

Packaging Machinery



Sweet World 



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Sweet in Flow Pack!

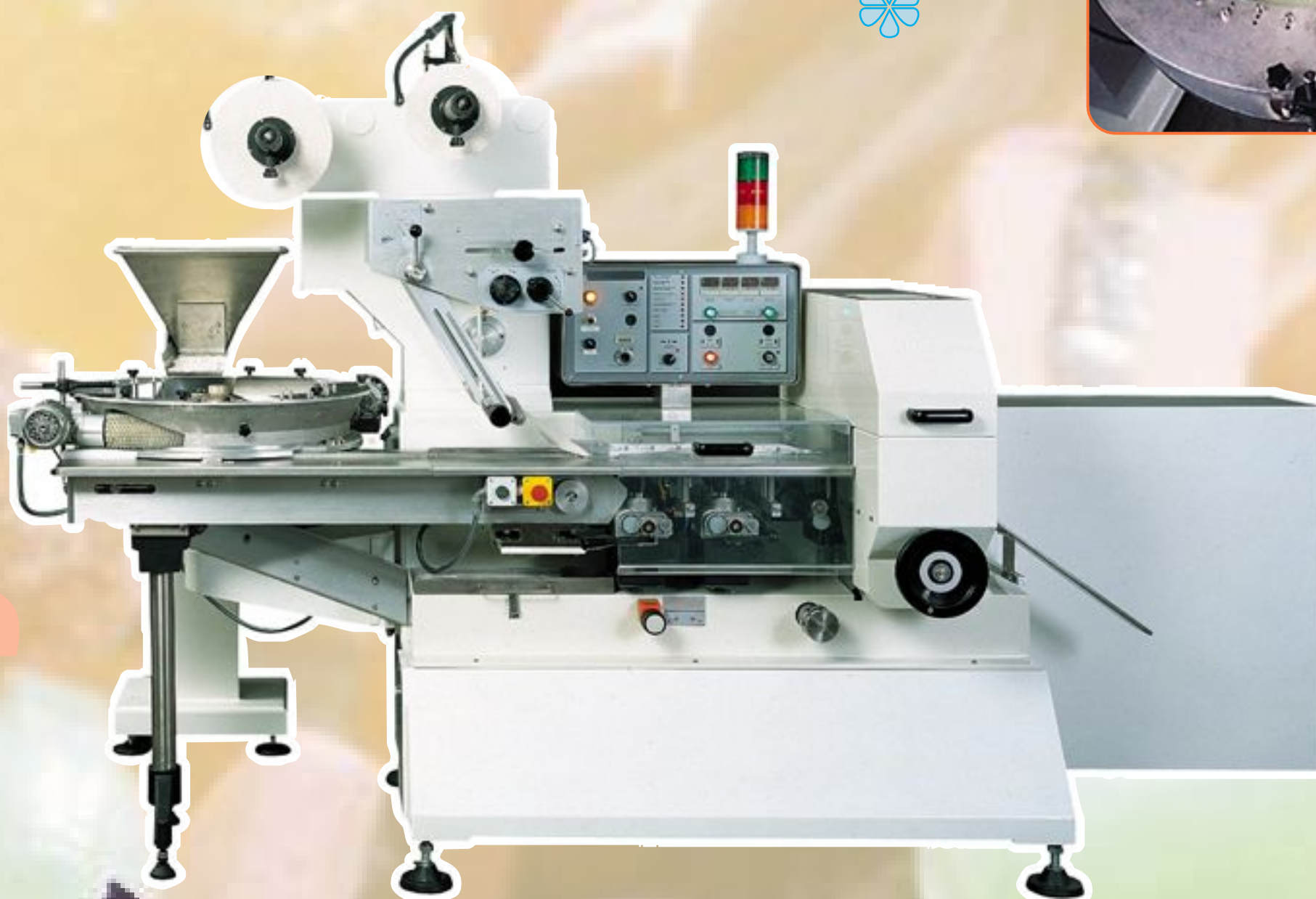
The advantages of applying the Flow Pack system to the candy, chewing gum, bubble gum and toffee markets are now well known and highly appreciated around the world. Because PFM packs are airtight, aromas or smells can't escape and the product won't dry out. Flow Pack PFM means:

- Extended Shelf Life of the product without changing its taste or aroma.
- Larger printing surface.
- Easy-to-open pack.
- Ultramodern technology: TREE EXISTING PATENTS and enhanced productivity of PFM machines.

