

FORMING SYSTEMS FOR TREND PRODUCTS

Skinless products in a variety of shapes





ADVANTAGES THROUGH VARIETY OF SHAPES

What the customer wants today is variety!

AT THE CUTTING EDGE WITH FORMED PRODUCTS

Product variety through diverse process options

Forming systems from Handtmann are the right solution for producers who want to be a part of the trend towards new product diversity. The automatic production of formed products with various feed materials and cross-sections widens the range of modern, contemporary product ideas for today's consumers.

The vacuum filler, which loads and controls the forming systems efficiently, is at the heart of the process. Gentle feed of the filling product and portioning accurate to the gram by the vane cell feed system guarantee first-class product quality.

Handtmann offers forming systems with different processes and output capacities:

- **FREE FORMING**
with diaphragm or hole plate system
- **FORMING AND SEPARATING**
with forming inserts, forming dies and forming tubes

Forming systems with flow divider

Handtmann forming systems with flow divider boast an economically efficient process: The filling product is fed to the flow divider by the vacuum filler. Precise portioning is facilitated by the servo-driven flow divider. Weights accurate to the gram for each product and lane are thus guaranteed. The choice of various flow dividers from 2 to 24 lanes ensures flexibility. This gentle treatment creates first-class product quality. The formed products are transported on a conveyor belt or transferred to containers and systems for further processing.

Inline grinding technology for formed products

With formed products, optional use of the integrated Handtmann inline grinding technology facilitates even further improvement of the product quality due to protection of the product. With the grinder head integrated at the vacuum filler, the product is ground to its final grain size and simultaneously portioned in one process step. This reduces the cutting stress and decreases the number of process steps. Augmented by the automatic and individually controllable volumetric separating device for gristle, product reliability is guaranteed. The production of formed products is optimised in terms of process technology and quality.

A wide range of products and variety are in demand. Handtmann provides the suitable solutions here. Continuous production of formed products makes it possible to be a part of consumer trends and exploit new market potential.

FLEXIBILITY

- Large range of applications for pasty products: meat, convenience products, dough, etc.
- Outstanding system flexibility due to simple adaptation to product variants

PRODUCT QUALITY

- Excellent product appearance due to extremely gentle processing
- Guaranteed reproducible, top-quality product standards
- Well-formed products with maximum form accuracy

ECONOMIC EFFICIENCY

- Individual portions accurate to the gram due to excellent portioning accuracy
- High level of productivity thanks to the continuous process
- Efficiency and process reliability due to simple handling

COST REDUCTION

- Portions accurate to the gram reduce give-away and costs
- Low maintenance and running costs
- Optionally with the Handtmann Communication Unit software (HCU) for complex production control with weight control

PROCESS RELIABILITY

- High level of system availability and reliability, including as a module in complex process chains and handling systems
- Perfect hygiene conditions due to a reduction in manual intervention
- Optional digital solutions (HDS) for additional process control



↑ 79-0 dumpling forming device



↑ RF 440 round former



↑ FS 520 forming system



↑ FS 521 forming system



↑ FS 522 forming system

FREE FORMING

Diaphragm and hole plate systems

79-0 DUMPLING FORMING DEVICE

- Directly attached to the outlet of the vacuum filler
- Continuous feeding by the vacuum filler
- Maximum portioning accuracy
- Accurately formed dumplings
- Portioning size determined by a diaphragm
- Two diaphragm outlets for alternating forming and portioning

RF 440 ROUND FORMER

- Diaphragm sizes from 10 to 94 mm
- Wide variety of products due to large range of shapes: spherical, conical and oval products
- Impressive form accuracy through diaphragm with perfectly fitting contours
- Through continuous production of up to 150 portions/min.
- Maximum weight accuracy for each product
- Modular structure allows for further options: 446 conveyor belt and 446-30 flattening belt

FS 520 FORMING SYSTEM

- For burgers, balls, cylindrical products, 3D shapes and special shapes
- Production deposited onto conveyor belt or trays/racks
- With FST 546 with servo drive, 6 or 8 lanes
- Product diameter up to 100 mm
- Optionally available with flattening belt and structuring rollers

FS 521 FORMING SYSTEM

- For dumplings, cylindrical products, sticks and 3D shapes
- Production optionally into water or oil bath systems, laminating systems or onto subsequent conveyor belts
- With FST 546 with servo drive, 2, 4, 6 or 8 lanes
- Forming module outlet spacing 76 or 100 mm
- Product diameter up to 65 mm

