MACHINES FOR THE BAKING INDUSTRY

GHD HARTMANN international Represented in more than 35 countries – see www.ghd.net



GHD Georg Hartmann Maschinenbau GmbH

Schwalbenweg 24 D-33129 Delbrück, Germany

Phone: +49 (0) 52 50.98 43-0 Fax: +49 (0) 52 50.98 43-33

Web: www.ghd.net E-mail: info@ghd.net









Content



About us

GHD Hartmann – The family business is managed in the third generation by the Hartmann Wook family at the company location in Delbrück/Westphalia. A workforce of approx. 270 employees and trainees produces parts and components, individual machines as well as complete systems on an area of approx. 30,000 m² and provides complete service. GHD Hartmann offers special advantages through many years of experience with customers all over the world, specific solutions, a high vertical range of manufacture, constant service availability and a first-class supply of spare and wear parts. Internationally, GHD Hartmann is represented by independent partners in many countries and regions.

	Slicing	
	Selectra SL 20 Selectra SL 25 Selectra SL 30 / SL 30 XL / SL 30 XXL Selectra SL 50 GS 60 / GS 60 XL / GS 60 XXL KM 600 KM 600 P Disc Slicer HS 2 / Disc Slicer HS 4 / BS 20	02/26 03/22 04 05 06 07 08 10-11
(4)	Packaging	
	GBK 220 / GBK 240 / GBK 420 / GBK 440 VS 320 / VS 320 S / VS 320 14 / VS 320 SV 12 / VS 320 SV 12 T / VS 320 SV 14 / VS 320 SV 14 T SW 40 VBA 40 KP 30 / PP 30	12-15 09/16-1 18 19 20-21
STATE OF THE PARTY	Closing	
	EC 101 H EC 101 HS EC 101 IS / EC 101 KS EC 104 EC 108 SV Umbrella EC 130 EC 135 / EC 140 EC 140 S EC 150 V / EC 150 V4 / EC 150 V8 EC 150 V8 SV	22 23 24 25 25 26 27 28 28
	Handling Line Distributor LV ABT SLVS	29 30 31
*****	Grouping	
	Autoload Line STV 30 / STV 40 / STV 41 / STV 50 / STV 60 BGA Rotary Separation Table VDD VD 2	32 33 34 35 35
	Transport	
	DT 1 Rotating Table Transport Conveyor FG, FZ, FK	36 36

⁰²Slicing

SELECTRA SLICER SL 20 SL 25 Fully automatic band slicer for toast and mixed rye bread. The slicing process is performed by band blades with a length of 150 inches (approx. 3,8 m). These are tensioned collectively between two hard-chrome plated drums. The self-supporting, warp resistant steel tube frame ensures the smooth running of the machine. Generously-dimensioned doors and hoods allow easy access for cleaning and maintenance as well as quick blade replacement.





- **)** In order to achieve optimum slicing results, each slicer is specially configured to your requirements.
- **>** An optionally available, controllable oiling system supports the slicing process of multi-grain bread containing rye. The machine can be equipped with UV lamps to sterilise the band blades during the slicing process.
- **>** Various clean room configurations and components are available as an option.
- > The sliced bread can be prepared by optional heel (end-crust) deflectors, product-halving separators, turntables or cassette divisions prior to packaging.

*Individual capacity depends on the product.

⁰⁴Slicing

SELECTRA SLICER SL 30 SL 50 Fully automated band slicing machine for toast and multi-grain rye breads. The cutting is implemented by heavy duty band blades. The total length of 176 inch is central tensioned between two hard-chrome plated drums. The selfsupporting warp resistant tubular steel frame ensures the smooth running of the machine. Generously dimensioned doors and hoods allow an easy access for cleaning and maintenance as well as a quick blade replacement.



Selectra SL 30

Capacity: up to 3800 loaves / h*

Versions **SL 30 XL** and **SL 30 XXL** for wide products and operation widths.



*Individual capacity depends on the product.

