

Technology

User benefits

HVF 670

HVF 664

HVF 660

HVF 658

HVF system

High vacuum technology for perfect product quality!



handtmann
Ideas for the future.

HVF system





High vacuum technology:

Maximum evacuation for perfect products!

High vacuum technology adds whole new dimensions in terms of performance, product quality and economic efficiency.

The excellent product quality and outstanding product presentation is primarily facilitated by an exceptionally high evacuation performance. Extremely accurate weight monitoring and the fact that the systems are compact, continuous portioning systems without an external portioning unit ensure that the most stringent demands on economical performance are met.

The generation of HVF systems includes four high vacuum fillers, each developed for a specific field of applications. Clearly defined market segments, target groups and product types ensure that the entire market volume is covered in all its diversity.

The high vacuum fillers provide ideal solutions for the various requirements.

- **HVF 670** for ham products made from large and whole muscle pieces with individual pieces weighing from more than 500 grams up to entire topsides/ silversides.
- **HVF 664** for moulded ham made from ground material or products made from small-piece initial product with pieces weighing up to approx. 500 grams.
- **HVF 660** for large-calibre dry sausage, boiled salami, cooked sausage, semi-dry sausage and summer sausage
- **HVF 658** for small-calibre dry sausage snacks or products made from very firm starting material.

the vane cell feed system, the Handtmann servo drive technology, the control technology and IVM, the Intelligent Vacuum Management System. The perfect interplay of these components produces a range of exceptional advantages.

Product advantage

First-class product quality with excellent product appearance due to elimination of all residual air. This ensures longer shelf life and perfect appearance, including inside the packaging.

Performance advantage

Very high production output due to excellent suction capability and continuous filling without down times.

Efficiency advantage

Very good portioning capacity and weight accuracy due to optimum feed. Maximum evacuation for reduced maturing time and higher selling weight.

Cost advantage

Compact system which can be used for any application, is easy-to-use and has low running costs.

Handtmann high vacuum fillers also meet requirements placed on cost-effective automation. The filling and portioning units are compatible with all standard additional equipment and are synonymous with modern production and profitable process optimisation. The Windows CE-based control system developed by Handtmann combines the mechanical and electronic components to form a perfectly matched and synchronised overall system. As reliable production factors, the high vacuum fillers guarantee a level of process stability that is a key factor for sustained success in the field of high-performance industrial production.

The unrivalled, superior technology of the Handtmann HVF systems – economical, flexible, first-class.

Outstanding features of the high vacuum technology are

Technology

The Handtmann high vacuum technology:

Technological features!

1. Central control system: monitor touch-control

The monitor touch-control feature is the central control element of Handtmann high vacuum fillers. The entire production process involving the high vacuum filler is controlled entirely via the monitor control system, even with production line solutions such as when using clippers.

- Flexibility of use due to versatile communication with auxiliary devices and in production line solutions.
- High user convenience due to touch functionality and 12" colour display.
- Simple operating logic thanks to icon language and clear display.
- Programme memory with 250 memory locations.
- A choice of 25 languages.

2. Drive technology

The Handtmann servo technology converts the high vacuum fillers into reliable production factors in terms of precision, performance and availability. All drives are designed with highly-dynamic, maintenance-free servo technology, thus reducing maintenance costs significantly.

3. The vacuum hopper

The vacuum hopper plays a very important role within the system. With a permanent and controllable vacuum, it provides excellent evacuation, which is a key factor for the quality and the longer shelf life of the product. Automatic vacuum hopper filling level monitoring ensures high filling capacity and therefore makes the system very economical as idle times are eliminated.

4. Intake geometry/intake valve

The generously proportioned intake area which allows free flow of the product and a short, direct suction path guarantee high filling capacity. The intake valve is controlled dynamically via servo technology and the hopper intake gap is continually regulated, allowing individual adaptation in line with product requirements. Uniform filling which is gentle on the product and maximum product evacuation are the result.





