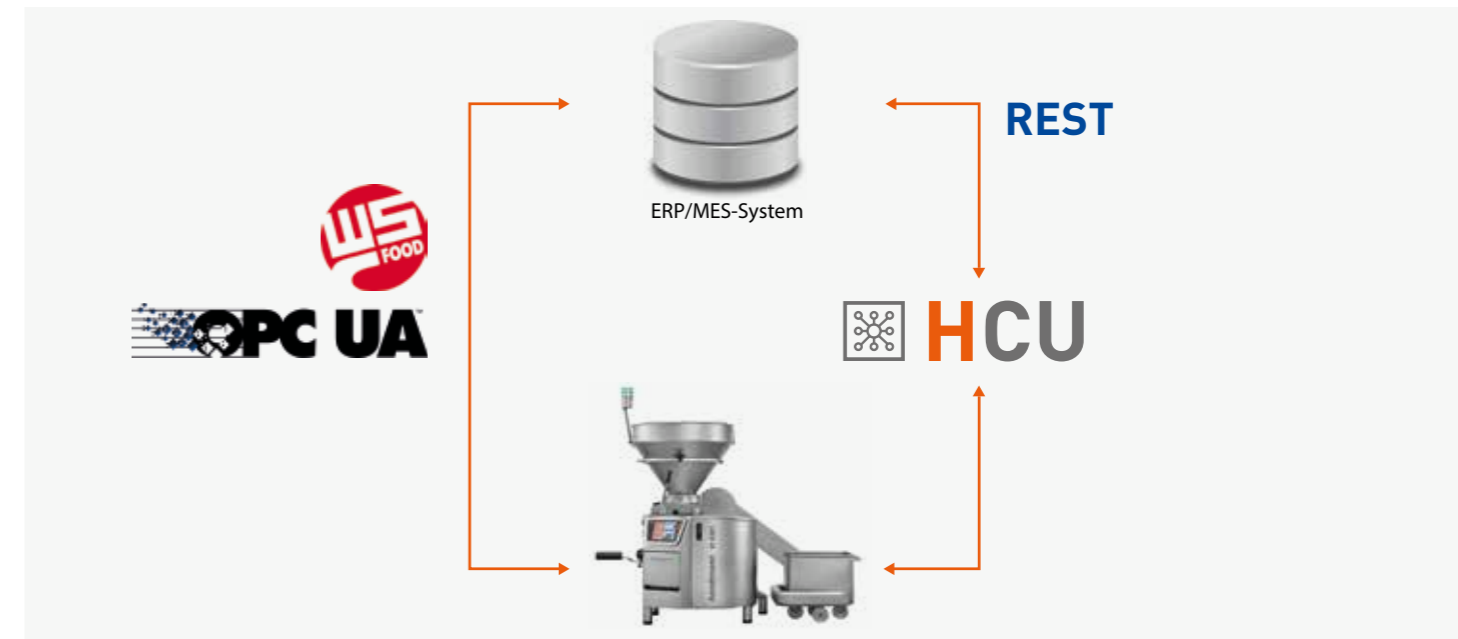


SMART

HDI

HANDTMANN DATA INTERFACE

Standardised interface for communicating with data recording systems



The Handtmann Data Interface (HDI) provides standardised interfaces for easy communication with data processing systems. You can easily integrate defined data either directly from the machine via the WS Food interface or by accessing the data via the OPC-UA for WS Food interface. Alternatively, already processed and evaluated data can be retrieved from the HCU via a REST interface. Planning and article data are simply transferred to the HCU via a defined interface.

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 - Various interfaces for different requirements (WS Food, OPC-UA for WS Food, REST interface)
 - Standardised communication interface with data acquisition systems for batch tracking and status request
- 
 - Standard machine interfaces in the food industry
 - Non-proprietary integration of machines for process optimisation
 - Cost savings by dispensing with individual engineering



HLC

HANDTMANN LINE CONTROL

Status monitoring in real time and automatic program change for the production line



State-of-the-art production lines are becoming ever more complex. After the production of, for example, formed products, these often need to be deposited directly into the packaging without any further manual intervention. In order to simplify this process, the Handtmann Line Control (HLC) allows status monitoring in real time, as well as automatic program change for the entire production line via the vacuum filler's control system.



- "Plug and play" solution for connecting machines
- Current and widely used communication standard via OPC-UA



- Status monitoring in real time
- Automatic program change
- Easy troubleshooting and diagnosis options
- Intelligent switch on/off for individual modules
- Controlled starting up/emptying of the production line



IFC

INTELLIGENT FILLER CLIPPER INTERFACE

Optimum synchronisation of vacuum filler and clipper for increased output and even easier operation

The production of clipped products requires maximum portioning capacity. In the past, identifying the optimum parameter setting between filler and clipper often proved to be a challenge. This setting process is now significantly simplified with the patented Intelligent Filler Clipper interface (IFC). Thanks to a plausibility check of the setting values, high process reliability and optimum synchronisation of VF 800 vacuum filler and corresponding clipper are guaranteed.



