SECURE CLOSURES IN BAG CLOSING TECHNOLOGY
(VIVIANE MPINGA MARKETING MANAGER – FISCHBEIN INTERNATIONAL)
IAOM LEBANON REGIONAL FORUM
16-17 SEPTEMBER 2019
Main segments & Brands

- FOOD PROCESSING
- PACKAGING EQUIPMENT
- MATERIAL HANDLING

Brands:
- KEY® TECHNOLOGY
- ARpac
- Fischbein
- Marlen International
- FMH Conveyors
- QC Industries
- SupportPro®

A DURAVANT COMPANY
Key factors for bags and closures

• A mechanical performance
• The evolutions of the bags themselves
• An « esthetical » or « cosmetic » performance
Sewing Technology
Sewing Technique: Evolutions

• From the simple basic plain sewing **to**:  
  - fold over sewn top  
  - sewing with crepe paper  
  - sewing with twin needle  
  - tape over sew
Sewing technique: Fold over sewn top
Sewing technique: Fold over sewn top

Flap folding sewing system
Sewing technique: Fold over sewn top

Folded bag top (view from the rear)
Sewing technique:
Sewing with crepe paper

Tape and Sewn

Filler cord
Sewing technique: Sewing with crepe paper

Sewing System MUA

Crepe paper
Sewing technique: Sewing with Twin needle
Sewing technique: Sewing with Twin needle

Stitch and sewn line dimensions:

Stitch length for instance 11 mm (adjustable)

Distance between the 2 sewn lines (fixed)

6.1 mm

6.8 mm → Stitch offset between the 2 sewn lines (fixed)
Sewing technique: Sewing with Twin needle

Twin needle sewing system
Sewing + sealing techniques: Tape over sew
Sewing + sealing techniques: Tape over sew (TOS 3000-SW)
Open mouth bags vs Valve bags

Open mouth bags

Valve bags
Open mouth bags vs Valve bags

• Valve bags have always been more expensive than open mouth bags.

• Open mouth bags are largely available in the market

• Open mouth bags are very flexible as the spout will accept various sizes of bags whatever the material

• Open mouth bags exist in various sizes and material

• Open mouth bags are easy to open

• To ensure a strong sealed closure, polypropylene valve bags must be closed with an ultrasonic method, which increases the price of the whole investment

• Various bag closing technologies (sewing, gluing, sealing or combined means) can apply to open mouth bags, depending on the product requirements
Sealing technology

3 techniques of Heat Transfers:
• Hot Air
• Bands
• Radiant
Sealing technique: convection

**Convection** relates to **Hot Air sealers** where the ambient air is heated by heating capsules and blown to the PE bags to assure the sealing process.

The sealer features an enhanced airflow design guaranteeing a high efficiency heat transfer system.

![Saxon Hot Air sealer](image)
Sealing technique: convection

**ADVANTAGES:**
- Increased capacity
- Easy set up
- Low maintenance
Sealing technique: conduction

Conduction relates to Band sealers where fixed heating elements heat the bags by direct contact through a pair of bands. These bands have a high thermal conductivity and move in perfect synchronisation with transport belts.

Saxon Band sealer
Sealing technique: conduction

**Band sealer**

**ADVANTAGES:**
- Wider seals possible
- Easy maintenance
Radiation relates to **Radiant sealers** where the heat is radiated from the heater bars to the bag’s top and penetrates through the outer layer to the inner liner. Pressure wheels compress the two heated inner portions of the bag together to form a permanent airtight seal.

Saxon Radiant sealer is highly recommended for coated paper bags, for paper or poly bags with header cards and for aluminium foils!
Sealing technique: radiation

• Radiant sealer
Sealing technique: Industrial continuous sealers: Saxon range

A Large choice of strong optional extras to provide secure and siftproof closures:

- Large choice of pressure/crimp wheels → appearance of the seal
- Air Evac
- Validatable version
- Air wash
- Variable speed
- Bag top trimmers
- Temperature controller PID
- Ergonomic infeed
- Vortex coolers
- ....
Sealers: crimp wheels

- Plain
- Fine Knurl
- Coarse Knurl
- Coarse Diamond
- Wavy line
- Thread form
Sealers: crimp wheels
Sealers: Airevac

Heating section
Section de chauffe

Airevac section
Section Airevac
Sealers: Airevac

Full process of Air-Evacuation
Processus complet de l’extraction d’air
Sealers: Airevac

To extract partially air from the bag before closing → to avoid a ballooning effect

To extract partially air from the bag before closing with the option of inserting inert gas → to increase the level of protection of the product
Sealers: validatable range
Combined closures

Very high level of product protection provided by a double closure!
Gluing after sealing a PE inner liner: closure by gluing pre-glued « Pinch »
top bags after the heat sealing of an inner liner → PILS
Combined closures

PILS
Gluing Technique

Very high level of product protection provided by DRC “double roll closure”! Closing paper bags by double fold and with “hot melt” glue → DRC
Gluing Technique

DRC
FISCHBEIN: bag closing machines

- SOLUTIONS to your specific bag closing requirements from an extensive range of top quality equipment.
- DEVELOPMENT using the latest proven technology
- WORLDWIDE SERVICE through a large distributors network
- «JUST IN TIME» DELIVERIES of spare parts and new machines
- QUALITY PRODUCTS