5. Feeding/vane cell feed system

Two separately controlled vacuum systems in the hopper and the feed system create the ideal vacuum. This generates perfect evacuation and ensures excellent product quality. Furthermore, the feeding device and the auger are driven and can be controlled independently of one another, thus ensuring uniformly good cell in-feed and therefore accurate portioning weights. The vane cell feed systems in the high vacuum fillers are equipped with large feed system capacities, adapted in line with the particular application. The system can therefore be tailor-made for the product. The short product path and the maximum cross-section in the feed system and outlet ensure that the product is handled gently.

6. The suction pipe

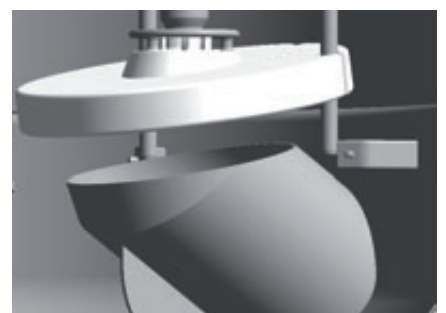
The suction pipe ensures that the feed material is drawn in reliably and gently. Even large pieces of meat or whole topsides/silversides do not present a problem. A short and direct suction path guarantees industrial high-performance. The suction pipes with diameters of 200 mm or 250 mm are easy to handle due to the quick-release lock solution.

7. The Intelligent Vacuum Management System (IVM)

The Intelligent Vacuum Management System developed by Handtmann monitors and controls the vacuum circuits in the vacuum hopper and feed system which are controlled independently of one another, as well as the filling level sensor and the intake valve.

- When the floor-standing hopper starts to be emptied, the intake valve shuts instantly to prevent a drop in vacuum.
- The vacuum hopper is emptied until the minimum level is reached.
- Intake valve opens, vacuum drops, HVF stops.
- Floor-standing hopper empties completely.
- The intake valve closes, the vacuum hopper is evacuated, the HVF uses the entire hopper batch.

The IVM therefore guarantees excellent process reliability and evacuation. Guaranteed product quality from the first to the very last portion.



Options

The Handtmann high vacuum fillers: Unique equipment options!

1. Floor-standing hopper

Type 695 and type 697 floor-standing hoppers are tailor-made for the specific production requirements.

Type 695, in conjunction with HVF 658/660/664, is suitable for particularly difficult to feed products, such as dry sausage and binding cooked sausage, as well as for all other products.

- Hopper volume 450 litres.
- 250 mm suction pipe with quick-release lock.
- Optional attachment of arm hoisting device 83-6 with 200-litre sausage meat trolley.
- Optional filling level sensor for automatic feed control and for automatic HVF intake control when the floor-standing hopper is empty.

Type 697 has been designed for ham production in conjunction with HVF 670 or HVF 664.

- Hopper volume 1,100 litres.
- 200 mm suction pipe with quick-release lock.
- Optional filling level sensor for automatic feed control and for automatic HVF intake control (e.g. when the floor-standing hopper is empty).

2. Parts trolley

The parts trolley is the ideal additional extra for daily handling activities, for cleaning and storing the parts of the high vacuum filler efficiently.

- Type 449-02 for HVF 658, HVF 660 and HVF 664.
- Type 449-03 for HVF 670.

3. Integrated inline grinding technology

Optional use of the Handtmann GD 93-3 inline grinding system in conjunction with HVF 658/660 facilitates enhanced optimisation in terms of product quality and processing. With the Handtmann inline grinding system, the product is ground to its final grain size and simultaneously portioned in one process step. This reduces cutting stresses and shortens process steps. The key advantages are the sensory attractiveness of the products and the optimisation of conventional production methods.

4. Vacuum pipe unit

The vacuum pipe unit with patented casing brake facilitates additional evacuation directly where the product exits from the filling pipe. Any air bubbles under the casing are eliminated, thus the product is totally free of air. The vacuum is controlled by the HVF control system in synch with product expulsion.





