PERFECTA

TEA BAG PACKAGING MACHINE

TEEPACK
wrap your brand in quality
THE ADVANCED TEA BAG MACHINE SYSTEM

PERFECTA

HIGH PERFORMANCE MEETS FLEXIBILITY

PERFECTA TAG is the perfect system for making double-chamber tea bags with natural non-heat seal filter paper, a thread and a cardboard tag. With the PERFECTA FAMILY SIZE machine you can pack double-chamber tea bags with up to 22 cm³ filling volume. The PERFECTA UNIVERSAL allows for dual production of both paper or heat sealing foil bags on a single machine. All PERFECTA models come with easily exchangeable stapling or knotting stations. The economical PERFECTA ENVELOPE even cuts the tag directly from the paper envelope.

Increase your efficiency while reducing costs
- Lower production costs
- German premium quality and perfection
- Reliability
- Flexibility
- Superior safety standards
- High production efficiency
- Time saving exchange of packaging materials

Rely on our innovative technology for premium quality products
- Shorter maintenance times
- Less staff required
- Quick format changes
- Low spare parts consumption
- Longer maintenance intervals
- Modular construction
**PERFECTA TAG**

**ENHANCED EFFICIENCY AND PRODUCTIVITY**

This machine produces double-chamber tea bags with a thread and tag. Its natural filter paper is not coated with chemical hot glue to preserve the taste of your tea – protecting the natural tea aroma from harmful influences. The tag features a unique "thread safety" design which fixes the thread into a slot at the lower edge of the tag. This ensures that the threads and tags do not get tangled inside the tea bag box during transit. According to customer requirements, we can cut the cardboard tags with straight edges or cropped corners.

- Capacity of up to 420 bags/min.
- Available as stapling or knotting machine
- Exchangeable knotting and stapling stations
- Faulty bag ejection

**THE BENEFITS**

- Motor operated bag weight adjusting mechanism
- Computer controlled weight checker for full boxes (optional)
- Cardboard divider strip from reel (optional)
- Flavour dosing device (optional)
- Servo-controlled tag corner punching station (optional)
- Automatic splicer (optional)

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**PERFECTA TAG - DETAILS**

1. Filter paper reel
2. Tea feeding
3. Dosing
4. Tube forming
5. Tube knife
6. Bottom folding
7. Head folding
8. Reversing wheel
9. Bag head stapling respectively head knotting station
10. Thread regulating wheel (Fourmenteur)
11. Cotton thread cone
12. Cardboard tag reel
13. Tag unwinding and cutting
14. Lower transport wheel (Tag Type)
15. Faulty bag ejection
16. Bag stacking and counting
17. Tag stapling or tag knotting station
18. Turning magazine
19. Stacking and inserting of cardboard divider strip into the box
20. Box filling
21. Cardboard divider strip reel

*Standard for all PERFECTA models*
The PERFECTA FAMILY SIZE machine has been designed to deliver maximum quality XL double-chamber tea bags with a thread and cardboard tag. It features all the advantages of the PERFECTA TAG machine, allowing for the manufacturing of bags with natural non-heat seal filter paper using a variety of tag sizes. However, with the FAMILY SIZE model you can fill double-chamber tea bags with up to seven grams of black tea with a production speed of up to 250 bags per minute for the latest trends in ice tea, and cold or hot brew tea specialties.

- **ADVANCED DESIGN FOR MAXIMUM QUALITY FAMILY SIZE PACKAGING**

**THE BENEFITS**

- Filling volume of up to 22 cm³
- Capacity of up to 250 bags/min.
- Available as stapling or knotting machine
- Faulty bag ejection
- Low filter paper consumption
- Motor operated bag weight adjusting mechanism
- Quicker and easier exchanging of the dosing device
- Computer controlled weight checker for full boxes (optional)
- Servo-controlled tag corner punching station (optional)

![Diagram of PERFECTA FAMILY SIZE machine](image)

**PERFECTA FAMILY SIZE – DETAILS**

1. Filter paper reel
2. Tea feeding
3. Dosing
4. Tube forming
5. Tube knife
6. Bottom folding
7. Head folding
8. Reversing wheel
9. Bag head stapling station
10. Thread regulating wheel (Fournisseur)
11. Cotton thread cone
12. Cardboard tag reel
13. Tag unwinding and cutting
14. Lower transport wheel (Tag Type)
15. Faulty bag ejection
16. Bag stacking and counting
17. Bag head stapler
18. Turning magazine
19. Stacking and inserting into the box
20. Box filling