PFM: a complete, specialised and highly reliable range of machines offering the answers to all flow pack packaging problems.

Sweet World

Candy SUPER

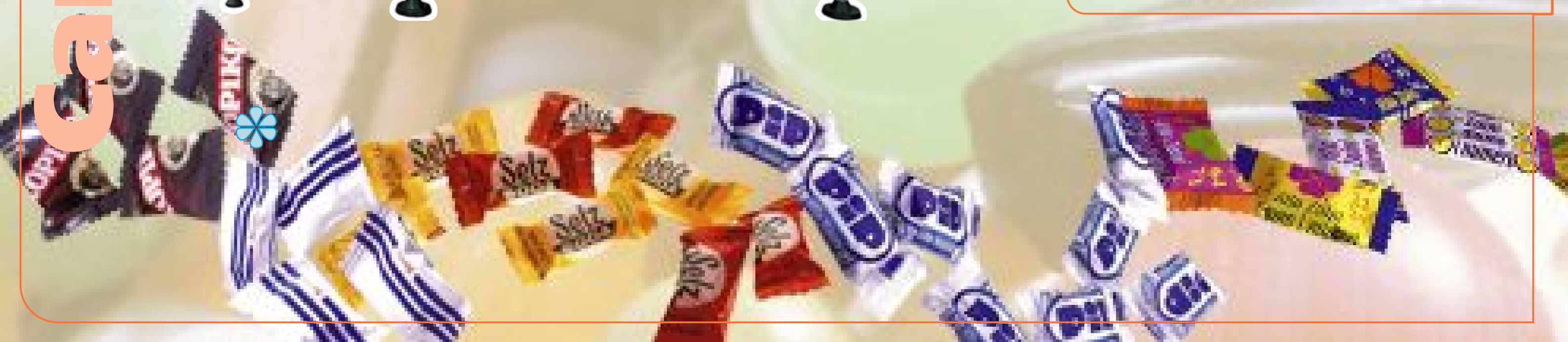


Detail of the hard candy Loading Disk.

Candy SUPER:

Horizontal flow pack packaging machine to make packs with three seals starting from a flat reel of hot or cold seal wrapping material.

- Speed: up to 1,100 packs a minute.
- Vibration-free, super-compact and very easy to clean cantilevered construction.
- Electronic operation with brushless motors.
- Automatic reel change (optional).
- Lengthways sealing unit consisting of three pairs of separate and tiltable wheels.
- Crossways sealing unit consisting of 4 to 6 sealing crimpers depending on operating requirements.
- Automatic print registration system.



Blizzard SUPER High Speed 2000



Detail of the Cutter, (PFM Patent).

Blizzard SUPER High Speed 2000:

Flow Pack High Speed packaging machine to make packs with three seals starting from a flat reel of hot or cold seal wrapping material.

- Speed: up to 1,800/2,000 candies a minute, up to 1,600 pieces of bubble gum a minute.
- Vibration-free, super-compact and very easy to clean cantilevered construction.
- Electronic operation driven by 4 brushless motors with a direct electronic axis: maximum operating precision, easy programming and on-line diagnostics with remote connection.
- Crossways sealing unit consisting of 2-4-6 crimpers per shaft made from a single block of material worked in two shells. Maximum mechanical machining tolerance and highest sealing resistance.
- Electronic print registration system for each package.
- Loading belt with side pusher guiding system.
- Automatic reel splicing system (PFM patent) up to a speed of 110 linear metres a minute.