5. Weight compensation

The integrated weight compensation system for HVF 660/658 facilitates an even greater improvement in weight accuracy with excellent production output and product quality. It provides pressure and volume compensation in the cells of the vane cell feed system and therefore eliminates fluctuations caused by different consistencies in the product to be processed.

6. Mobile vacuum units

The mobile vacuum units are the ideal alternative to the central vacuum or the mounted vacuum pump:
Mobile vacuum unit 448-01 with 1 100 m³/h vacuum pump
Mobile vacuum unit 448-02 with 2 100 m³/h vacuum pumps.

7. Filling system network via HCU

Planning - monitoring - control.
HCU (Handtmann Communication Unit) is groundbreaking software from Handtmann, used for linking the filling systems with the production operation's data network.
For transparency and optimisation of complex production processes. Automatic weight regulation is one of the options.
An integrated weighing system constantly supplies a target/ actual value comparison and readjusts the portion weight. Minimising overfilling alone results in significant cost reductions.

8. Connection to the AL system

For automated sausage production, HVF 664, HVF 660 and HVF 658 high vacuum fillers are to be operated together with the Handtmann linking and hanging lines. Reliable and economical production of cooked or dry sausages in natural, collagen or artificial casings is guaranteed with the hanging or cutting options.

9. Compatibility

Every high vacuum filler is suitable for connecting all types of clippers from all manufacturers.

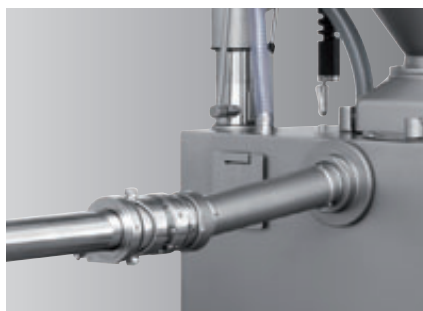
10. Cutting valve 425

For 1 or 2-channel portioning in moulds or thermo-forming machines in conjunction with HVF 670 or HVF 664, for large pieces of ham up to approx. 500 g feed piece weight.

11. Integration into production line solutions

All high vacuum fillers can be easily integrated into complex process solutions. Due to their flexible usage they are key components of modular production line solutions or highly-compatible basic modules in automated production processes. The high vacuum fillers are a reliable foundation for an effective production environment.

Patents:
7,597,613; 4,953,262; 5,720,603; 6,309,293; 7,500,909; 7,597,612; 7,455,578; 7,682,226



HVF 670



For high-quality ham products from whole hams:
Handtmann HVF 670.

The Handtmann HVF 670 is a unique specialist model for the efficient production of premium ham products from large and whole muscle pieces with individual pieces weighing more than 500 grams.

Without using a portioning unit attachment, the HVF 670 fills and portions all qualities of ham with impressive speed, efficiency and accuracy. It boasts unrivalled production characteristics when processing large muscle pieces or whole topsides/silversides, and it therefore sets completely new quality standards for processing cooked ham.

The individual pieces are portioned gently and remain as whole muscle pieces. In conjunction with the excellent evacuation provided by the high vacuum technology, a first class product is produced, with no air pockets and without gel being deposited. With the cutting valve 425, it is also possible to portion the product directly in containers or thermo-forming machines.

Performance data:

		HVF 670		
Filling capacity (can be continuously adjusted)	kg/h	16,000	11,500	7,000
	l/min	267	190	116
Filling pressure		Up to 10 bar		
Outlet diameter		100 mm		
Feed system 10,000 cm ³		1,350 cm ³ – 6 pump vanes 3,300 cm ³ – 3 pump vanes 5,000 cm ³ – 2 pump vanes		
Net weight		1,640 kg		
Gross weight		1,885 kg (case: 2,095 kg)		
Case dimensions		2,310 x 1,850 x 2,250 mm		



Field of applications/products:

- Whole muscle pieces.
- Individual pieces of ham weighing more than 500 grams.

