

BOSCH

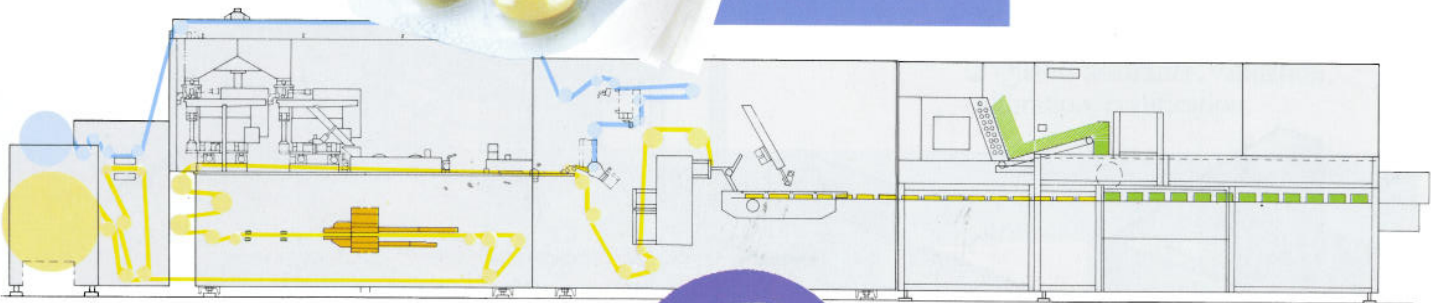


Use the thermoforming and cartoning compact installation TLT 2600/CTK 3040 and your gain will be constant high output.

Thermoforming and cartoning technology economically validatable, compatible with the technology of the future.



Bosch quality leads to the best and lasting results.



MAXIMUM
QUALITY
ENVIRONMENTALLY
PROTECTIVE INNOVATIVE
CUSTOMER-
ORIENTED

EASY
CHANGING
OF BASE WEB
AND LID STOCK
BY
ONE PERSON

SIMPLE,
REPRODUCIBLE
SIZE
CHANGE-
OVER

SPARE SPACE
FOR EXPANSION

COMPATIBLE
WITH
FUTURE
TECHNOLOGY
THANKS TO ITS
VERSATILITY
OPTIMIZED
AVAILABILITY

REPRODUCIBLE
PRODUCTION
DATA
PARAMETERS

CONSIDERABLE
FACILITATION
OF OPERATING
FUNCTIONS AND
OPERATIVE AIDS

CALIBRATION,
QUALIFICATION,
VALIDATION

GMP-
AS FAR AS
LAYOUT AND
ALL FUNCTIONAL
AREAS ARE
CONCERNED

MODULAR DESIGN

VERSATILITY IN
THE USE OF A
VARIETY
OF FILMS

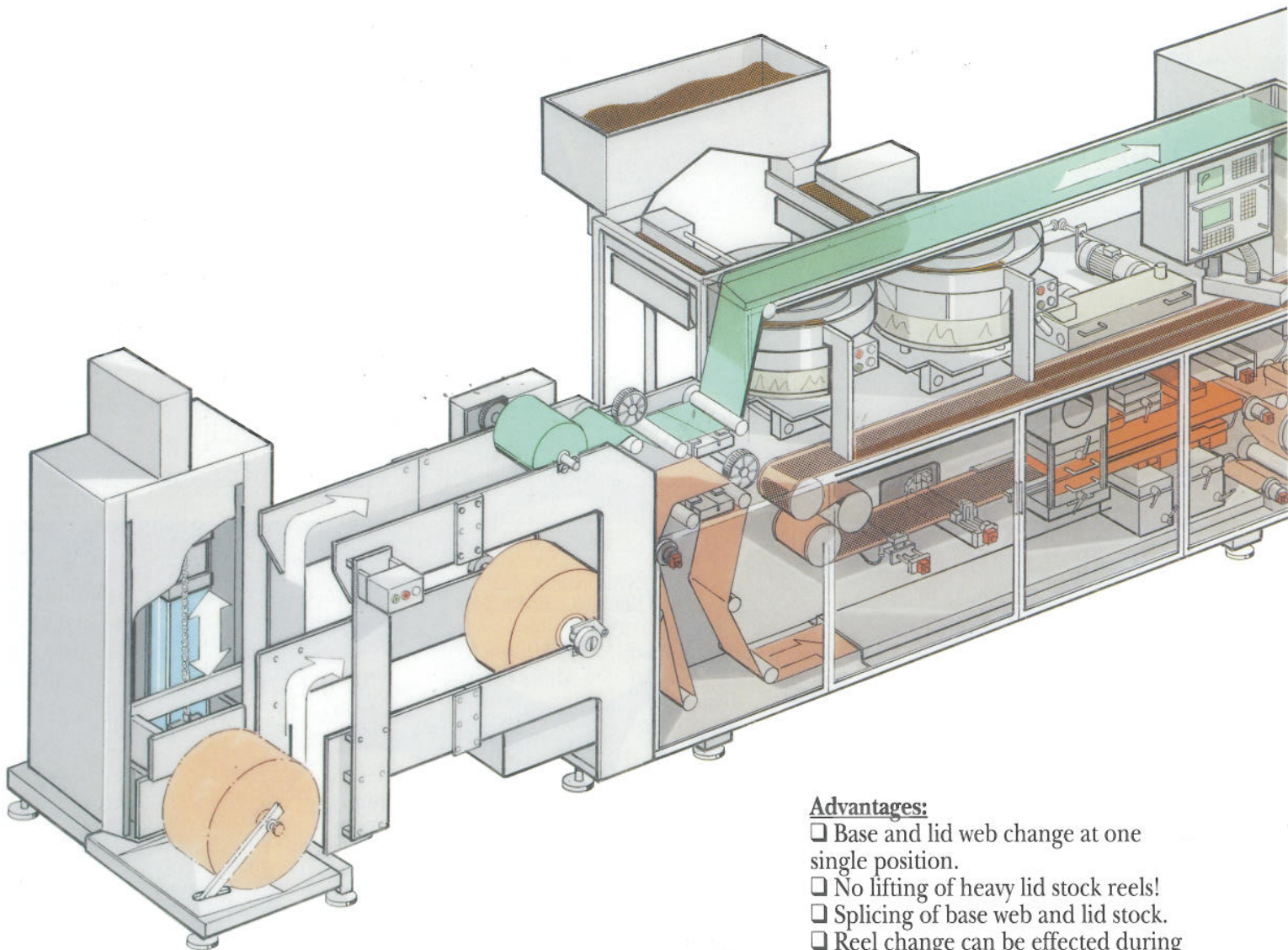
The TLT 2600/CTK 3040 is designed to Bosch quality standards, i.e. the highest technical standards – practical requirements have been fulfilled to meet both present day and future needs.

A common reel stand for base web and lid stock. Packaging material charging and reel changes are thus made easy – no production down-time when reels are changed.

Fast reproducible size changeover – optimized film utilization.

Exact temperature distribution – a constantly stable container forming.

Registered transport of base web and lid stock.



Film supply for base web and lid stock available in four versions (options):

- ① Reel stand for base web and lid stock (single), manual reel loading.
- ② Reel stand for base web and lid stock (single), with lifting device for reel loading (option).

- ③ Reel stand for base web and lid stock (double), manual reel loading (option).
- ④ Reel stand for base web and lid stock (double), with lifting device for reel loading (option).