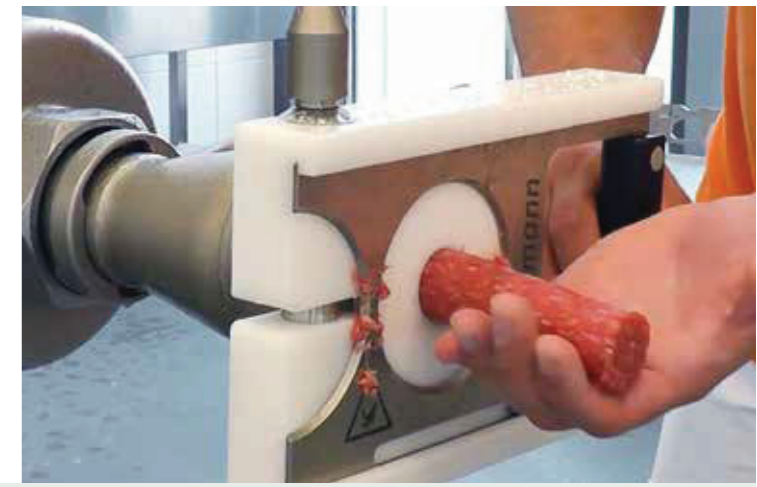
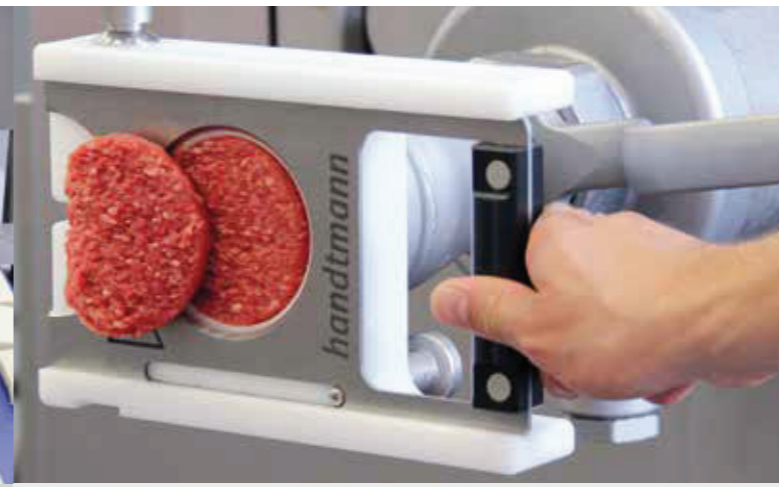
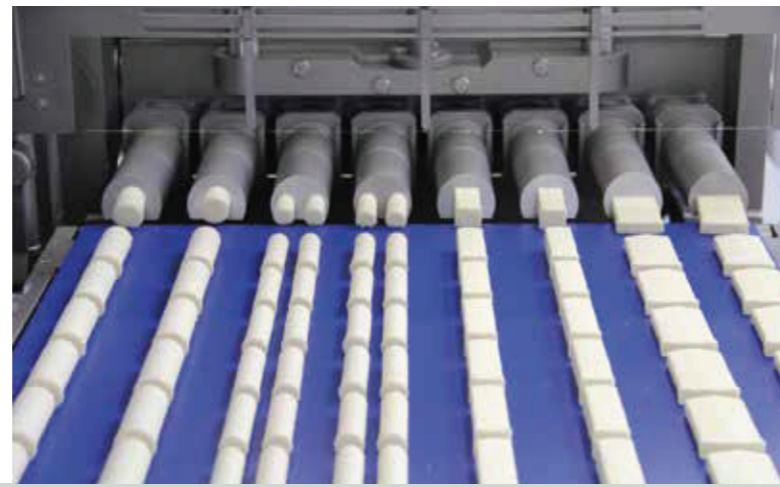
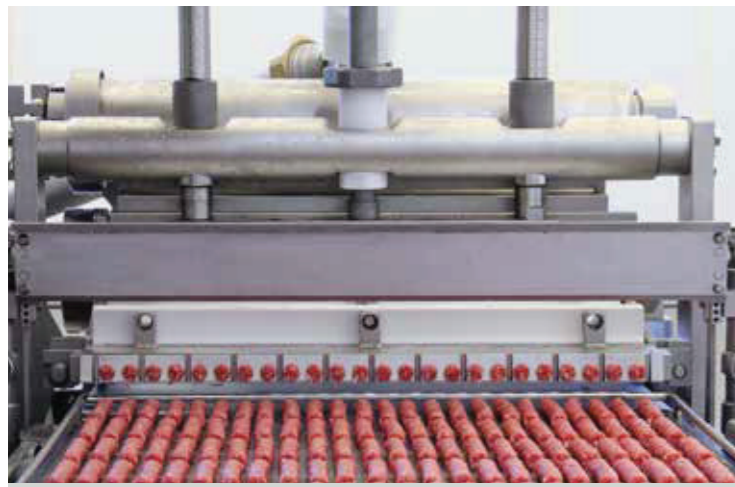
FS 522 FORMING SYSTEM