Advantages of the HVF 670:

- Vane cell feed system with large feed system volume for whole muscle pieces.
- Optimum product protection due to short product path and large outlet cross-section of 100 mm.
No abrasion, therefore no sausage meat type pockets.
- Excellent product quality for high-quality ham products made from large and whole muscle pieces, with optimum product binding.
- Maintains the muscle structure with only a few cuts in the system.
- Direct connection of clippers and other auxiliary devices.
- Cutting valve 425 as equipment option for portioning directly in containers or thermo-forming machines.

Options:

- Clipper connection.
- Parts trolley 449-03.
- HCU integration.
- Vacuum pipe unit.
- Mobile vacuum units 448-01/448-02.
- Floor-standing hopper 697.
- Cutting valve 425.



HVF 664



For products made from small-piece or ground material:

Handtmann HVF 664.

The Handtmann HVF 664 is tailor-made for the production of ham made from small-piece initial product or ground material with pieces weighing up to 500 grams, e.g. moulded ham.

The higher the level of evacuation, the higher quality the ham appears to have. The performance of the HVF 664 high vacuum filler sets new standards in this market segment which is the largest ham product segment in the world – excellent product quality and product presentation as well as no trapped air thanks to the very high evacuation capacity. Extremely accurate weight checking and the fact that the system is a compact, continuous portioning system without an external portioning unit means that the most stringent demands on economical performance are met.

Performance data:	HVF 664
Filling capacity (can be continuously adjusted)	14,400 kg/h 240 l/min
Filling pressure	Up to 35 bar (30 bar with max. filling)
Feed system 1,900 cm ³	140 cm ³ – 14 pump vanes 280 cm ³ – 7 pump vanes 500 cm ³ – 4 pump vanes
Outlet diameter	60 mm
Net weight	1,540 kg
Gross weight	1,775 kg (case: 1,990 kg)
Case dimensions	2,310 x 1,850 x 2,250 mm



Field of applications/products:

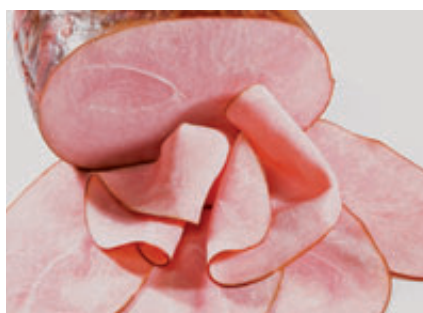
- Moulded ham made from ground material or small-piece initial product with pieces weighing up to approx. 500 grams.

Advantages of the HVF 664:

- Optimum filling of the vane cell feed system's cells and outstanding weight accuracy, even with a very high hopper vacuum, due to active feeding device.
- Unrivalled product quality for ham with significantly improved product appearance and no air pockets.
- High effective capacities due to continuous filling and portioning, without additional equipment.
- Direct connection of clippers and other auxiliary devices.
- Cutting valve 425 as equipment option for portioning directly in containers or thermo-forming machines.

Options:

- Clipper connection.
- Parts trolley 449-02.
- HCU integration
- Mobile vacuum units 448-01/448-02.
- Vacuum pipe unit.
- Operation in VF mode without hopper vacuum.
- Floor-standing hopper 695 or 697.
- Floor-standing hopper 695 with arm hoisting device as additional extra.



HVF 660



For innovative cooked and dry sausage production:

Handtmann HVF 660.

The Handtmann HVF 660 high vacuum filler makes it possible to produce existing and new products more economically using high vacuum technology.

The excellent evacuation performance facilitated by Handtmann high vacuum technology achieves totally pore-free products. Cooked sausage, boiled salami, summer sausage and semi-dry products benefit from efficient hopper feeding and extremely gentle product handling. High production output, a state-of-the-art energy balance, up-to-date safety and hygiene standards and a specially adapted parts trolley for ergonomic working ensure efficiency, economic use and an extremely short payback period.