- In order to achieve optimum slicing results, each slicer is specially configured to your types of bread.
- **>** An optionally available, precisely controllable oiling system supports the slicing process of multi-grain bread containing rye.
- **>** The machine can be equipped with UV lamps to sterilise the band blades during the slicing process.
- **>** Various clean room configurations and components are available as an option.
- > Sliced products can be apportioned and turned in position at the outlet of the machine.
- **>** The sliced loaf can be can be prepared by optional heel (end-crust) deflectors, product-halving separators, turntables or cassette divisions prior to packaging.

The KM 600 circular slicer is a trend-setter in the eld of slicing technology. All bread bar varieties can be sliced with a high quality level in a continuousfeed process. The consequent separation of working chamber and drive unit

as well as a quick-change system for transport devices provide optimum

hygienic conditions. Stops for maintenance and cleaning are thus reduced

to the minimum. The process-controlled oil lubrication system designed by

Hartmann has proven itself as the optimum solution and sets the standard.

Space-saving design which can be equiped with additional components for

⁰⁶Slicing

The GS 60 reciprocating slicer is a high-performance cutting machine for bread, fruit breads, raisin yeast loaves or similar products which contain sugar. The vertical positioning of the blades allow to cut the product with equal precise slice thicknesses. The GS 60 is designed for continuous operation. The high output is based on an in-house designed Hartmann frequency-controlled drive fit at the outfeed conveyor allows an optimized synchronization with the automatic bagging machine. The combination of this reciprocating slicer together with a Hartmann automatic bagging machines by will provide a perfect harmonized package solution with high flexibility and production reliability.

gearbox, which is equipped with a special oil lubrication system. A separate

a manual or automated loading. KM 600 **KM 600** Capacity: up to 600 slices / min VS 320 KM 600 slicer and VS 320 packing machine: slicing and packing by GHD Hartmann.

GS 60



KM 600 P

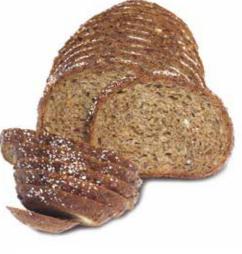
> Automated throughfeed slicing process for various kinds of bread bar species. The KM 600 P is the consequent extension of our high performance KM 600 slicer. To enable perfect portioning, the control as well as the process technology has been enhanced with high-precision components. The system is prepared for adding divices which allow an mass-optimized package portioning. With that execution bread loaves are analyzed and scaled by a density scanner unit. The measuring data is transmitted to the control system. To influence every individual slice thickness, the control system adjusts the servo-controlled actuators. In-line portioning is economical and high-optimized even for free-form baked bread products. More than 20 characteristic parameters are continuous logged and can be evaluated as required. Thanks to this, changes in upstream processes (e.g. dough extrusion, recipe changes, ambient temperature) as well as their effects can be determined for additional transparency. Data can be recorded in either Excel® format or a BDE database.



VS 320

The KM 600 P is optimally suitable for concatenation with the VS 320 packing machine.





DISC SLICER HS 2 HS 4 Fully automated slicing machine for baguettes, hot dogs and hamburger buns. The incoming products are picked up with an upper and lower belt and sliced with a separately driven disc cutting system. All guides and the upper belt can be adjusted without tools. The basic frame and all linings and covers are made of stainless steel – vital to long-term value and good for simple and hygienic cleaning. The machine could be supplied with different arrangements of disc slicers for butterfly-cut, hinge-cut, wedgecut and double butterfly-cut.



→ Disc Slicer HS 2

Capacity per channel:

max. 300 products / min with a diameter up to 100 mm* max. 100 baguettes / min up to a length of 320 mm*

Two lane design HS 4 for doubled capacity.