The system allows sealing to continue with the reels stopped while the machine does not decrease the packaging speed. The system consists of:

1. Double reel holding shaft with brushless motorised expansion shafts.
2. Sealing unit that trims off excess material easily and precisely.
3. Compensating equalizer controlled electronically to compensate for the time the film is stopped. Only one product is rejected without decreasing line productivity.





ALF + Mistral



Example of products.

ALF + Mistral :

The Mistral is a horizontal flow-pack wrapping machine which produces at high speed hermetically closed seals from a flat reel of heat sensitive wrapping material.

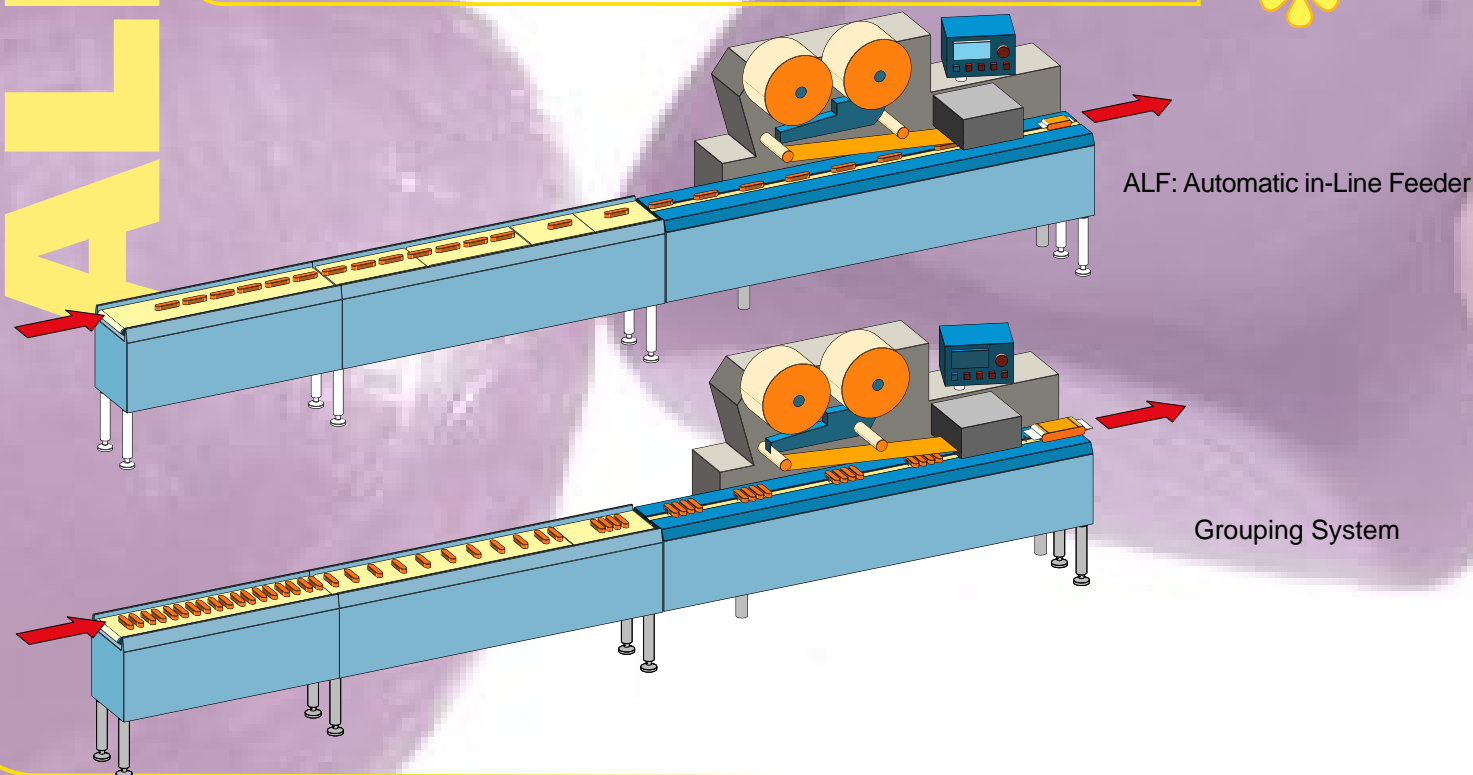
High speed wrapping: thanks to the long dwell, continuous flow, transverse sealing system, the Mistral reaches packaging speed of up to 140 packs per minute with the Long Dwell version (pat.PFM) and 400 packs per minute with the Long Dwell HS version.