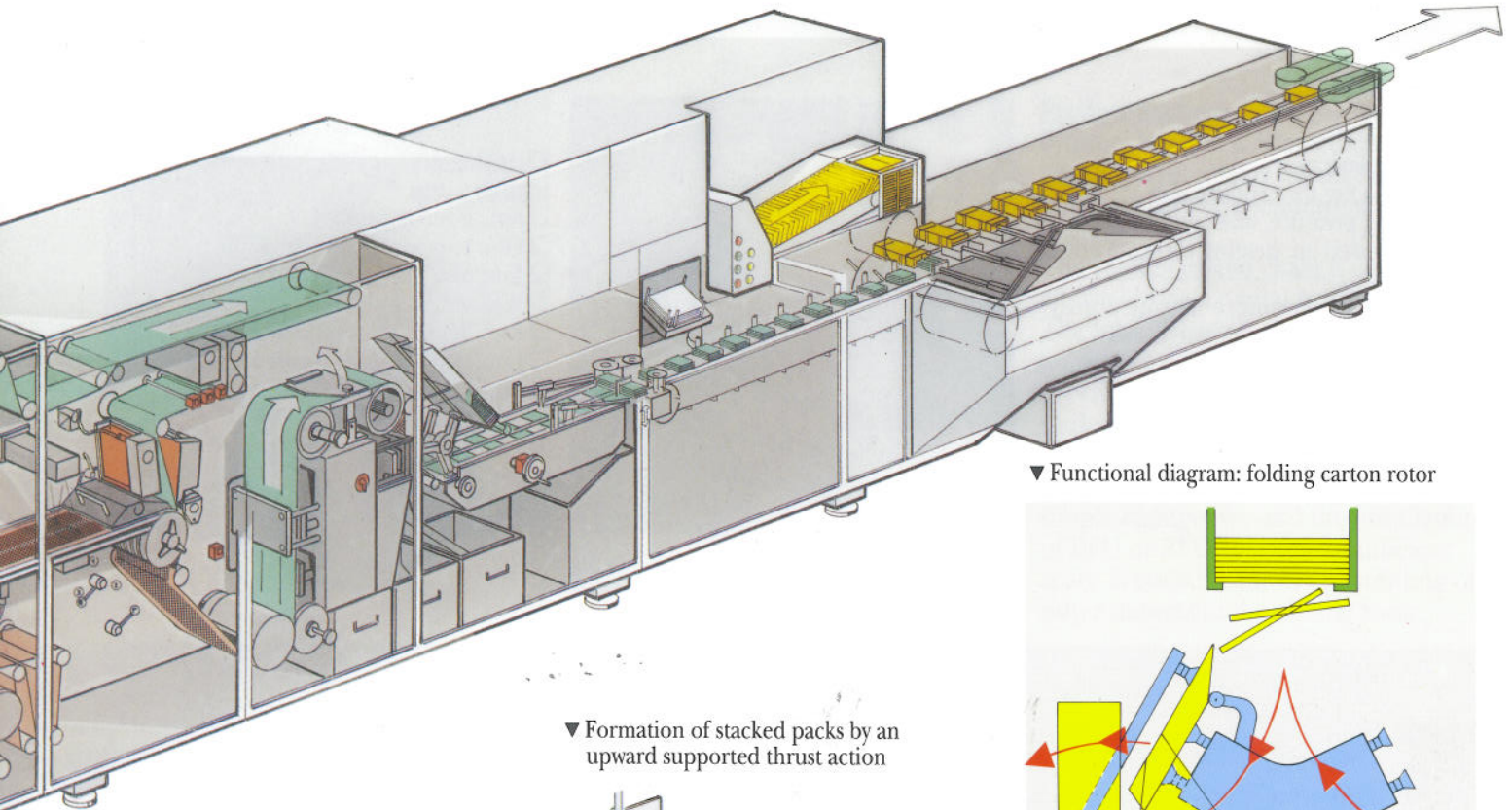
Advantages:

- ❑ Base and lid web change at one single position.
- ❑ No lifting of heavy lid stock reels!
- ❑ Splicing of base web and lid stock.
- ❑ Reel change can be effected during production.
- ❑ Reel diameter base web max. 800 mm.
- ❑ Reel diameter lid stock max. 400 mm.
- ❑ Pneumatic quick-connect clamp unit for easy reel lock.

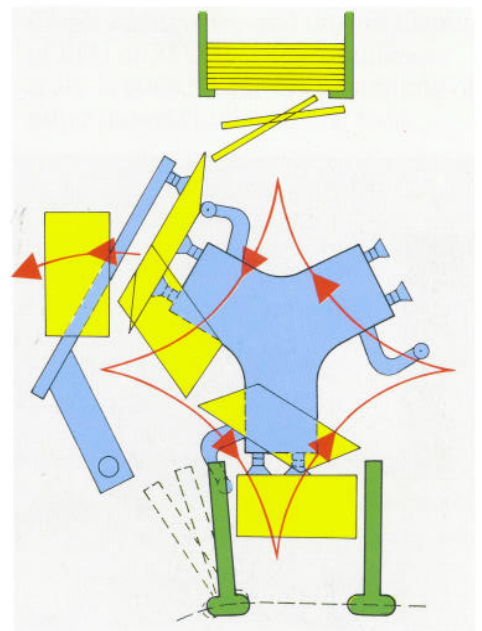
Long filling section with sufficient spare space for the retrofitting of product feed devices.

Spare space for brochure inserters and code readers.

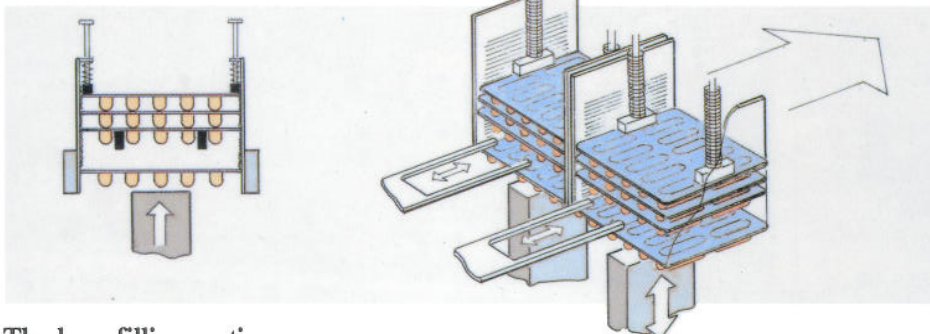
Compatible with future technology, versatile. Spare space for a hole punching station and peelable lidding films.



▼ Functional diagram: folding carton rotor



▼ Formation of stacked packs by an upward supported thrust action



The long filling section of 2700 mm provides sufficient spare space for the retrofitting of product feed devices.

- After the filling section, the filling is checked by a see-through scanner. Incompletely filled packages are reliably rejected.
- Sizepart-free product scanner
- Partially filled and empty blisters can be separated out (option).

The CTK 3040 (3060) which has been integrated into the thermoforming compact line, comes from the new, successful CUK cartoner series. The CTK is equipped with a special assembly, a pre-insertion kit for the dependable insertion of the thermoformed packages and the leaflets. The basic design and all functions of the CTK comply with the corresponding machine types in the CUK series. All modular upgrading facilities and optional expansion facilities are also provided. Proven feed devices for thermoformed packages are available.

**High technical performance:
600 thermoformed packs and
300 folding cartons
per minute with
a high degree of
availability.**

**Quality assured,
measurable production
efficiency.**

Checking devices

Displays facing the tending side

- Working pressure, analogue display.
- Compressed air, heating cycle, analogue display.
- Forming air pressure, analogue display.
- Sealing pressure, analogue display.
- Cycle of die-cutting section indicated on display.



Checking devices with fault display and machine stop

- Splice recognition.
- Film tear sensor, forming film.
- End of film sensor, forming film.
- Web tear sensor, lidding material.
- End of web sensor, lidding material.
- Limit value sensor, working pressure.
- Limit value sensor, temperature of heating plates.