**Cardboard tag stapled**

**Cardboard tag knotted**

**Filter bag stapled**

**Filter bag knotted**

**Final station of tea bag manufacture. Attachment of thread and cardboard tag**

**Drive, drive for filter paper and dosing. Motor operated bag weight adjusting mechanism**

**Filter paper tea bag forming – bottom and head folding**

**The “heart” of the PERFECTA machine. Continuous working transport wheel with the stations forming the filter paper bag**

**Dosing station with dust exhaust device and filter paper tube forming station**
PERFECTA ENVELOPE

HIGHLY ECONOMICAL DUE TO A UNIQUE TAG CUTTING DESIGN

The PERFECTA ENVELOPE manufactures double-chamber tea bags in a protective paper envelope. Its unique envelope bag is the only one which does not require the production of an additional tag, as the tag is cut from the paper envelope itself. With respect to the entire lifespan of the machine, this results in an enormous long-term cost savings.

- Cost saving (paper tag cut from the paper envelope)
- Available as a stapling or knotting machine (tea bag head with knot, paper tag with staple)
- Faulty bag ejection
- Motor operated bag weight adjusting mechanism
- Computer controlled weight checker for full boxes (optional)
- Cardboard divider strip from reel (optional)
- Flavour dosing device (optional)
- Automatic splicer (optional)

THE BENEFITS
MODULAR DESIGN FOR MAXIMUM FLEXIBILITY AND CAPACITY - UP TO 380 BAGS PER MINUTE

The PERFECTA UNIVERSAL produces three types of double-chamber tea bags with a cardboard tag. The naked filter tea bag can be wrapped either with an outer paper envelope or an aroma protection envelope foil. Retrofitting to the two enveloping options is easy. Simply activate or deactivate the envelope feeder and exchange a few easy-to-handle formatting components in the cartoning device. The basic machine is a PERFECTA for tag type tea bags.

Functions
After finishing the tea bag with a cardboard tag, the bag is fed into a universal transport wheel where the tag type bag is wrapped into an outer paper envelope or aroma protected envelope foil. The finished tea bag is then transported to an automatic universal box filling station capable of handling all three types of bags. The envelope aggregate, as well as the box filling device are fitted at the left side of the PERFECTA basic machine.

- Production speed up to 380 bags and up to 350 bags per minute with HS foil
- Manufacturing options for 3 bag types (naked bag, paper envelope or heat seal envelope)
- Flexible production, can be quickly converted from naked bag to envelope production and vice versa
- Hard tag in the envelope (smallest tag size available: 20x24 mm)
- Knotting or stapling machine (reversible configuration)
- Flavour dosing device (optional)
- Automatic splicer (optional)
- Tea bag with cardboard tag and aluminium staple/knotted thread (with paper envelope or aroma protection foil)

THE BENEFITS

- Filter paper reel
- Tea feeding
- Dosing
- Tube forming
- Tube knife
- Bottom folding
- Head folding
- Reversing wheel
- Bag head stapling respectively head knotting station
- Thread regulating wheel (Fournisseur)
- Cotton thread cone
- Cardboard tag reel
- Cardboard tag unwinding and cutting
- Lower transport wheel (Tag Type)
- Faulty bag ejection
- Tag stapling or tag knotting station
- Bag feeding (spiral conveyor)
- Sealing jaws (heatseal envelope)
- Transport wheel (Universal)
- Pushing of filter bag into outer envelope paper or aroma protected envelope foil
- Faulty bag ejection
- Bag stacking and counting
- Turning magazine
- Stacking and inserting of cardboard divider strip into the box
- Box filler
- Cardboard divider strip reel
- Bag take off and crimping station
- Feeding station and cutting of paper envelope or aroma protection envelope foil
- Reversing wheel
- Paper envelope reel or aroma protection envelope foil reel
A PATENTED LINKAGE

**KNOT ON THE BAG**

The thread is knotted securely to the top of the bag by two needle stitches to the left and right of the longitudinal seam in a patented procedure. The knot replaces the function of the staple by fixing the inner folds with two stitches and reliably closing the top of the tea bag.