- Optimised interface between Handtmann vacuum filling machine and Poly-clip clipper on the basis of the WS Food standard
- Clipper and filling machine calculate settings for a safe start of both machines
- Simple increase of production capacity for one parameter – the clipper speed is adjusted automatically
- Automatic program change



- Up to 10 % higher portioning capacity thanks to optimum vacuum filler and clipper synchronisation
- Easy operation and product parameter setting for reliable start of production
- Reduced mechanical wear due to controlled overlap of portioning and clipping cycles
- Low noise level



INTEGRATED*

MSA

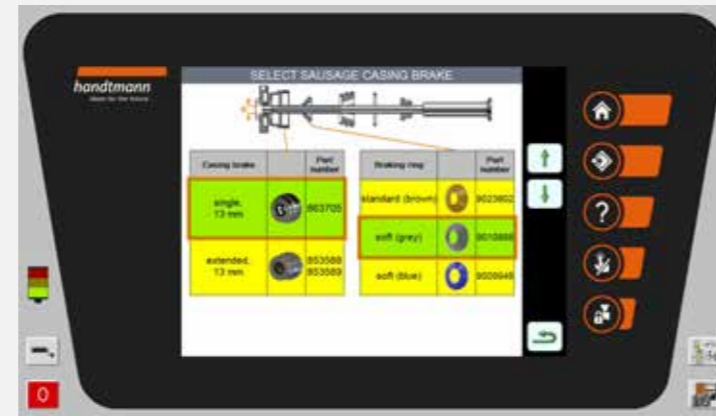
MACHINE SETUP ASSISTANT

Assistant for simple setup including recommendation of mould components

Based on product information such as weight, length, casing type, etc. the Machine Setup Assistant (MSA) automatically proposes equipment options and parameter setting for the machines. The machine control system thus provides optimum support for new or inexperienced operators.



- Automatic parameter calculation
- Suggestion of machine equipment
- Identification of empirical values for optimum machine settings



- Support of new operating staff for a safe machine start
- Helps the operator when converting the machine
- Reproducibility of high product standards through consistent product settings and practical machine equipment
- Storage of consumables for each article, such as clips and casings

HMF

HANDTMANN MONITORING FUNCTION

Automatic parameter monitoring to avoid misproduction

Rejects are often only discovered after completion of the product. The delay between filling process and quality control may also result in a large and correspondingly expensive quantity of rejects. The Handtmann Monitoring Function (HMF) indicates already during production when parameters are outside the permissible range. This helps optimising your economic efficiency.



- Definition of upper and lower limits for different parameters, e.g. vacuum, filling product temperature, pressure and other parameters
- Automatic machine stop when parameters are exceeded or undercut

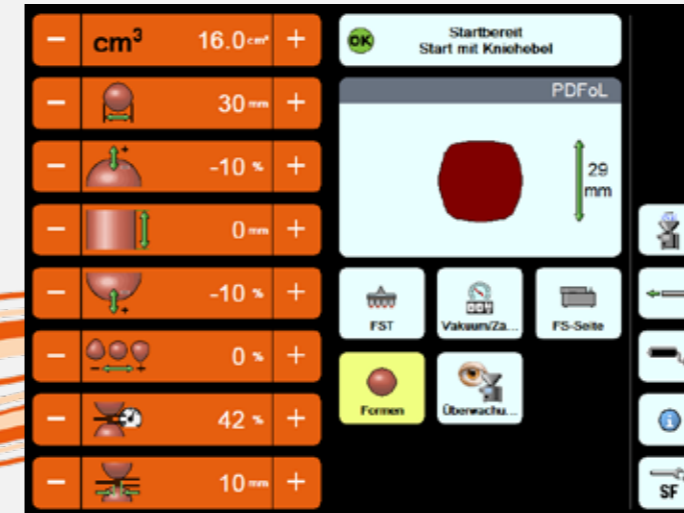


- Reduction and avoidance of misproduction
- Automatic dispatch of messages to a defined group of people in combination with HMC

HPV

HANDTMANN PRODUCT VISUALIZATION

Digital product visualisation for simplest realisation of creative formed products



- Graphic representation of product shape instead of set parameters on the vacuum filler's control system
- Automatic calculation of process parameters



- Direct visualisation of the product shape on the control system
- Easy setting of even complex products