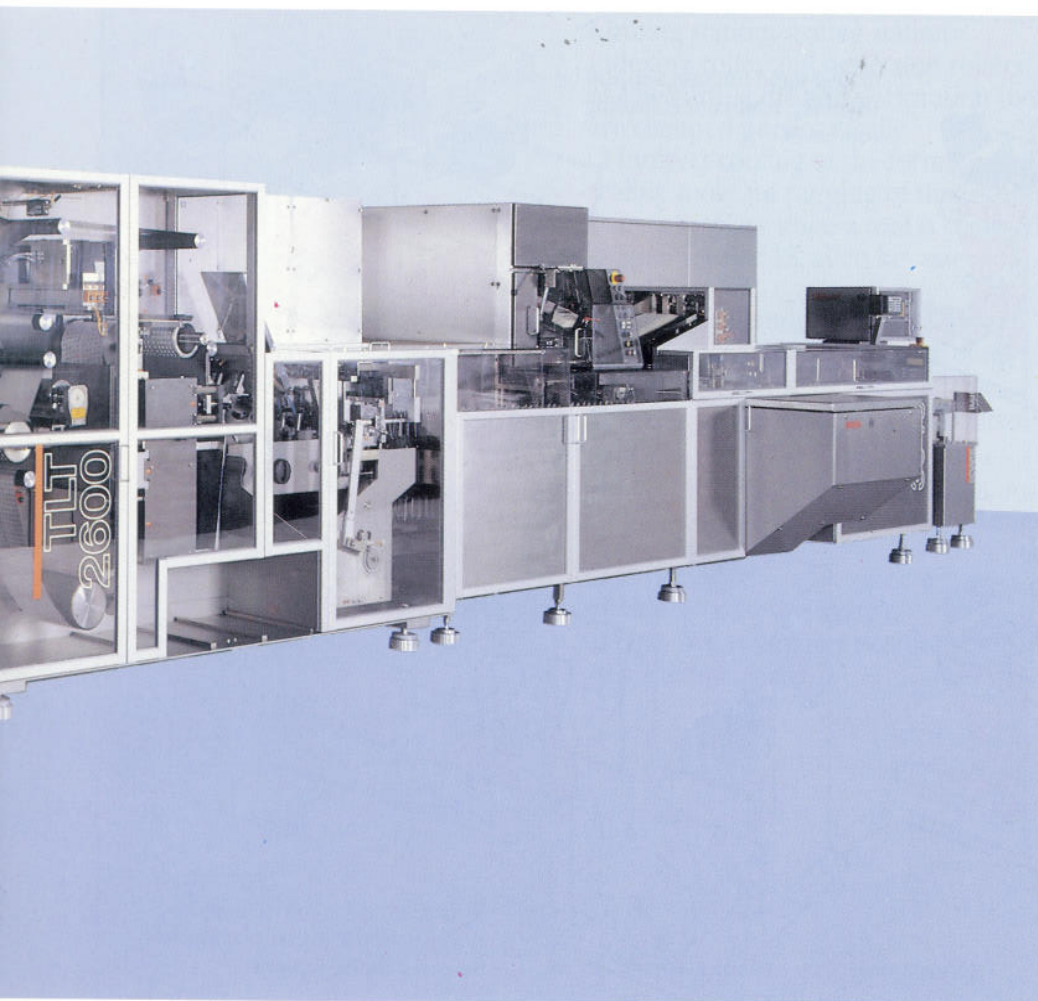
**Central control panel,
including text display, to
GMP standard,
2-line or monitor
25-line (option).**

- Limit value sensor, temperature of sealing roller.
- Projecting product sensor, prior to sealing.
- Accumulation sensor, prior to cutting die.
- Reject cross-check, 2-lane.
- Fill level sensor for reject bin.

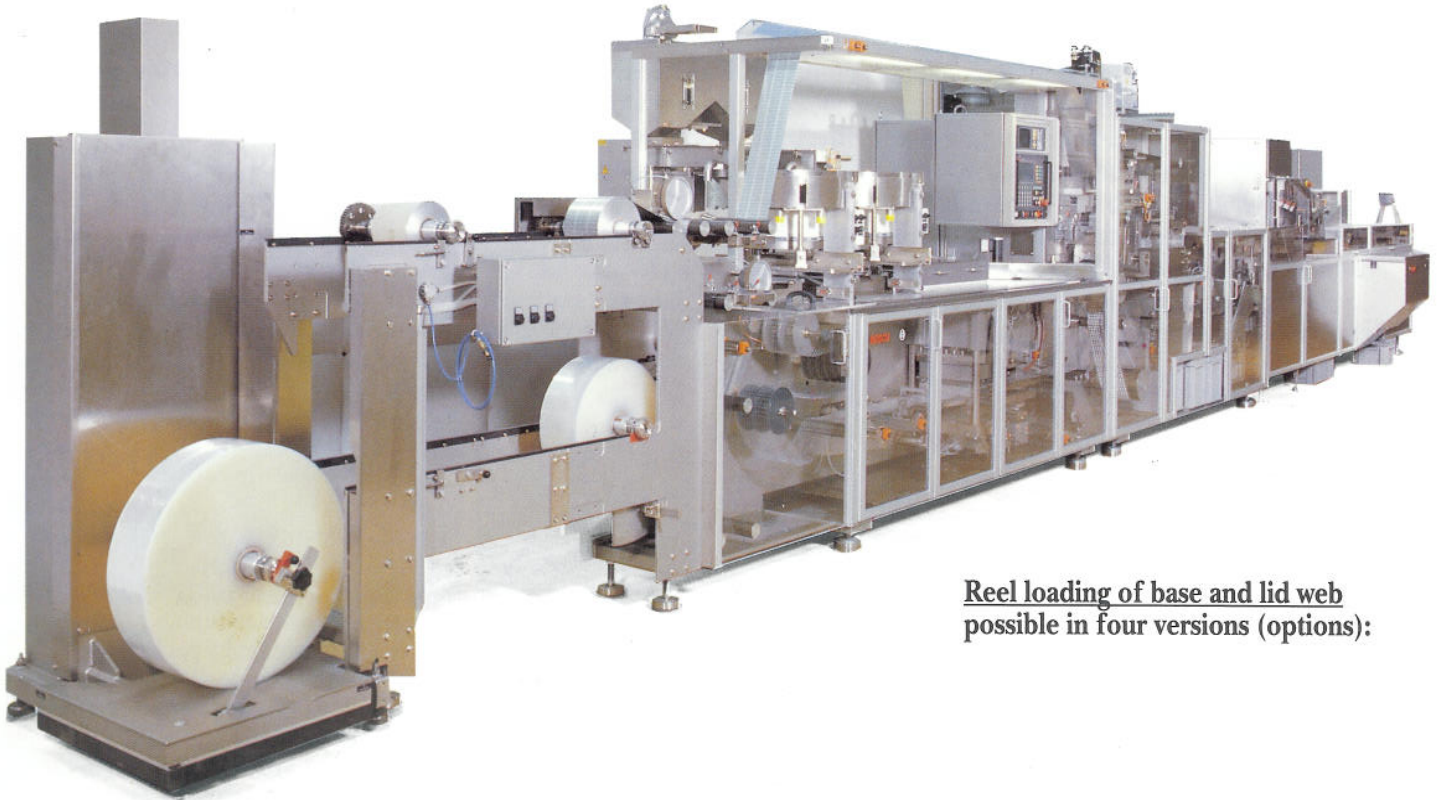


Additional checking devices TLT (options)

- Sensor for early recognition of low supply of forming film.
- Sensor for early recognition of low supply of lidding material.
- Length measuring device for forming film.
- Length measuring device for lidding material.
- Additional splice recognition for forming film prior to filling,
- with automatic faulty package reject.
- With automatic reject of faulty packages and control of product chute interlock while splice is in passage.
- Print recognition of lidding material prior to sealing station with automatic fault package reject.
- Sizepart-free product scanner.
- Pickup station of blister strips from die-cutting station.
- Configuration package for machine qualification.