- For burgers, balls, cylindrical products and 3D shapes
- Production onto conveyor belt with flattening belt or optionally into water or oil bath systems, laminating systems or onto subsequent conveyor belts
- With FST 546 with servo drive, 2 lanes
- Forming module outlet spacing 76 or 100 mm
- Product diameter up to 65 mm

PRODUCT EXAMPLES

- Meat processing: hamburgers and rissoles with homemade quality, balls
- Vegetarian products: vegetable burgers, cheese croquettes, potato burgers
- Dumplings: potato dumplings, bread dumplings, vegetable dumplings
- Soup add-ins: sausage meat dumplings, semolina dumplings, liver dumplings
- Fish products: fish balls, fishcakes, fish burgers, fish rissoles
- Dough processing: various dough, sweet products





FORMING AND SEPARATING

Forming inserts, forming dies with forming tubes



MSE 441 MANUAL CUTTING UNIT

- Directly attached to vacuum filler
- Pre-portioning and feeding of the product by the vacuum filler
- A forming insert creates the shape
- Cutting either with manually operated blade or wire cutter (depending on the product)
- Blade operation in "flip-flop mode"
- "Plug and play" changing of the moulding parts without tools

PRODUCT EXAMPLES

- Meat products: cevapcici, dry sausage sticks, mini rissoles
- Vegetarian products: vegetable sticks, cereal bars, falafel
- Convenience products made from potato products: croquettes
- Dough products: pastry snacks, cookies, chin chin
- Fish products: fish fingers, fish croquettes
- Dairy products: cheese sticks and cheese croquettes
- Pet food: sticks, pellets



FS 510 FORMING SYSTEM

- For cylindrical products, sticks, 2D shapes, special shapes such as stars, hearts, etc.
- Production deposited onto conveyor belt or supplied racks/trays
- Flow divider with servo drive, in the following optional versions:
FST 544/24-lane
FST 545/10 or 12-lane
FST 546/6 or 8-lane
- Product diameter up to 80 mm
- Portion length from 20 mm













MODELS

For start-ups. Small-scale producers. Medium-scale producers. Industrial producers.

The forming system portfolio provides the right model for every production requirement – from the entry-level model to the industrial high-performance model. Extensive flexibility in terms of application and products is ensured.

Forming system	Target group	Application	Performance parameters
Forming and separating: MSE 441 manual cutting unit 	<ul style="list-style-type: none"> Small-scale producers Start-ups 	<ul style="list-style-type: none"> Burgers, cevapcici, minced meat skewer, Sticks, slices, vegetarian products, bars, etc. Manually onto conveyor belt, tray, rack or into containers 	<ul style="list-style-type: none"> Forming block as plug-on module Forming inserts available with a dia. of 30/40/50/60/70/80 mm Wire cutter Forming inserts for different product shapes, e.g. rectangular for cereal bars
Free forming 79-0 dumpling forming device 	<ul style="list-style-type: none"> Small-scale producers Medium-scale producers 	<ul style="list-style-type: none"> Dumplings and balls Into vats/containers 	<ul style="list-style-type: none"> Attached to the vacuum filler outlet Diaphragm 50 or 70 mm Up to 300 portions/min. Product size up to max. 60 mm
Free forming RF 440 round former 	<ul style="list-style-type: none"> Small-scale producers Medium-scale producers 	<ul style="list-style-type: none"> Burgers, dumplings Spherical, conical and oval Onto conveyor belt Optional flattening belt Optional structuring roller 	<ul style="list-style-type: none"> Forming module on machine base Diaphragm 10 to 94 mm Up to 150 portions/min. Belt height 850 to 1,000 mm Flattening belt 10 to 55 mm
Free forming MBF1 forming system 	<ul style="list-style-type: none"> Medium-scale producers Industrial producers 	<ul style="list-style-type: none"> Burgers, oval burgers, balls, sticks Round, square, longish, special shapes Onto conveyor belt Integrated flattening belt Structuring rollers 	<ul style="list-style-type: none"> 1-lane forming system Up to 400 cycles/min. Product size 10 to 85 mm before flattening Product weight 5 to 350 g