The knot is self-tightening and therefore cannot become loose. The station works in a continuous process. The movements run slowly and the needles are protected against wear. The knotted thread is tightened at the end of the process by a thread brake. A 100% knot check is performed at this stage. Faulty bags are ejected.

The same double chamber bag is produced here as on any PERFECTA machine – the two knotting stations simply replace the two stapling stations.

**KNOT ON THE TAG**

The knot is formed between two holes punched beforehand in the cardboard tags in a patented procedure. The holes are cleanly punched out by an apparatus installed in the tag feed. As well as giving a neat optical impression, the holes serve to relieve wear on the needles which do not need to pierce the hard tag. The knot is formed between both holes which results in a perfect appearance. The knot is self-tightening. A sensor monitors the position of the bag and the tag before reaching the knotting station. If the positions are incorrect, the knotting device swings out of its operating position for one cycle and then back in again, allowing the faulty bag to pass through without knotting, which protects the extremely precise components. A thread monitor checks whether the knots have been formed. A bag detected as being faulty is blown out by the faulty bag ejection station.

- No aluminium staples
- The bag head is reliably secured with two needle stitches
- Complete and reliable knot control on the bag
- Optically attractive knot connection on the tag due to pre-punched knotting holes
- Self-tightening knots – the thread cannot detach from the bag

**THE BENEFITS**
Up to six reel pickup stations

Those who respond quickly to market changes will always be a step ahead of the competition. That is why the PERFECTA can be easily expanded to meet any requirement. It offers great flexibility in terms of tag design, allows flavour dosing with up to two flavours and is available with an optional weight check system.

The machine can also accommodate up to three optional splicer devices for filter paper, enveloping foil and tags, as well as up to six reel pickup stations.

Splicer

Once the end of a reel is reached, the PERFECTA Splicer automatically splices in the next roll of material while the machine remains operational. This useful option reduces machine downtime and allows for significantly more material feed flexibility. In the modular concept, in which two roller holders and one splicer unit form one module, splicers are available for one, two or even three material types. The machine can process roll diameters of up to Ø 600mm of filter paper and paper or foil envelope material.

The machine’s universal structure allows quick and easy format changes without the need for additional parts. Parts can be exchanged by hand and the handling of all materials is the same. The result is an exact rapport when combining materials edges – the output of the bag with an adhesive point is similarly automated.
Tag punch
A tag feed system enables greater flexibility and design options for the tags. The feed system is driven by a servo motor making it possible to process a tag reel without punched-out corners. The integrated punching unit can also punch out the corners or other geometric shapes from the tag material. The station can be set to any tag size quickly by exchanging a few format parts.

Flavour dosing device for one or two flavours
Flavour dosing allows the addition of flavours as powder or granulate. The aroma is added directly before the tea dosing, in which the appropriate dose for each bag is deposited on the filter paper. A sensor controls the process: the sampling device allows for quick weight checks during production. Any bags produced for sampling purposes are of course ejected. The flavour dosing device is available for single or double-dosing (two flavours), which can be configured separately.

Weight checking system
The weight checking system can be optionally integrated into the PERFECTA controls. It consists of a control scale, an interface for data exchange and a faulty box ejector. This system conducts an automatic weight check of every box and adjusts the motorised weight regulation system when necessary. The faulty box ejection device removes the boxes from production which do not conform to the exact weight specifications.
**Perfecta Family Size**

### Bags

<table>
<thead>
<tr>
<th>Size</th>
<th>W (mm)</th>
<th>H (mm)</th>
<th>Max. bag volume (cm³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>40</td>
<td>61</td>
<td>12.5</td>
</tr>
<tr>
<td>03</td>
<td>180</td>
<td>47</td>
<td>180</td>
</tr>
</tbody>
</table>

*Sizes 02 max. 7.0 cm³ by 420 bags/minute

### Cardboards

- **Cardboard Dividers**
  - Size: D, W, L, D
  - 02: 550, 110-215, 152, 43
  - 03: 550, 110-215, 152, 43

- **Cardboard Tag**
  - Standard size “Y” (Parting sizes available)
  - Size: W, L, D
  - 02: 20, 24, 120
  - 03: 25, 4, 120
  - Z: 28, 32, 120