Performance data:

	HVF 660
Filling capacity (can be continuously adjusted)	10,200 kg/h 170 l/min
Filling pressure	Up to 40 bar
Feed system 1,900 cm ³	140 cm ³ – 14 pump vanes 280 cm ³ – 7 pump vanes 500 cm ³ – 4 pump vanes
Outlet diameter	60 mm
Net weight	1,480 kg
Gross weight	1,780 kg
Case dimensions	2,310 x 1,850 x 2,250 mm



Field of applications/products:

- Large calibre dry sausage.
- Boiled salami.
- Cooked sausage.
- Semi-dry sausage.
- Summer sausage.

Advantages of the HVF 660:

- First-class product quality with excellent product appearance due to elimination of all residual air. This ensures longer shelf life and perfect appearance, including inside the packaging.
- Very high production output due to excellent suction capability and continuous filling without down-times.
- Very good portioning capacity and weight accuracy due to optimum feed. Maximum evacuation for reduced maturing time and higher selling weight.
- Optional use of the integrated Handtmann inline grinding technology facilitates further optimisation of product quality and processing.
- Compact and universally applicable system with easy handling and low running costs.

Options:

- Inline grinding system GD 93-3.
- Floor-standing hopper 695 with arm hoisting device as additional extra.
- Parts trolley 449-02.
- Weight compensation.
- HCU integration.
- Clipper connection.
- Operation in VF mode without hopper vacuum.
- Mobile vacuum units 448-01/448-02.



HVF 658



For first-class, air-free, compact dry sausage products:

Handtmann HVF 658.

The HVF 658 with a filling pressure of up to 72 bar is the perfect solution for dry sausage, dry sausage snacks and products made from very firm or cold product.

A totally pore-free and compact dry sausage product is achieved due to the excellent evacuation facilitated by the Handtmann HVF 658 high vacuum filler. An outstanding level of productivity is ensured by high filling pressure, optimum firm product suction characteristics and perfect feeding into the vane cell feed system. Optional use of the integrated Handtmann inline grinding technology facilitates further optimisation of product quality and processing. Other products with very firm or cold feed material also benefit from Handtmann high vacuum technology.

Performance data:	HVF 658
Filling capacity (can be continuously adjusted)	6,000 or 7,200 kg/h 100 or 120 l/min
Filling pressure	Up to 72 bar (50 bar with max. filling capacity)
Feed system 1,000 cm ³	90 cm ³ – 12 pump vanes 180 cm ³ – 6 pump vanes 270 cm ³ – 4 pump vanes
Outlet diameter	60 mm
Net weight	1,480 kg
Gross weight	1,740 kg
Case dimensions	2,310 x 1,850 x 2,250 mm



Field of applications/ products:

- Small-calibre dry sausage.
- Dry sausage snacks.
- Products made from very firm feed material.

Advantages of the HVF 658:

- Pore-free, compact product quality with excellent product appearance and attractive colour due to the elimination of all residual air. This ensures longer shelf life and perfect appearance, including inside the packaging.
- Outstanding suction of firm or cold products results in high filling capacity and productivity.
- Very good portioning capacity and weight accuracy due to optimum feed.
- Maximum evacuation for reduced maturing time and higher selling weight.
- Space-saving, compact system with easy handling and low running costs.

Options:

- Inline grinding system GD 93-3 .
- Floor-standing hopper 695 with arm hoisting device as additional extra.
- Parts trolley 449-02.
- Weight compensation.
- HCU integration.
- Clipper connection.
- Operation in VF mode without hopper vacuum.
- Mobile vacuum units 448-01/448-02.



HVF system

The Handtmann high vacuum fillers are the perfect solution for industrial companies who want to produce their range of products significantly more economical while achieving excellent product quality.

Contact the specialists at Handtmann to find the perfect solution for your requirements.

**Handtmann HVF systems.
High vacuum technology for
first class products.**



**Albert Handtmann
Maschinenfabrik GmbH & Co. KG**

Hubertus-Liebrecht-Str. 10-12
D-88400 Biberach/Riss
Germany
Tel.: + 49 (0) 73 51 / 45 - 0
Fax: + 49 (0) 73 51 / 45 - 15 01
info.machines@handtmann.de
www.handtmann.de