HFM

HANDTMANN FUNCTION MODULE

Scalable output and activation of software functions

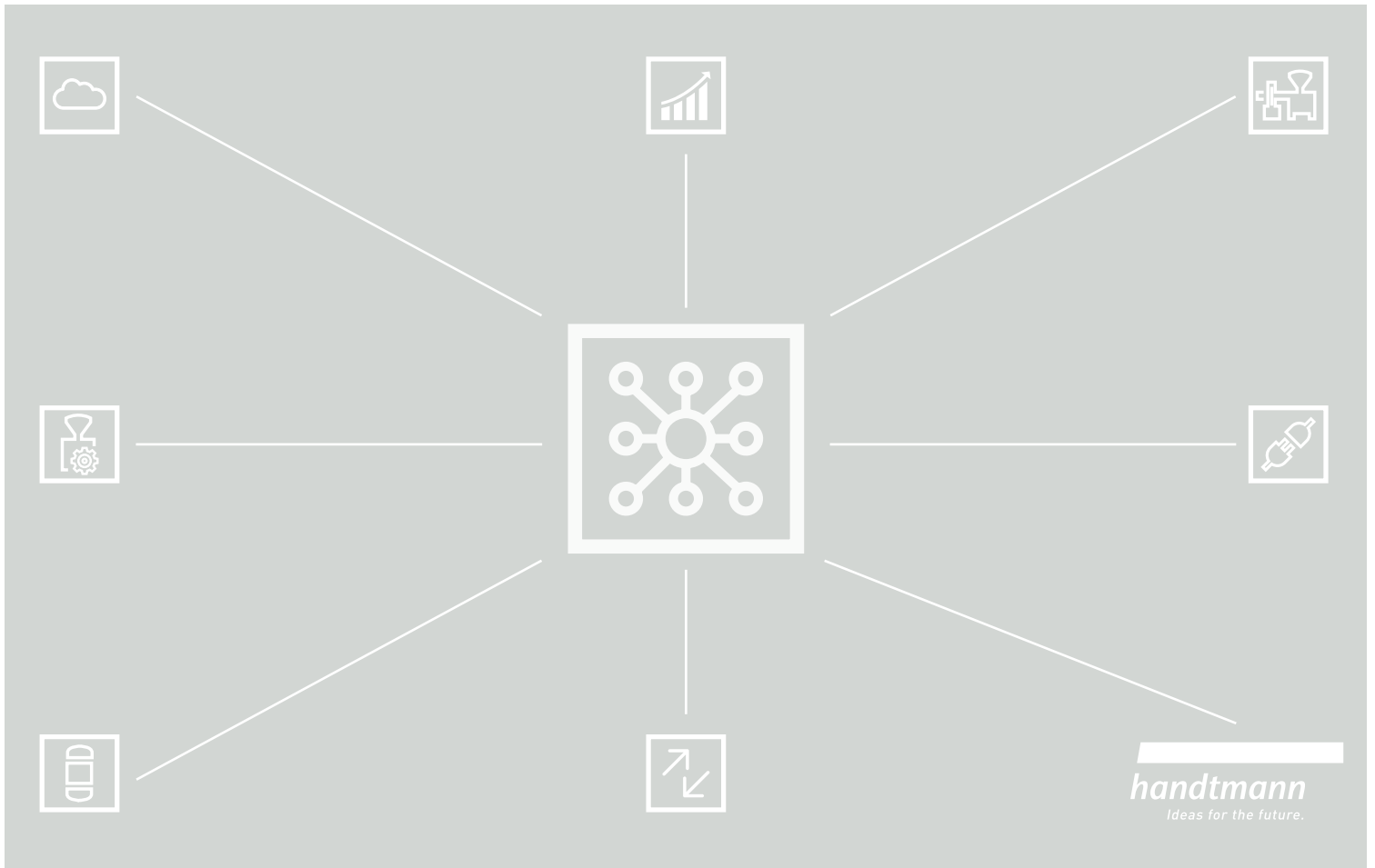
The Handtmann Function Module (HFM) makes it possible: numerous software functions can be subsequently activated, easily and in line with requirements. And the absolute highlight is that the filling capacity of scalable VF 800 models can increase with your requirements – the patented concept of the scalable filling machine ensures maximum adaptability and considerable cost advantages.



- Activation of software functions (e.g. vacuum control from 0 to 100 %, pressure control, WS Food interface, IFC interface, etc.)
- Easy retrofitting possible
- Performance increase with certain machine types possible
- Temporary function and performance activation for tests and trials



- Maximum flexibility through individual activation of required software functions
- Scalable machines ensure maximum adaptability
- Subsequent increase of filling capacity provides significant cost advantages compared with purchasing a new machine



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