### Reels

- **Filter Paper Reel**
  - Size: D, d, L, W
  - 02: 600, 75, 150, 94
  - 03: 600, 75, 150, 103

### Spools

- **Thread Spool**
  - Size: Dmax, d, Hmax
  - 02: 180, 47, 180
  - 03: 180, 47, 180

- **Aluminium Wire Spool**
  - Size: Dmax, d, Hmax
  - 02: min Ø138, 18.3, min Ø56
  - max Ø152, 18.3, max Ø102

- **Cardboard Material**
  - 1-row up to 160 mm length:
    - 280-320 g/m²
  - More-row boxes:
    - 360-400 g/m²

### Box

- **Box Sizes for Cartoning Attachment**
  - For 15 to 160 paper tag type bags:
  - Format 02
    - W: 42, H: 60, L: 115
  - Format 06
    - W: 180, H: 76, L: 110

* Max. row length: 230 mm
### BAGS
- **Tea bag sizes**
  - Size: W H Max. bag volume
  - 02: 40 61 12.5 cm³
  - 03: 44 61 12.5 cm³

- **Tea bag with envelope**
  - Size: W H Max. bag volume
  - 02: 56 67 9.5 cm³
  - 03: 60 67 12.5 cm³

### CARDBOARDS
- **Cardboard dividers**
  - Size: D W d+1
  - 02: 550 110-215 152 33 0.3
  - 03: 550 110-215 152 33 0.3

- **Cardboard material**
  - 1-row up to 160 mm length: 280-320 g/m²
  - More-row boxes: 360-460 g/m²

- **Box**
  - Flat blank for cartoning attachment for 15 to 160 paper envelope type bags:
  - Folding box for cartoning attachment for max. two rows per box

### SPOOLS
- **Thread spool**
  - Size: Dmax d+/-0.3 Hmax
  - 02: 180 47 180
  - 03: 180 47 180

- **Aluminium wire spool**
  - Dmax: 18.3
  - min Ø138 18.3
  - max Ø152 18.3

### REELS
- **Filter paper reel**
  - Size: Dmax d+/- L W+/- g/m²
  - 02: 600 75 150 103 12
  - 03: 600 75 150 103 12

- **Envelope paper reel sizes**
  - Size: Dmax d+/- L1+/- W+/- g/m²
  - 02: 600 152 144 56 60-70
  - 03: 600 152 144 56 60-70

### PERFECTA ENVELOPE

#### Fixing options
- **Paper tag** stapled
- **Filter bag** stapled
- **Filter bag** sealed

#### Box sizes for cartoning attachment for 15 to 160 paper envelope type bags:

- Format 02
  - min W 58 229
  - max H 68 68
  - L 115 320

### PERFECTA UNIVERSAL

#### Fixing options
- **Cardboard tag** stapled
- **Filter bag** stapled
- **Filter bag** sealed

#### Tea bag sizes
- **Universal Paper envelope**
  - Size: W H Max. bag volume
  - 02: 40 61 12.5 cm³
  - 03: 44 61 12.5 cm³

- **Universal Heat Seal envelope**
  - Size: W H Max. bag volume
  - 02: 66 77 7.0 cm³
  - 03: 66 77 9.5 cm³

#### Thread spool
- Size: Dmax d+/-0.3 Hmax
  - 02: 180 47 180
  - 03: 180 47 180

#### Aluminium wire spool
- Dmax: 18.3
- min Ø138 18.3
- max Ø152 18.3

#### Filter paper reel
- Size: Dmax d+/- L W+/- g/m²
  - 02: 600 75 150 103 12
  - 03: 600 75 150 103 12

#### Envelope paper reel sizes
- Size: Dmax d+/- L1+/- W+/- g/m²
  - 02: 600 152 144 56 60-70
  - 03: 600 152 144 56 60-70

#### Cardboard dividers
- Size: D W d+1
  - 02: 550 110-215 152 33 0.3
  - 03: 550 110-215 152 33 0.3

#### Cardboard material
- 1-row up to 160 mm length: 280-320 g/m²
- More-row boxes: 360-460 g/m²

#### Envelope foil reel sizes
- Size: Dmax d+/- L1+/- W+/- g/m²
  - 02: 600 152 154 66 66
  - 03: 600 152 154 66 66

#### Cardboard tag
- Standard size “Y”
  - with tag sizes available
  - Size: W L d Dmax
  - Y: 20 24 120 500
  - T: 25.4 31.75 120 500
  - Z: 28.8 32 120 500