The BS 20 decrusting machine was designed for removing the bread crusts from rectangular tin baked white bread loaves. The decrusting process takes place in steps. First, the crusts are cut off on two parallel sides by a pair of band blades, then the bread loaf is swiveled by 90°. The second pair of band blades removes the remaining lengthwise crusts. Crumbs were centralized and hauled. The BS 20 decrusting machine is optimally suited for in-line operation together with Hartmann bread loaf slicing machines, which automatic remove the remaining front pieces. The cutting speeds are stepless adjustable. Generously dimensioned doors and hoods allow an easy access for cleaning and maintenance as well as a quick blade replacement.

BS 20



∨ BS 20



Packaging



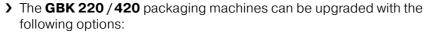
GBK 220 GBK 240

> The GBK 220 packaging machine is ideal for whole and sliced bread (standing slices, toast bread, etc.). The principle of the vacuum slider developed by HARTMANN has optimally proven itself in practice. The sophisticated technology of these machines guarantees optimum packaging, venting and sealing. The packages are sealed with the proven sealing unit, which is characterised by its reliability and long service life. By consistently separating the product work area from the mechanical drive, this generation of machines also meets cleanroom requirements.





Capacity: 30-45 cycles / min, continuously variable Individual capacity depends on the product.



- Turning compartment device
- Portion top-up by automatic cartridge system
- Clean-room versions and components
- > Special, interchangeable tools that are adapted to the product and bag, enable loaves of almost any shape to be processed. Products that are added at a later stage can be processed by supplementary tools.



▲ GBK 240

Capacity: 2400 -2700 packs/h



> The GBK 240 packaging machine packs and closes prefabricated bags made of paper or plastic.

The bag is automatically wrapped on the opening side and secured and ,closed' with a paper label. The GBK 240 packaging machine is ideal for whole breads and sliced loaves of bread (standing slices, toast bread, etc.) and uses the principle of the slider with sophisticated technology in all areas. By consistently separating the product work area from the mechanical drive, this generation of machines also meets cleanroom requirements.



⁴Packaging



GBK 420 **GBK 440**

The sophisticated technology of the GBK 420 machine guarantees optimum packaging and sealing. Two alternately operating product sliders ensure optimum capacity utilisation, which is what makes this packaging machine so high performance. The versatile application possibilities make it possible to reliably meet the current market requirements and trends in the packaging sector and without problems. By consistently separating the product work area from the mechanical drive, this generation of machines also meets cleanroom requirements.







▲ GBK 420

Capacity: 30-70 cycles / min, continuously variable Individual capacity depends on the product.



> The automatic packaging machine GBK440 enables the tight-fitting, secure packaging and sealing of product bags in a single operation. The design of the device meets a wide variety of customer requirements. Directly driven product pushers fill prefabricated bags with pre-grouped baked goods of all kinds. As an integrated closing system can be selected between clip closure, Kwik-Lok® or welding seal. A combination of closing systems is possible. The product area is arranged separately from the drive space. Thanks to the special drive concept even complex requirements can be realized in terms of control tech-nology. The latest sensor technology, control technology and user interfaces create the basis for the implemen-tation of internationally diverse requirements also for the clean room operation in the industrial production of baked goods.







¹⁶ Packaging

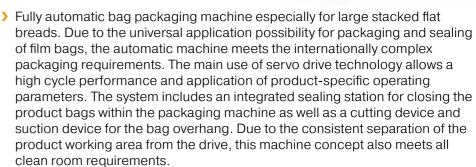


VS 320 S VS 320 S VS 320 SV 12 VS 320 SV 14

Fully automated bag packaging machine for sliced breads. Due to its universal suitability for packaging and closing plastic and paper bags, the VS 320 and VS 320 S packaging machines fulfil the complex packaging requirements on an international level. The dimensioning of the drive concept ensures consistent switch-point accuracy for all functions and reduces maintenance to the minimum. The complete separation of product processing area and mechanical drive allows this machine design to satisfy all clean-room requirements, as well.











