Automatic blister packaging machine
HSA 50d
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The automatic blister packaging machine, HSA 50d, consists of a thermoforming and a sealing unit to form a complete production system. Blister packs with thermoformed transparent caps can be produced by upgrading the system with card loading and pack lift-out devices.

The machine sets the standard with regard to mechanical construction and ease of operation. The consistent use of servo motors in combination with state-of-the-art control and regulation technology ensures precise setting of distances and speeds.

Storage of all production parameters is one of the benefits of the HSA 50d. Up to 40 programs can be stored in the control unit. Operating panels on forming and sealing units facilitate the setting and start-up of the machine, this is an advantage especially for long machine lines.

A higher feed accuracy is achieved by the servo-motor transport drive, resulting in higher cutting accuracy of the blister caps. Blisters are placed into the sealing pallets by even and vibration-free movements of the optimized blister transfer system.

The machine is of modular construction and connected by Profibus systems. Relocation or retrofitting of additional elements, such as card loading or feeding devices is possible at each relevant machine location. With this general-purpose modular system the customer can produce various packs in a very flexible way. Extensions to attach labelling devices or coding units can be installed after the sealing station without problem.

The servo-motor driven sealing pallet transport can be variably set and ensures indexing with positional accuracy.

Soft carton material can also be processed since the upper and lower table of the sealing station are movable. Attachment of the sealing tool to the sealing heater improves heat transition from the heater to the sealing electrode thus also reducing energy consumption.

The modular elements are connected by BUS systems. Additional units can be used depending on packing specifications.
Improved product quality by using advanced machine equipment.

**Thermoforming unit**
- optimum material heating by contact heating, independent of format
- servo motor for blister transport
- blister forming with mechanic pre-stretching plugs
- positive forming by vacuum
- longitudinal and cross cutting device for formed blisters
- automatic blister transfer into the sealing machine's pallets
- digital setting and storage of machine parameters, consequently reproducible thermoforming process
- waste-free operation

**Sealing unit**
- servo motor for pallet transport
- pallet quick-change system without tooling
- blister filling range – filling is carried out manually or by automatic feeding devices
- automatic card loading device in front of sealing station with card low-level monitoring system
- discharge of finished packs by conveyor
- freely selectable position for optional extras
- Profibus system for interfaces
- Siemens S7 control with OP 17 operating panel on forming and sealing machine, storage of 40 production programs possible
Different packing variants and shortest set-up times with future-oriented system technology.

ILLIG quick-change technology

With the tool system all format parts can be changed for the first time very fast without using any additional tooling.

Forming unit
quick-clamping device for forming tool and clamping frame
exchange of complete knife shaft for longitudinal cut of blister caps
quick-clamping system for guide plate and set of suction units
positioning of forming tool and cross cutter by motor, data can be saved in the control system

Sealing unit
for HSA 50d, standard version, featuring the new pallet quick-change system the change-over time for the sealing pallets is reduced to approx. 3 min
new suction technique on card loading and pack lift-out devices with quick-change suction plate
quick-clamping device for sealing electrode as well as for bottom part of sealing unit
smooth change of complete card magazine or quickly-adjustable magazine chutes (please note metal screen)
conversion times of 15 min are possible for a complete format change on the basic machine
Double production output with cutting/spreading device
If the packaging formats can be arranged in two rows on a sealing pallet, the output of the machine is doubled. The blisters formed in the double cavities are separated into single cavities and during the transposing movement they are spread to the sealing dimension of the pallet.

Double-card blister packs
A blister transposer with card loading device is required to produce cleanly separable packs. This transposer positions the blister cap into the window card. After filling, a further card loading device puts on the backing cards which are sealed with the window cards. The blister cap remains unsealed and consequently can be easily separated from the card.

Stand-up blister packs
For alternative presentation, blisters are equipped with a foot. During the movement of the pre-stretching plug the foot is formed to the blister cap with an additional cross movement in the upper tool part.