Forming system	Target group	Application	Performance parameters
Forming and separating: FS 510 forming system 	<ul style="list-style-type: none"> Medium-scale producers Industrial producers 	<ul style="list-style-type: none"> Dimensionally stable and skinless products Cylindrical products, 2D shapes Onto conveyor belt or rack 	<ul style="list-style-type: none"> Forming module on machine base Separating with blade or wire Up to 250 cycles/min. 6 to max. 24 lanes Product size up to max. 80 mm Belt width 600 mm
Free forming FS 520 forming system 	<ul style="list-style-type: none"> Medium-scale producers Industrial producers 	<ul style="list-style-type: none"> Burgers, balls, cylindrical products, 3D shapes, special shapes Onto conveyor belt or rack 	<ul style="list-style-type: none"> Forming module on machine base Rotating hole plate system Up to 250 cycles/min. 6 or 8-lane Product size up to max. 100 mm (correspondingly larger when flattened) Belt width 650 mm
Free forming FS 521 forming system 	<ul style="list-style-type: none"> Medium-scale producers Industrial producers 	<ul style="list-style-type: none"> Dumplings, cylindrical products, 3D shapes, special shapes Optionally into water or oil bath systems, laminating systems and onto subsequent conveyor belts 	<ul style="list-style-type: none"> Forming module with mobile transport trolley Rotating hole plate system Up to 250 cycles/min. 2 to max. 8 lanes Product size up to max. 65 mm
Free forming FS 522 forming system 	<ul style="list-style-type: none"> Medium-scale producers Industrial producers 	<ul style="list-style-type: none"> Balls, burgers, cylindrical products, 3D shapes, special shapes On conveyor belt with flattening belt Optional structuring roller Optionally into water or oil bath systems, laminating systems and onto subsequent conveyor belts 	<ul style="list-style-type: none"> Forming module with mobile transport trolley and conveyor belt Rotating hole plate system Up to 250 cycles/min. 2-lane Product size up to max. 100 mm Belt width 300 mm Flattening belt width 280 mm



OPTIONAL DIGITAL SOLUTIONS (HDS)

For added value in the production process.

HPV

HANDTMANN PRODUCT VISUALIZATION
Digital product visualisation for simplest realisation of creative formed products

- + Easy setting and visualisation of the products thanks to graphic representation of the product shape on the monitor control system

HCU

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

- + Networking solution for planning, controlling, monitoring and optimising production

MSA

MACHINE SETUP ASSISTANT
Assistant for simple setup including recommendation of mould components

- + Safe machine start guaranteed
- + Calculation of setting and equipment parameters (a plus for inexperienced operators)

HMC

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

- + Service support
- + Enhanced maintenance planning and troubleshooting
- + Increase of machine availability

HMF

HANDTMANN MONITORING FUNCTIONS
Automatic parameter monitoring to avoid misproduction

- + 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

INCREASE IN EFFICIENCY DUE TO PRODUCT HANDLING

The most productive way of producing formed products

Handtmann product handling systems provide the opportunity to further automate the production process. Forming systems have a modular design. Standard components, such as the vacuum filler and the inline grinding system, are the basis of these systems. Modules from depositing through to packaging or the integration of a weighing system facilitate a compact and complex line configuration, tailored to individual production requirements.

1. PLACING PRODUCTS DIRECTLY INTO TRAYS

Vacuum filler, MBF1 forming system, VRB1 retraction belt and tray denester

The vacuum filler portions accurate to the gram, the MBF forming system produces precisely formed products, the synchronised VRB1 retraction belt conveys the products gently and precisely into the trays provided by the tray denester. Single, shingled or stacked. Individual and in quantities of your choice.

2. TRANSFERRING FOR FURTHER PROCESSING

Vacuum filler, MBF1 forming system and VRB1 retraction belt

Without a tray depositor, depositing onto subsequent conveyor belts, into cooking and frying systems or packaging machines is possible as an alternative.

3. MODULAR WITH MINCED MEAT PORTIONER

GMD minced meat portioner instead of the forming system

The compatibility of the modules makes it possible to use the GMD minced meat portioner instead of the forming system for the continuous production of minced meat portions or formed products.

4. INTEGRATED WEIGHING SYSTEM

The WS 910 weighing system with the SB 912 sorting belt is part of a turnkey solution for process monitoring. For production checking, monitoring and weight control, as well as ejecting portions that are too light or too heavy after the forming and portioning process.

ADVANTAGES OF PRODUCT HANDLING

- Wide variety of products with just one line
- Excellent hygiene standards without manual intervention
- Ensured product shelf life due to continuous, hygienic process
- High production performance due to a continuous turnkey solution
- Significant cost savings due to reduction of staff
- Guaranteed process reliability due to precise product depositing

ADVANTAGES OF THE WEIGHING SYSTEM

- Cost reduction through guaranteed accurate-to-the-gram weights in every packaging unit
- Optional digital "Line Control" solution: user-friendliness, as product selection is carried out via the vacuum filler. The scales and the communication are automatically set on the line
- Higher process reliability through line efficiency



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Patents (USA/Canada):

8,997,614; 10,375,980