The VS 320 packaging machine is available in the following versions:

VS 320: Base model, capacity: 30-55 cycles / min VS 320 S: For short products (up to 200 mm in length),

capacity: up to 65 cycles / min VS 320 14: For large, flat product stacks

VS 320 SV 12: Servo-controlled for product diameters up to 12 inch VS 320 SV 12 T: Servo-controlled version with sealing aggregate for

Tortilla diameters up to 12 inch

VS 320 SV 14: Servo-controlled for product diameters up to 14 inch VS 320 SV 14 T: Servo-controlled version with sealing aggregate for

Tortilla diameters up to 14 inch







SW 40



> The HARTMANN SW 40 L-sealing unit is ideal for full film wrapping of individual or grouped products. Variable pack sizes meet specific market requirements and product-related conditions.

The packs are created from a continuous film, which is folded and fed crosswise in two layers from a roll. Inside the machine, the products run in between the separated top and bottom film. A device could evacuate the package before final sealing. The film is sealed in transverse and longitudinal direction. The split-separated film overhang is collected on the roller provided for this purpose.

Good accessibility is provided by large door-openings and sliding or swivelling components. Adjustment devices are directly accessible and enable optimal handling.

VBA 40

This machine is designated for bagging and closing bulk goods as bread rolls, biscuits or similar products into pre-manufactured bags. An optimum and nearly constant packaging is allowed by a robust mechanical bag spreader system in combination with the 6-station magazine for pre-manufactured bag stacks. The bag magazine requires only a short set-up time for positioning a new bag stack. The packages are closed up by using the proven HARTMANN closing unit, known for its reliability and long service life. This packaging machine can be combined with an automatic counting or weighing machine or can be manual fed.



∧ SW 40

Capacity: 20 packages / min

(depending on the product)





KP30

> Fully automatic machine for filling boxes or crates with large pillow packs. Customised design depending on box type, pack sizes and capacity. The machine is placed behind a Hartmann automatic machine for pillow packs. The large pillow packs are packed two at a time, one on top of the other, into prepared cartons or crates. The prepared boxes are made of corrugated board or plastic and are fed via a transport line.

The clear and easily accessible design allows for easy setting, cleaning and checking.

comply customer specific requirements. Hamburger and hot dog buns are typical products for pillow packaging. Variable packing schemes with up to 30-40 products fulfil market requirements and product specific demands. The products are arranged between two unspooled foils and sealed airtight. The modular design allows to add on further equipment like slicers for cutting through and cutting open in front of the packaging. An optional tray packing unit can be placed after the packaging unit.

The HARTMANN-Pillow Pack Automat PP 30 has a modular conception to







∨ KP 30 Output: max. 30 crates / min*





→ PP 30 Capacity: 30 packs / min, product dependent



²²Closing



This packaging machine consists of two bag inflating tables and a horizontal closing device arranged at right angles.
Wheels and the compact design make this sealer flexible and usable at any location. By simply opening the machine doors, all drive elements are directly accessible. The bags are opened with the bag inflating tables.
Different products such as whole loaves or sliced loaves can be easily inserted by hand and placed on the transversely positioned product carrier.

Different products such as whole loaves or sliced loaves can be easily inserted by hand and placed on the transversely positioned product carrier belt. The filled bags are automatically transported to the sealing station and aligned to ensure an optimum packaging result. An integrated vacuum device sucks excess air out of the bag before it is sealed.

EC 101 H

EC 101 H

Capacity: approx. 60 packs / min

Capacity is product-dependent.



✓ EC 101 H + SL 25

The EC 101 H or EC 101 HS packaging machines combined with the Selectra SL 25 slicer or GS 60 reciprocating slicer presents a balance between flexibility and capacity.



EC 101 HS



EC 101 HSCapacity: up to 40 packages / min
The performance depends on the product.