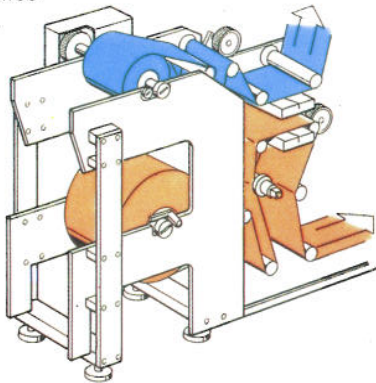


**Loading and reel change
made easy.**

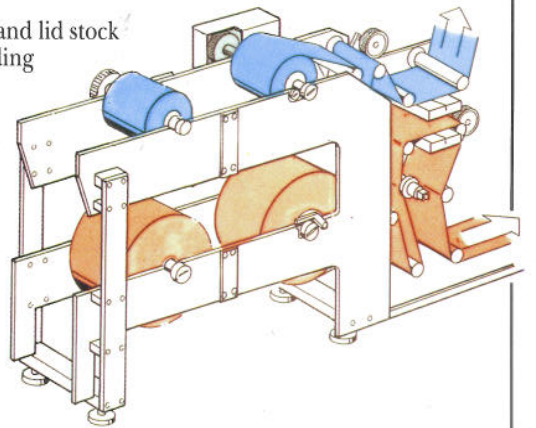


**Reel loading of base and lid web
possible in four versions (options):**

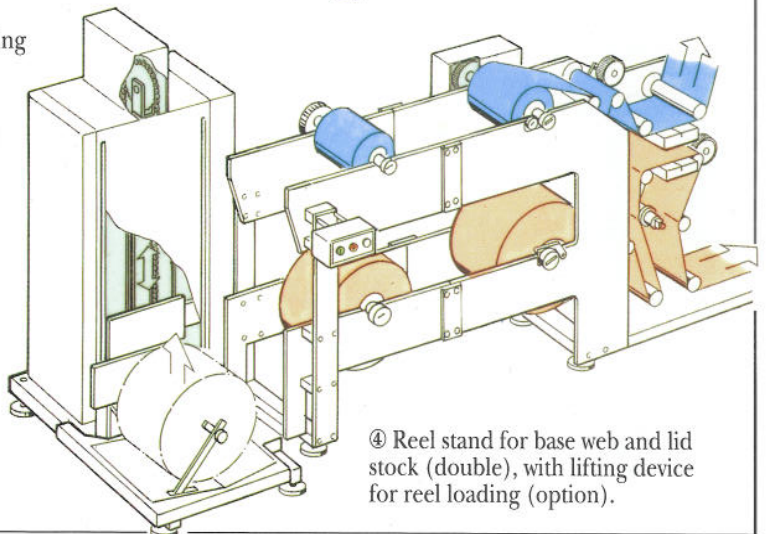
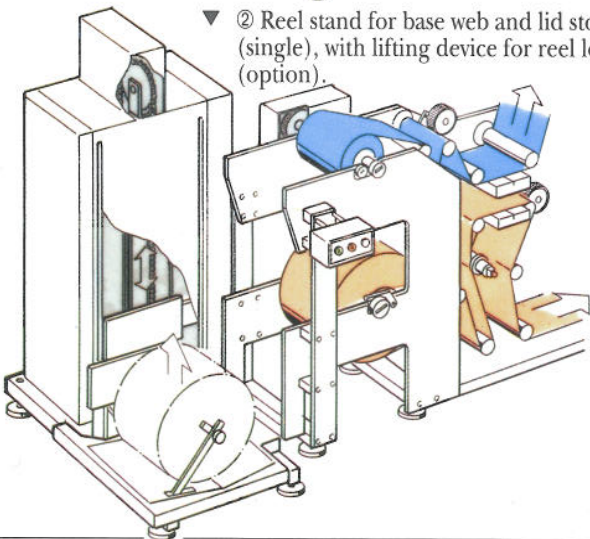
① Reel stand for base web
and lid stock (single),
manual reel loading.



③ Reel stand for base web
and lid stock (double),
manual reel loading
(option)▼

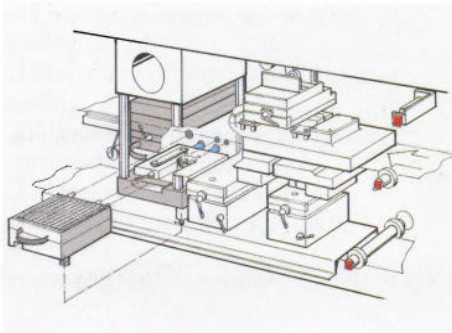


▼ ② Reel stand for base web
and lid stock (single),
with lifting device for reel loading
(option).



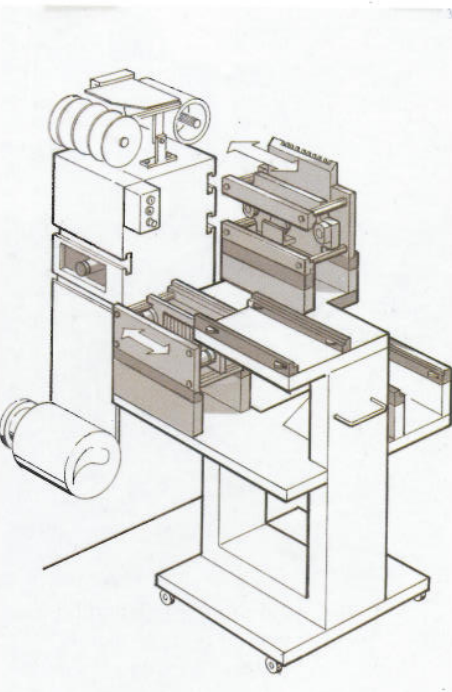
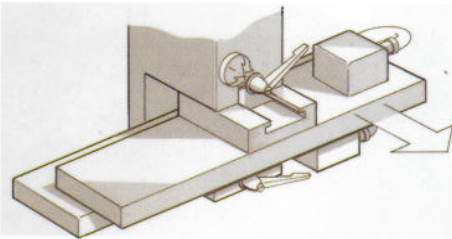
④ Reel stand for base web
and lid stock (double),
with lifting device
for reel loading (option).

Fast reproducible size changeover via operator-guided size change (BFU) and operator aids.



▲ Easy deep-draw tool changing

▼ Changing the heating plate



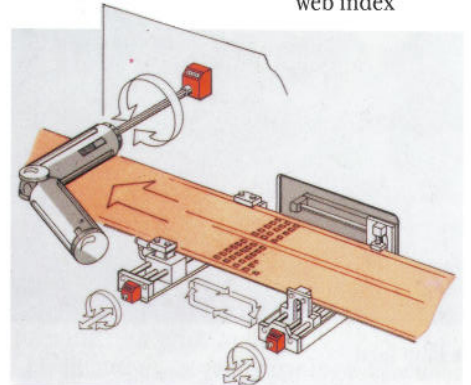
Thermoform section:

- Bosch functional dependability, high degree of efficiency, webs are fully formed immediately after start-up.
- Complete size changeover from the operative's side:
 - Changeable gears for forming (double and quadruple versions).
 - Sealing and indexing roller (maximum of 3 switching stages, others are exchangeable).
 - Main drive regulatable from the operative's side.
 - Short changeover times due to simple changing by means of fast clamping devices at the heating, forming station, sealing station, indexing roller and deflection rollers.
 - The cutting die and perforation tools are clamped pneumatically.
 - Indirect cooling of the forming and sealing tools; no purging of the cooling water necessary when a tool is changed.
 - Spanner size 13, allen key sizes 8 and 5.
 - Change of cutting die, perforation tool by means of tool change trolley (optional).
 - Temperature setting via the control panel.
 - Index setting via digital display.