Production of all-card blisters with cardboard forming unit
Pre-punched card blanks are positioned into the forming tool from a card magazine. After forming, they are transferred into the sealing pallets. The cardboard forming unit can be placed anywhere on the pallet conveyor.

Hole punch unit
Hanging holes are punched into packs with all-plastic front by a hole punch unit.

Flexibility is demonstrated by a multitude of packaging solutions.
Our concept for success:
flexibility and high availability

Machine, packaging material, feeding system and end packer as a closed unit.

Packs for high-quality products call for specific solutions. Our machine lines and process technologies set the standard for flexible and economic production.

Product-oriented packaging systems are composed of elements from a comprehensive standard program. Such custom-made systems result in market advantages especially when short delivery times and high quality specifications are concerned.

Smooth operation is ensured by testing and delivery of all individual components from one source. This also applies to sophisticated machine lines. Performance and speed of the individual modular elements have to be optimally synchronized.

The various functions are connected by sensors or BUS-systems.
Practical, easy operation.

Findings from process engineering and application technology combined with comprehensive material knowledge result in an optimum machine program incorporating the parameters for forming, sealing and end packing.

The HSA 50d sets the standard when it comes to the demand for easy operation. The reproducibility of production data is a major element for maximum availability especially for high automation levels and frequent product changes. All relevant process data are entered on the operating panel and displayed as set point/actual comparison.

The set data can be stored and they are available right away for repeat orders. All major operation data are continuously available to check the ongoing production.

Due to a modular guarding system, many devices can be placed in freely selectable order, one after the other or separately on the pallet transport.

Card loading device for single and multi-cavity formats in quick-change version

It can be positioned anywhere on the sealing unit, thanks to its modular structure.

The pack lift-out device operates with direct drive

Consequently, pack transfer to subsequent machines is vibration-free.
**Technical data HSA 50d**

### thermoforming unit

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Max.</th>
<th>Min.</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming area</td>
<td>500 x 300 mm</td>
<td>100 x 35 mm</td>
<td></td>
</tr>
<tr>
<td>Depth of draw positive</td>
<td>80 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material width</td>
<td>500 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material roll diameter</td>
<td>900 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of cut, single blister, multi-format layout</td>
<td>47 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed length</td>
<td>300 mm</td>
<td>35 mm</td>
<td></td>
</tr>
<tr>
<td>Mould closing force</td>
<td>45 kN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### total connected load (basic equipment)

- Working air (free air per cycle) 8.0 l
- Total connected load 10.5 kW

### machine dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of forming unit</td>
<td>3500 mm</td>
</tr>
<tr>
<td>Width</td>
<td>1196 mm</td>
</tr>
<tr>
<td>Height</td>
<td>2050 mm</td>
</tr>
<tr>
<td>Total weight thermoforming unit</td>
<td>Approx. 1800 kg</td>
</tr>
</tbody>
</table>

### sealing unit

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Max.</th>
<th>Min.</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sealing area</td>
<td>500 x 300 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blister depth when sealed from above</td>
<td>80 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Card size (card with EURO hole, 1-up format layout)</td>
<td>500 x 340 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Card size (8-up format layout)</td>
<td>58 x 340 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Card width</td>
<td>40 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sealing force</td>
<td>45 kN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of sealing pallets, basic machine</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension possible, by 3 stations each</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### total connected load (basic equipment)

- Total connected load 10.1 kW

### machine dimensions (sealing unit)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of sealing unit, 20 pallets</td>
<td>5560 mm</td>
</tr>
<tr>
<td>Width</td>
<td>1230 mm</td>
</tr>
<tr>
<td>Height</td>
<td>1690 mm</td>
</tr>
<tr>
<td>Total weight, sealing with 20 pallets</td>
<td>Approx. 2000 kg</td>
</tr>
<tr>
<td>Cycle speed</td>
<td>20/min</td>
</tr>
</tbody>
</table>

### power supply

- TN-supply 3/PEN 50Hz 400 V with loadable neutral

- Standard color: white/blue, RAL 9002 and RAL 5013