This packing machine comprises a bag opening table and a horizontal closing unit positioned at a 90° angle. The equipment frame and all linings and covers are made of stainless steel – vital to long-term value and good for simple and hygienic cleaning. Its compact construction with foot rollers make this machine flexible for using in different locations. The equipment doors open easily and offer direct access to all drive elements. The bag opening table serves to open the bags by inflating them slightly. Sliced or unsliced bread loaves can easily be manually inserted like several other products and then deposited onto the horizontal product transport conveyor. The filled bags are then transported to the closing station. Brushes adjust the position of the product to ensure the optimum closure application. An integrated vacuum system evacuates excess air from the bag before the latter is closed up.



²⁴ Closing



EC 101 IS
EC 101 KS
EC 104
EC 108 SV Umbrella

EC 101 IS

This closing unit is fitted with a separate, pulse-controlled drive unit. It can easily be combined with flow wrapper machines. Due to its intermittent mode of operation, it is ideally suited for manual feeding. It also does not have to be synchronized with an upstream packing machine. The filled bags are transported to a closing unit positioned at a 90° angle with an inclination angle of 20°, 30° and optional with 45°, or 60 degrees. An integrated vacuum unit on the closing station evacuates excess air from the bags to be closed up and ensures consistently neat, taut packaging. The closure is done in the closing unit before outfeeding.

EC 101 KS

This closing unit was designed to be combined with vertical or horizontal flow wrapping machines. The continuous mode of operation of the unit requires both systems to be synchronized. The synchronization with the upstream packing machine can be achieved either mechanically with a chain or universal drive, or with an electronic shaft. The filled bags are transported to a closing unit positioned at a 90° angle with an inclination angle of 20°, 30° and optional with 45°, or 60 degrees. An integrated vacuum unit on the closing station evacuates excess air from the bags to be closed up and ensures consistently neat, taut packaging. The closure is done in the closing unit before out feeding.

> EC 101 IS + KS

Capacity EC 101 IS: approx. 60 packs/min Capacity EC 101 KS: approx. 60-100 packs/min

Capacity depends on the product and the main drive.







EC 104

The conceptual design of this system is to pick-up in line packaged products (tray packs, baguettes, sausages, etc.) from a horizontal bagging machine, the packaging is closed up, and the products are then transported in straight line to a following collection station. Its compact construction including castors make this closing unit flexible so that it can be used in different locations. The equipment doors open easily and offer direct access to all drive elements. The closing unit is pulse-controlled, fitted with a separate drive, and does not have to be synchronized with the bagging machine. The products are transported via conveyor belts. The speed is continuously adjustable. Manual feeding is possible with an optional bag opening table.

CEC 104

Capacity: approx. 40 packs / min Capacity is product-dependent.



CEC 108 SV

Capacity: approx. 50 packs / min Capacity is product-dependent.





) EC 108 SV

This packing machine consist of a sealing unit for filled plastic bags and a folding and closing unit to create a rosette-shaped ruche. Several products like sliced or unsliced bread loaves can be manual or automatic filled into pre-manufactured bags. They are deposited onto a transport conveyor with a 20 degrees inclination. A special device creates a uniform arrangement of the ruche which is fixed by an additional clip. The final result is a perfectly bagged, proper closed premiumquality package.

²⁶ Closing



EC 130 EC 135 EC 140

➤ EC 130 Capacity: approx. 40 packs / min Capacity is product-dependent.



The small design of the EC 130 closing device enables it to be used in difficult space conditions. The device is mounted on rollers and equipped with its own impulse-controlled drive. Depending on the configuration, it can be loaded manually within a packaging line or by a horizontal tubular bag machine.



▲ EC 130 + SL 20

Modular systems can be combined and upgraded at any time. An SL 20 or SL 25 slicer arranged in line with an EC 130 closing unit with a bag-inflating table as well as an inclined conveyor form a popular semi-automatic solution for slicing and packaging bread.



> Suitable for sealing vertically filled bulk bag packages. The device is mounted on rollers and equipped with its own impulse-controlled drive. Loading can be performed manually or by a vertical packaging machine. Synchronisation is not required.