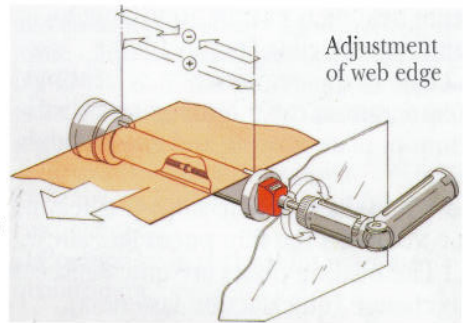
Transfer:

- Centrally adjustable package guidance (package width).
- Only five changover positions (size change parts).

▼ Adjustment of base web index

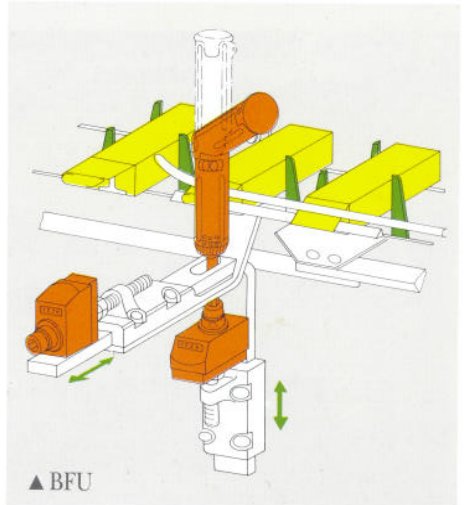


Adjustment of web edge



Cartoning section:

- Changeover technique optional.
 - Operator-guided (standard) size changeover (BFU).
 - Computerized changeover, motorized (RFU-M).



▲ BFU

◀ Mounting trolley for changing cutting dies and perforation tools

Packaging material conveyance/indexing

□ Controlled film unwind □ Film index without slippage or canting by means of pairs of indexing grippers which are fixed on reverse running. The indexing gripper is adjustable via a digital head, after deflection of the web through 180° the phased movement goes over to a non-jerking, continuous movement.



▲ Film feed

Film heating is exactly adjustable to, and reproducible for any film:

□ Due to the combination of heating temperature, exact temperature distribution, plate spacing and run-through time.
□ When the machine stops the heating plates lift off the film pneumatically.
□ The heating plates are quick and easy to change (quick action fasteners).
□ Non-tensioned suspension of the heating plates.

▼ Forming zone TLT (guard covers open)

Thermoforming via cam –

Mechanically generated closing pressure. Forming by means of compressed air and if required possibly by means of plug assist.

□ Constant distribution of wall thickness. □ Best pack quality.
□ Spare space after the forming station, e.g. for a hole puncher.
□ When starting up with PP, the film is shaped immediately from the very first cycle.

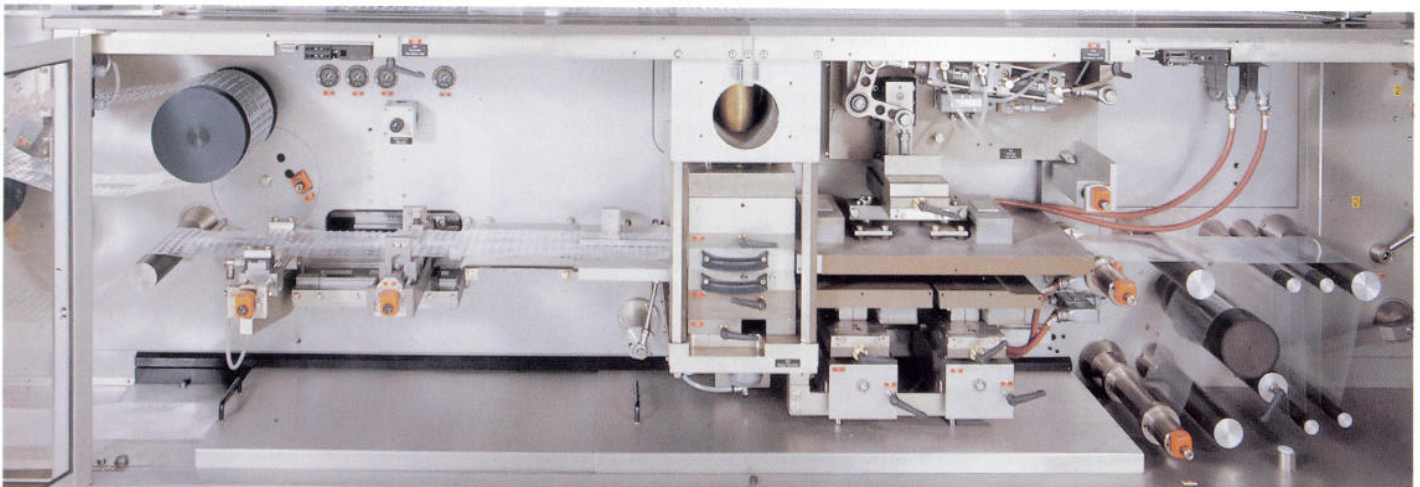
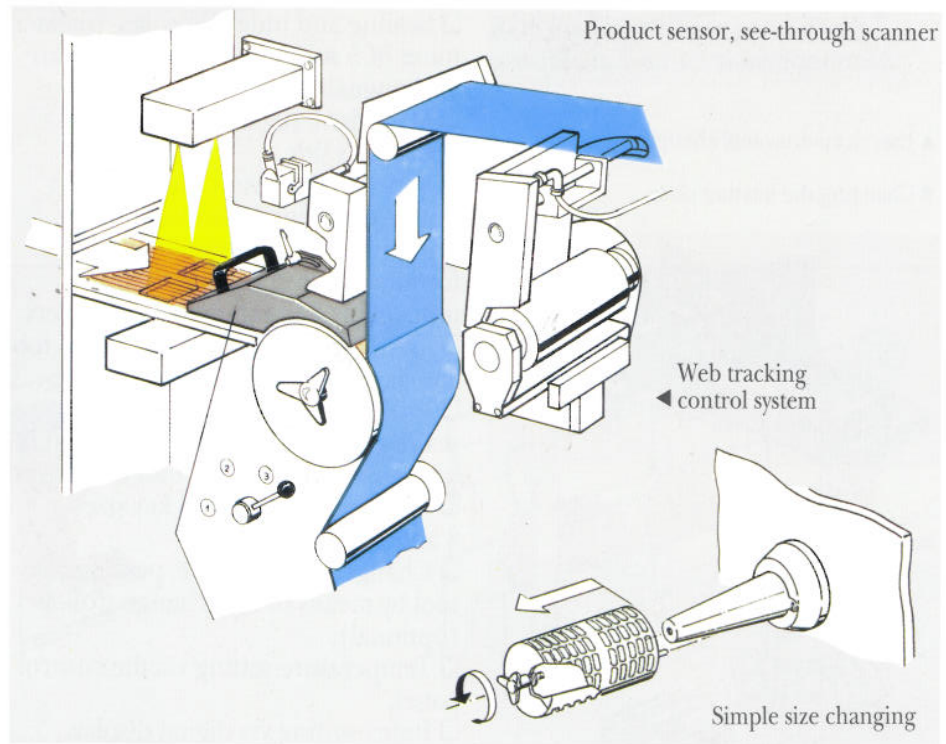
Lid stock feed and sealing:

For the sake of easier operation the lid stock reel has deliberately been placed at the beginning of the machine on the common reel stand together with the base web. The lid stock feed has web tracking control and is guided precisely relatively to the base web and sealed onto the filled pack chain. The blister train remains stable in shape.