#### Cardboard material
- 1-row up to 160 mm length: 280-320 g/m²
- More-row boxes: 360-460 g/m²

#### Flat blank for cartoning attachment for 15 to 160 paper envelope type bags:

- Format 02
  - min W 42 229
  - max H 68 79
  - L 115 220
TECHNICAL DATA

PERFECTA TAG

Technical data
Production speed: up to 420 bags/minute
Length x Width: approx. 2780 x 1700 mm
Height with hopper: approx. 2460 mm
Height without hopper: approx. 2270 mm
Net weight: approx. 2500 kg
Electric power connection: 4.0 kW / 6.0 kW*
Consumption: up to 3.6 kWh
Operating pressure: 6 bar
Consumption: up to 200 NL/minute
Compressed air connection: 1/2"*

*electrical power connection for knotting machine.
**compressed air pressure consumption for knotting machine.

PERFECTA ENVELOPE

Technical data
Production speed: up to 380 bags/minute
Length x Width: approx. 2780 x 1700 mm
Height with hopper: approx. 2460 mm
Height without hopper: approx. 2270 mm
Net weight: approx. 2500 kg
Electric power connection: 4.0 kW / 4.0 kW*
Consumption: 3.6 kWh
Operating pressure: 6 bar
Consumption: up to 700 NL/minute
Compressed air connection: 1/2"*

*electrical power connection for knotting machine.

PERFECTA FAMILY SIZE

Technical data
Production speed: up to 250 bags/minute
Length x Width: approx. 2780 x 1700 mm
Height with hopper: approx. 2460 mm
Height without hopper: approx. 2270 mm
Net weight: approx. 2700 kg
Electric power connection: 6.0 kW
Consumption: up to 2.4 kWh
Operating pressure: 6 bar
Consumption: up to 200 NL/minute
Compressed air connection: 1/2"*

**compressed air pressure consumption for knotting machine.

PERFECTA UNIVERSAL

Technical data
Production speed: up to 380 bags/minute
Length x Width: approx. 3510 x 1700 mm
Height with hopper: approx. 2460 mm
Height without hopper: approx. 2270 mm
Net weight: approx. 3600 kg
Electric power connection: 10.0 kW / 10.0 kW*
Consumption: up to 5.0 kWh
Operating pressure: 6 bar
Consumption: 200 up to 800 NL/minute
Compressed air connection: 1/2"*

*electrical power connection for knotting machine.
**compressed air pressure consumption for knotting machine.
### Production speed overview (bags per minute)

<table>
<thead>
<tr>
<th></th>
<th>PERFECTA TAG</th>
<th>PERFECTA FAMILY SIZE</th>
<th>PERFECTA ENVELOPE</th>
<th>PERFECTA UNIVERSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stapling machine</strong></td>
<td>naked bag</td>
<td>naked bag</td>
<td>naked bag</td>
<td></td>
</tr>
<tr>
<td><strong>Knotting machine (two knots)</strong></td>
<td>up to 420*</td>
<td>up to 250**</td>
<td></td>
<td>up to 380</td>
</tr>
<tr>
<td><strong>Knotting machine (knot only on bag)</strong></td>
<td>up to 400*</td>
<td>up to 250**</td>
<td></td>
<td>up to 380</td>
</tr>
</tbody>
</table>

* by up to 7.0 cm³ black tea

** by up to 22 cm³ black tea

<table>
<thead>
<tr>
<th></th>
<th>paper envelope</th>
<th>paper envelope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stapling machine</strong></td>
<td>up to 380</td>
<td>up to 380</td>
</tr>
<tr>
<td><strong>Knotting machine (two knots)</strong></td>
<td>not available</td>
<td>up to 380</td>
</tr>
<tr>
<td><strong>Knotting machine (knot only on bag)</strong></td>
<td>up to 380</td>
<td>up to 380</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>cold seal envelope bag</th>
<th>heat seal envelope bag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stapling machine</strong></td>
<td>up to 380</td>
<td>up to 350</td>
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<td><strong>Knotting machine (two knots)</strong></td>
<td>up to 380</td>
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