Extremely versatile machine for manual packaging in pre-manufactured plastic bags or paper bags. The equipment frame and all linings and covers are made of stainless steel – vital to long-term value and good for simple and hygienic cleaning. Castors and its compact construction make this closing unit flexible so that it can be used in most locations. The bag opening unit inflates the bag so that the product can be introduced easily and quickly by hand. At the downstream closing station, the product is sealed up precisely and reliably.



EC 140 S EC 150 V 4 EC 150 V 8 EC 150 V 8 SV Specially designed machine for packaging rolls, croissants, pretzels, etc. in prefabricated foil or paper bags. The machine frame and all casings are made of stainless steel – important for long value preservation and good for easy and hygienic cleaning.

Rollers and the compact design make this closing device flexible, usable in almost any location. The inflation device pre-opens the bag so that the product can be easily and quickly inserted by hand. The product is precisely and securely closed in the subsequent closing station. Depending on the material size and thickness of the bags to be closed, the unit can be equipped for different clip sizes or Kwik-Lok®.



This device is particularly suitable for sealing closing vertically filled bulk bag packages. Loading can be performed manually or by an upstream vertical packaging machine. Additional synchronization is not necessary because of the impulse-controlled drive of the closing unit.

Using exchangeable format cups, the filled bags are guided in the closing aggregate of the closing unit and to the discharge conveyor.

LINE DISTRIBUTOR LV

) LV Automatic line distributor for fast, continuous product distribution between different function groups. Individual products are fed to the line distributor in one or more tracks, depending on the design. A gap is created between the products in the line distributor. Separately driven distribution arms distribute a single infeed track over a larger number of discharge tracks. The product flow is interrupted during pivoting. An emergency outlet is available for each distribution arm, to which products can be discharged if required.



30 Handling



Device for manually filling pre-made bags with products. The device consists of a product support table with guide plates and a bag support table with fan-blower. The products are manually grouped on the product support table. The uppermost bag is opened with ambient air by the fan-blower. The packaging bags are loaded easily by manually moving the products from the product support table with the help of the guide plates into the opened bag on the bag support table, The filled bag is separated from the stack of bags with a light, continued pressure. The package can be sent to a subsequent processing step.

ABT



ABT

Capacity: Depending on products and optional manual handling

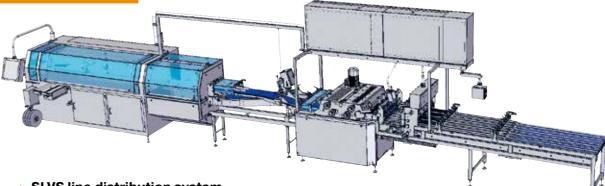
Available additional equipement:

- > Base frame with manually adjustable working height via hand wheel +/- 100 mm
- > Extended inflating table for products up to 600 mm

SLVS

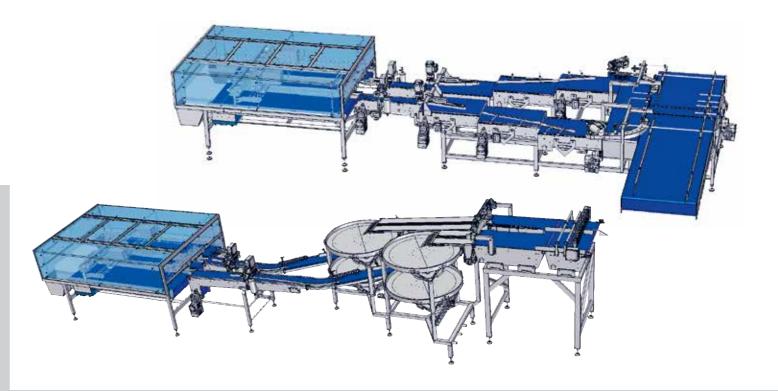
SLVS

The Hartmann line distribution system contains all components for controlling Hartmann conveyor and handling systems that are required for distributing, buffering or feeding products in an overall system. In addition to the electrical hardware with main switch, cable guides for power supply and control cables as well as switchgear, the corresponding control system is also included.