Coding, perforation, die cutting:

After the sealing station the pack chain is conveyed onward positively, in phase, and then coded in an embossing station. Prior to the perforation station the cavities are checked as to their correct position. Automatic control of the perforation transversely to the direction of run. The blister train reaches the die-cutting station securely conducted by guidance rollers. The die-cut packages are removed from the cutting die station by means of suction devices and fed positively to the cartoning section.

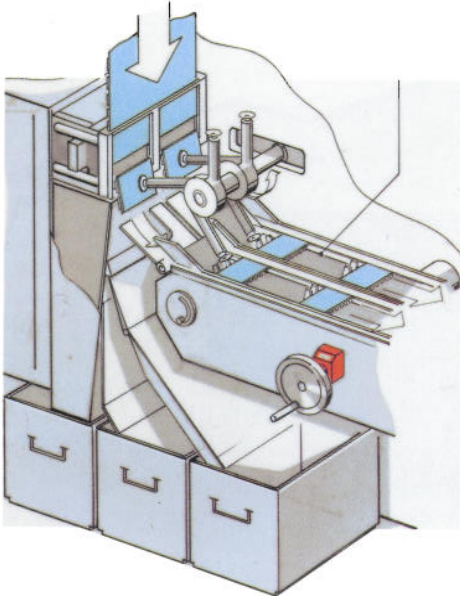
Package transfer by means of suction devices into the UTK transfer



Transfer to the cartoner:

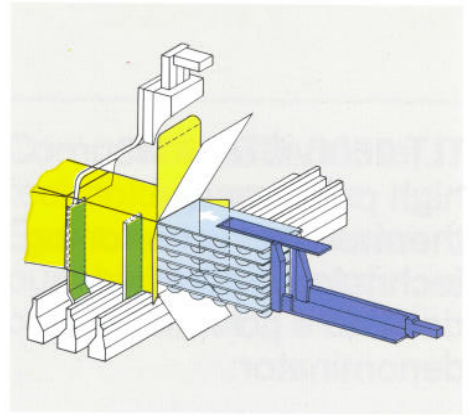
Two-track, positive conveyance of the thermoformed packages from the cutting die to the cartoner.

- ☐ Formation of package stack by way of an upward supported thrust action.
- ☐ Two top-up stacks.
- ☐ Number of thermoformed packages per stack preselectable.
- ☐ No change gear, electric shaft.

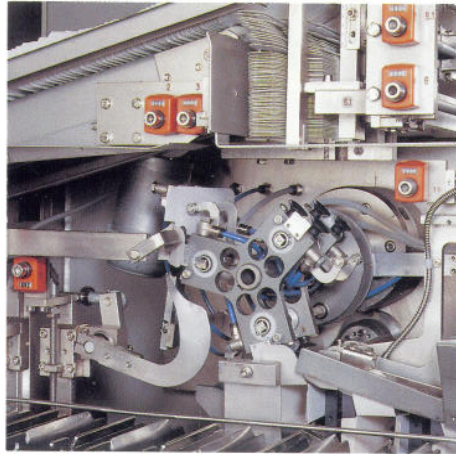


High performance folding carton draw-off system:

A constant application pressure for folding carton pickup is achieved by means of level control in the pickup magazine. The folding cartons are taken off by means of a rotor using vacuum suction, set up and inserted into the folding carton chain. In the process they are prebroken in order to achieve the rectangular form.



▲ Pre-insertion for thermoformed packages, size-independent insertion plungers



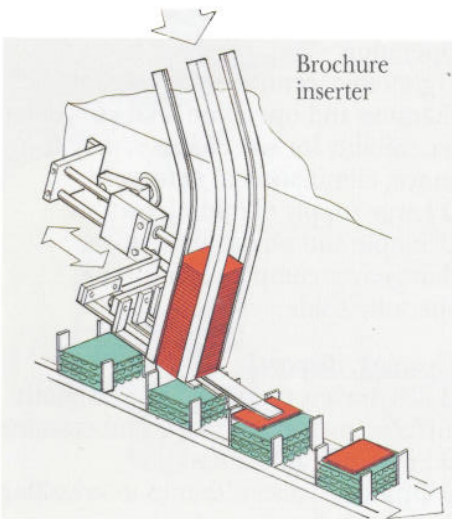
▲ Folding carton feed, pickup magazine and rotor

Product loading:

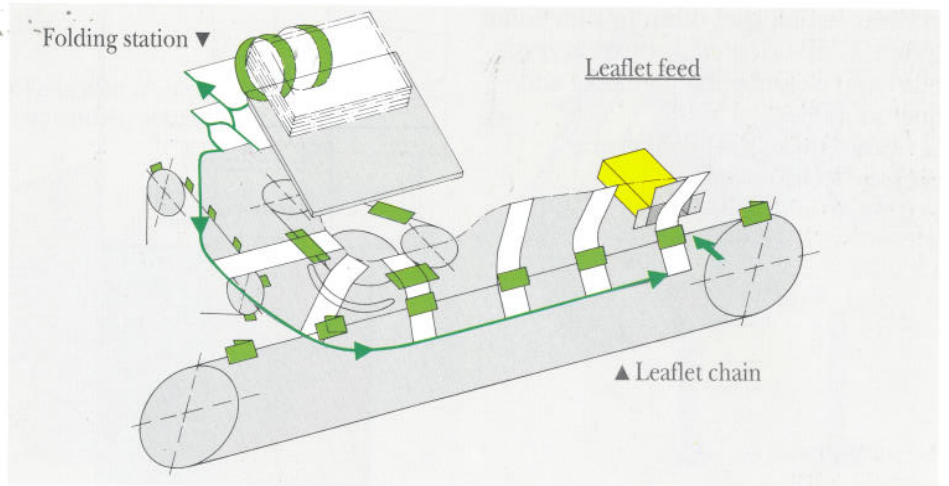
Product loading is effected continuously and gently by means of infeed pushers (size-independent infeed pushers).

The folding carton chain is centrally adjustable via a digital head.

The folding carton chains offer the maximum possible quality standard for precision and durability. All of the stations in the closing zone such as side flap folding, coding (printing), inspection, and closing are designed for simple changeover and the installation of BFU or RFU-M systems. Sufficient space is available for the retrofitting of other stations in the closing zone.



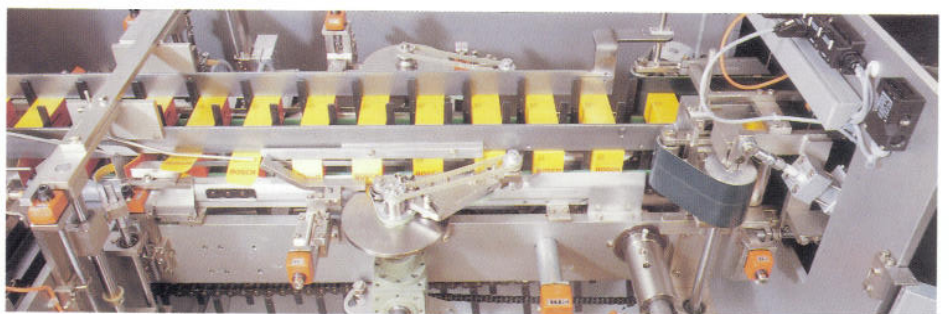
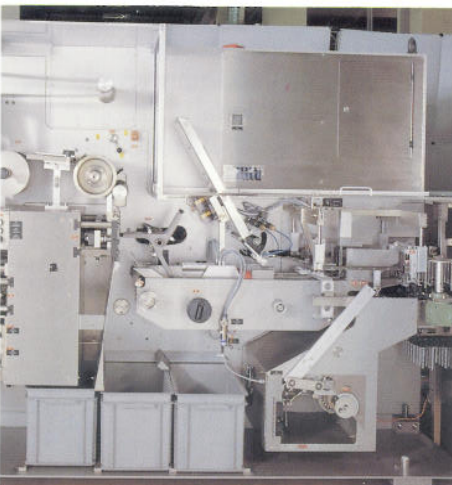
Brochure inserter