SLVS line distribution system

Transport devices are designed according to customer specifications. Various transport conveyors are used in line distribution systems.



32 Grouping



AUTO LOAD LINE



Device for automatic feeding and stacking of grouped products such as baguettes, hot dog or hamburger buns into a packaging machine. The products are fed into the machine in two groups. The first group of products is conveyed straight ahead to a station where the products are pushed laterally by a cross pusher into the packaging machine's transport chain. Depending on the packaging scheme, the products can be rotated by 90° during cross pushing. The second group of products is conveyed to an elevated station, where the products are fed laterally by a cross pusher atop the first group of products

that are already in the packaging machine's transport chain. This cross

GBK 420 fed by Autoload device Autoload AL-IK.

pusher can also feed this product group rotated by 90°.

Capacity: max. 3000 products / h

STV 30 STV 40 STV 41 STV 50 STV 60

> Fully automatic machine for forming product stacks especially for flat round products like Lebanese bread. The standard version can be extended to meet special requirements depending on the output requirements and product format. The large individual products are continuously fed in the direction of travel and stacked in a controlled manner. The product stacks are forwarded one after the other in a controlled manner to the following processing devices.

The clear and easily accessible design allows easy adjustment, cleaning and inspection.

Capacity: per stacking lane 80 products/min or 20 stacks with 4 products each/min Customer specific design according to specific products and required capacities.







³⁴ Grouping



BGA

> Modular system for the automatic distribution of bagel products from one or more infeed lanes to a higher number of transfer lanes in order to group, set up and align them before they are fed into the packaging. The device allows easy selection of different recipes and grouping formats and has a design that guarantees easy access to the inside of the device for

cleaning and maintenance tasks.



> Rotary Separation Table VDD

The separating rotary table separates unorganised small baked goods, especially rolls, ciabatta or small baguettes and feeds them to subsequent

Products are poured onto a rotating rotary table and led to a driven separating star wheel, which performs the separation. Body made of stainless steel.







Capacity: Separation capacity product-specific, 8 revolutions / min



Transport



DT FG FZ FK





Revolving table DT 1 / DT 2

Packaged products are placed behind a packaging taken over machine, buffered in slow rotation and transported for manual acceptance. Basic body in stainless steel.

FG Straight Transport Conveyor

Device for horizontal, linear conveyance of products between different functional and processing machines. The unit's design depends on the intended use and differs in the conveyance length and working width, the design of the stainless-steel base frame, the type of transport module and the drive used. A variety of additional components and functions are available.

FZ Ascending Conveyor

Device for the linear conveyance of products between different working heights on functional and processing machines. The unit's design depends on the intended use and differs in the conveyance length and working width, the design of the stainless-steel base frame, the type of transport module and the drive used. A variety of additional components and functions are available.



FK Curves – Transport Conveyor

Device for the curved conveyance of products between different functional and processing machines. The unit's design depends on the intended use and differs in the conveyance length and working width, the design of the stainless-steel base frame, the type of transport module and the drive used. A variety of additional components and functions are available.



Service

Premium service by GHD Hartmann

- **24/7-Support** GHD Hartmann Maschinenbau s constantly available for emergencies under the number: +49 5250 98430
- ➤ Spare Parts Service We offer a schedule of spare and wear parts for each machine and system or make an up-to-date offer for you. E-mail: spareparts@ghd.net
- ▶ Inspection and Maintenance After-Sales Service: Regular implementation to maintain operational safety and availability. E-Mail: service@ghd.net
- Training Training is provided together with professionals from our national representatives and carried out in order to facilitate optimum communication in the local language. E-Mail: service@ghd.net
- ➤ Customer-specific production If original parts are not immediately available from stock, our excellently equipped manufacturing department is always ready to manufacture special custom parts according to original documentation and manufacturing instructions. Contact us with the original machine number either by phone or via E-Mail: spareparts@ghd.net