Folding station ▼

Leaflet feed

▲ Leaflet chain



▲ Closing zone CTK

▲ The stations

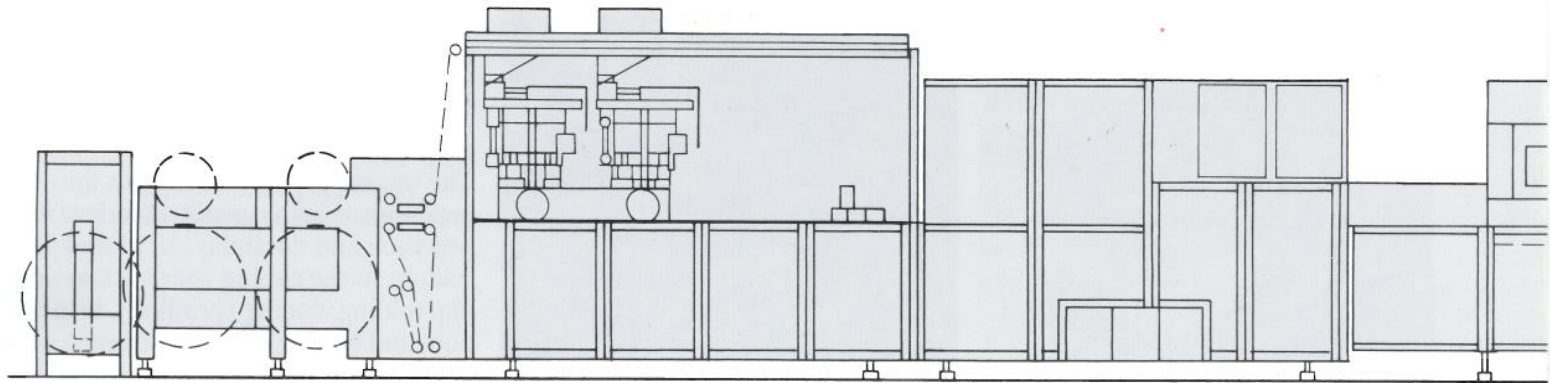
◀ Package transfer



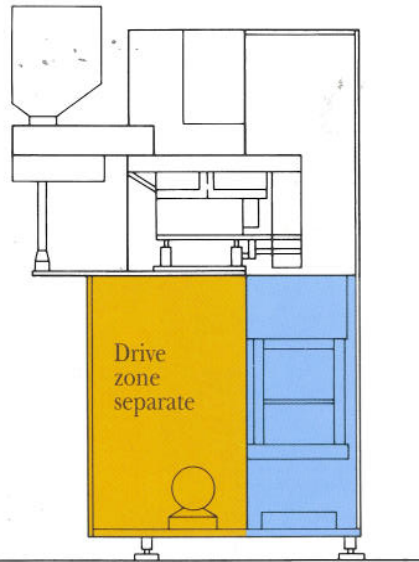
TLT 2600/CTK 3040:
 high performance
 thermoforming cartoning
 technology brought
 down to a common
 denominator:

**Productivity lowers
 costs!**

**Electrical shaft between
 the thermoforming and
 cartoning sections renders
 possible synchronization
 of the machine sections
 in all output ranges without
 difficulty.**



- ❑ Clear layout, split down by functional group, GMP-oriented, for easy accessibility and cleaning maintenance and operation.
- ❑ Good view of the product and package run-through.



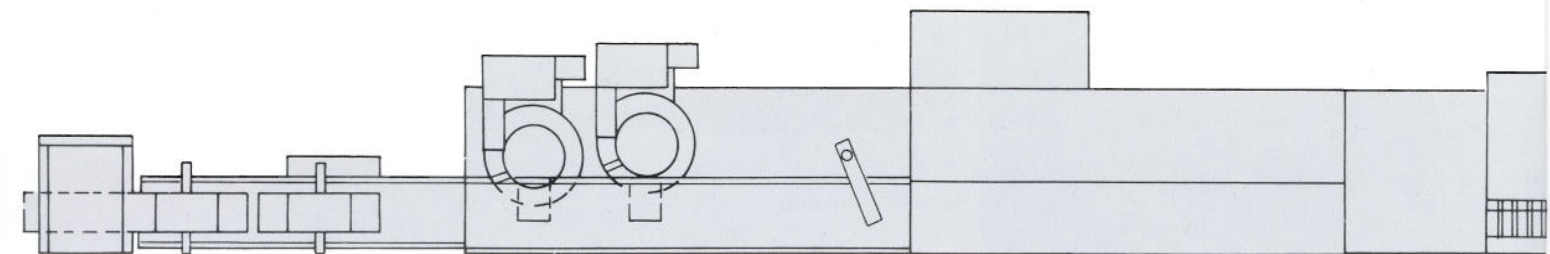
▲ Functionally subdivided zone –
 drive and production

Operation

- Ergonomic, central workplace for charging and operation. Fast convenient accessibility for size changes, maintenance, elimination of defects.
- ❑ Large supply of folding cartons.
 - ❑ Simple and physically easy size changeover completely from the operative's side.

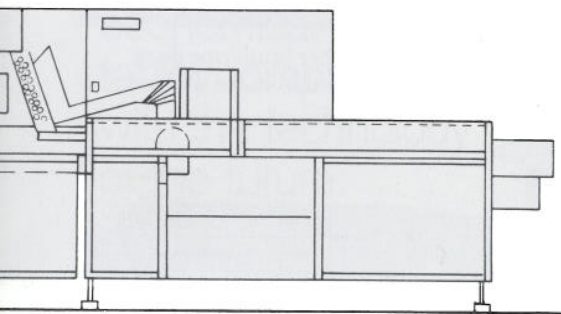
Cleaning, disposal

- ❑ Residueless cleaning due to smooth surfaces, no hidden nooks and crannies.
- ❑ Enclosed cable ducts.
- ❑ Optimized access thanks to swivelling doors with aluminum frames.
- ❑ Free product drop path in the pack transfer zone.
- ❑ Partially filled and empty packs can be separated (optional).
- ❑ Reprocessing of bulk merchandise.



Operation, cleaning.

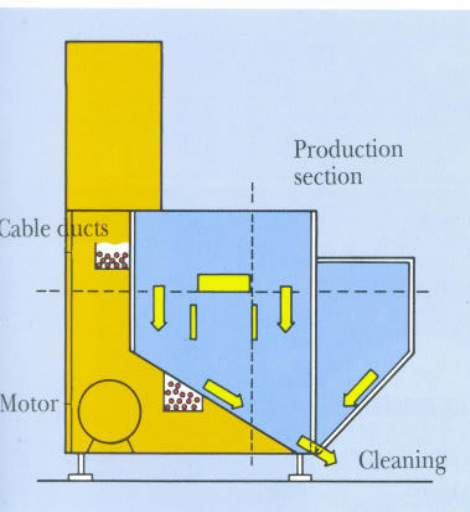
Program memory for 16 formats.



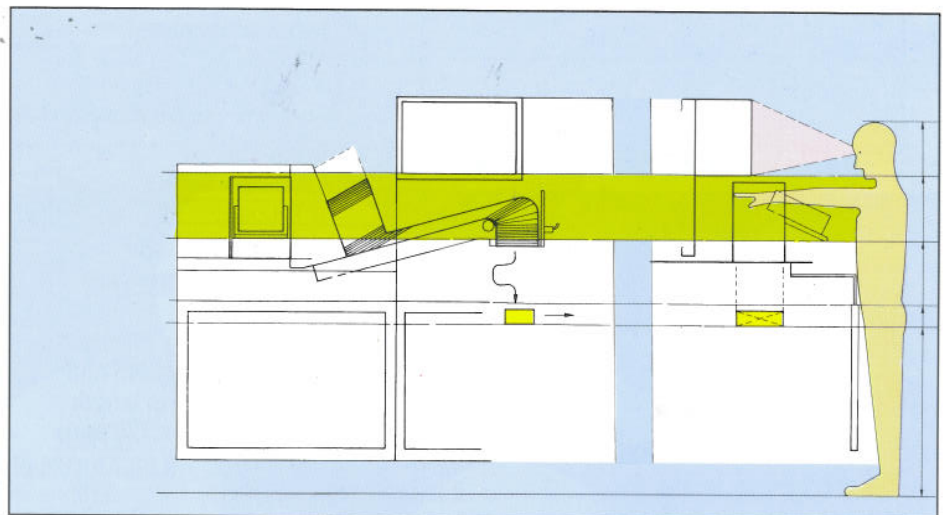
Operation, maintenance:

- Central control panel with text display.
- Clearly structured and easy machine operating and monitoring due to message and fault display with graphic support.
- Convenient display and input of machine parameters such as temperatures, speed, pressures etc.
- Memory for 16 format data set.
- Good view of the product and package conveyance.

- Qualification package, multi-stage structure.
- Size changeover, blister count: via screen input.
- Sensors for pressure, temperature.
- The respective measured value processing, with limit value monitoring.
- Computer interfaces for all production parameters and target values.
- Production parameters viewable on screen.
- Process monitoring, fault elimination via text display.
- Quality assurance, validation, calibration, certification.

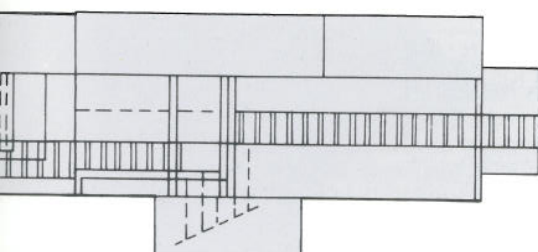


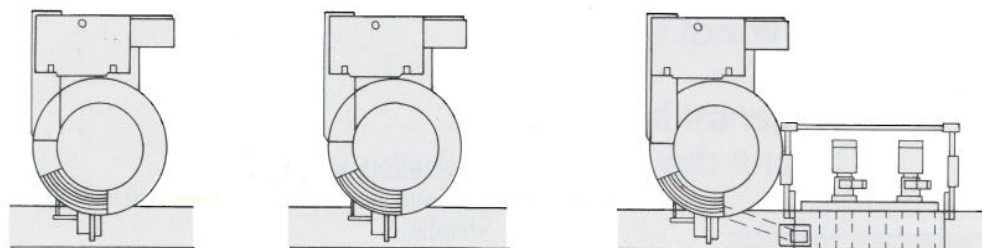
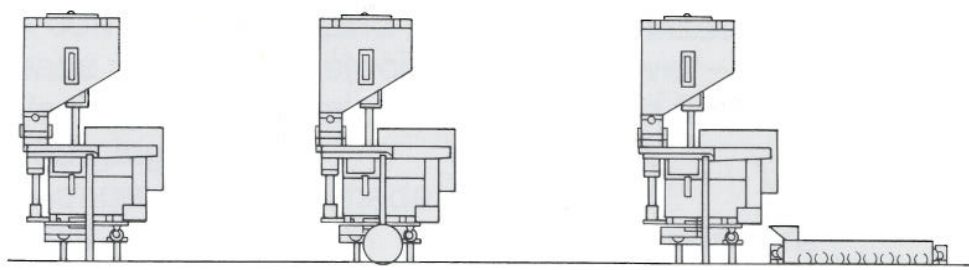
▲ Functionally separated machine sections in the cartoning section



- Fast and easy malfunction elimination due to swivelling doors and ready access.
- Low noise level due to full machine encapsulation.
- Size changeover completely from the tending side. Implementation of electronic driving and gearing technology.

- Control technology with sensory engineering fault-monitored.
- Sizepart-free product scanner (option), adaptable to product-specific characteristics.
- Dat interface for connection to network or overriding system such as Production Data Acquisition Host etc. (option).

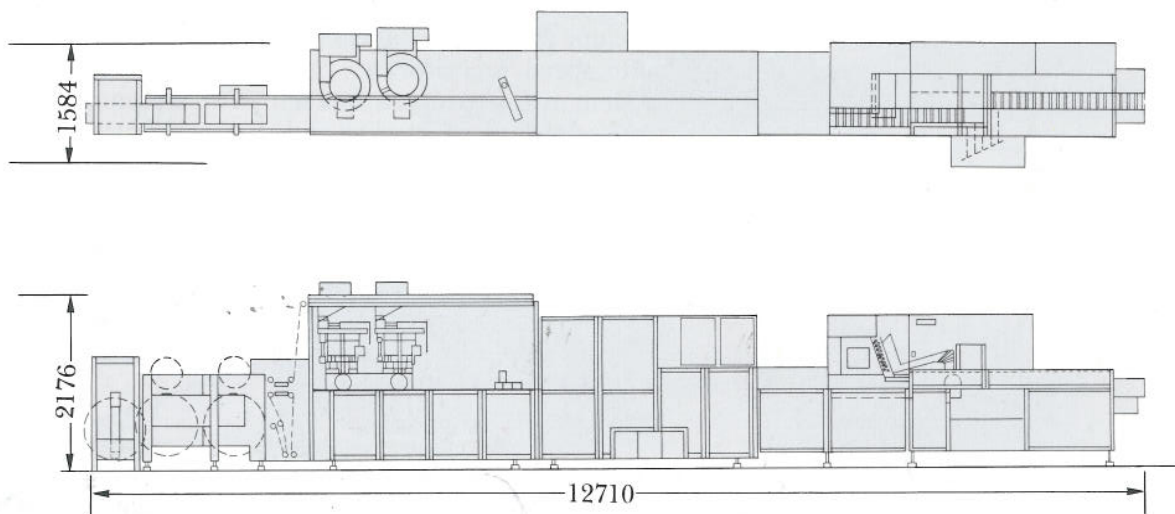




Vibratory feeder EMSE for pharmaceutical implementation, with feed chute

Vibratory feeder EMSE for pharmaceutical implementation, with feed chute and loading wheel

Multiple hopper brush-type flood feeder, charged from the vibratory feeder EMSE



Comprehensive standard version:

- PLC with plaintext display.
 - Electronic cam box, signal and actuators plugged with check-LED.
 - Valves to ISO standard.
 - Oilfree vacuum and compressed air operation.
 - Sizepart-free infeed pushers.
 - High-grade guard housing.
 - Tooled for PP film processing.
- Only change of sizepart set.

Thermofforming machine TLT 2600

- | | |
|---------------------|--|
| PP-film width | max.260 mm |
| Usable web width | max.245 mm (strip length max.120 mm) |
| Strip configuration | |
| 2-lane, across | |
| Indexing | max.212 mm |
| Depth of draw | max. 10 mm |
| Film speed | max. 13 m/ min |
| Cutting die | max. 300 cycle/minute (or 600 blisters/minute) |
| .Forming station | max.110 forming cycles/minute |

Package transfer

- | | |
|--------|------------------------------|
| 2-lane | max.300 blisters/minute each |
|--------|------------------------------|

Cartoning machine CTK 3040

- | | |
|-----------------------------|------------------------|
| Output: | max.300 cartons/minute |
| Carton size range A x B x H | max.70 x 85 x 145 mm |

CTK 3060

- | | |
|-----------------------------|------------------------|
| Output: | max.240 cartons/minute |
| Carton size range A x B x H | max.120 x 85 x145mm |



BOSCH

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