Ease of cleaning: the Mistral has a cantilever type construction. This means the various mechanical and electronic parts are situated at the rear of the machine in separate and protected compartments.

Superior quality of parts and meticulous mechanical engineering: the Mistral, with its ease of operation, minimum maintenance and quality of component parts /raw materials used, are the factors which guarantee, in principle, a limitless lifespan.

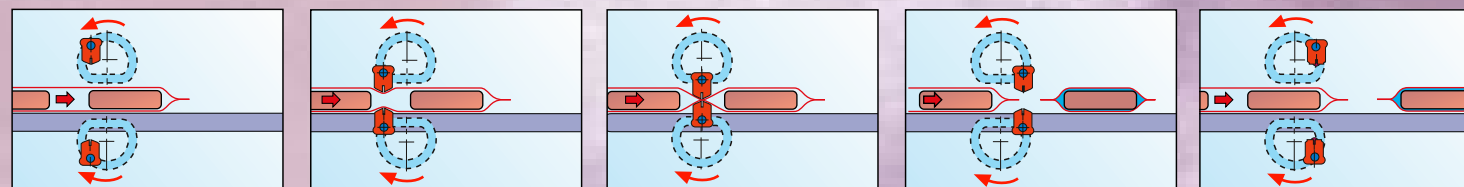
Mistral can be supplied as follows:

1. ALF: Automatic in-Line Feeder: this system is used for high speed in-line feeding of regular or irregular shaped product and is particularly useful for delicate product which could otherwise suffer damage from scuffing due to contact with other product.
2. Grouping System: this system groups product, in the line and synchronises it with the wrapping material, preventing a shortfall in production. This is a high speed feeding system, suitable for delicate or irregular products.

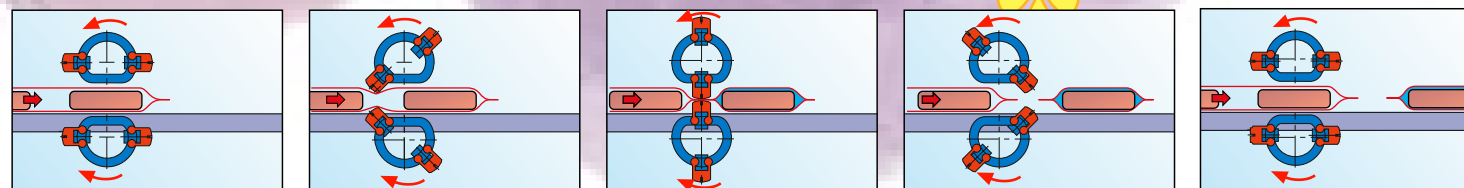


LONG DWELL

Temperature, Pressure and Time are the three main factors that, when optimized, using appropriate wrapping material, enable high integrity/hermetic seals to be achieved. The PFM Long Dwell and Long dwell HS sealing systems with equal temperature and pressure allow for a longer sealing time than the traditional rotary system. By taking advantage of the Time/Pressure element, Hermetic Sealing and high speed wrapping is, therefore, possible.



The Long Dwell sealing system (patented PFM): one jaw per jaw support, superior flexibility, up to 140 cycles/min.



The Long Dwell HS (High Speed) sealing system: 2 or 4 jaws for a maximum speed of 400 cycles/min.



Speed:

Up to 150 mechanical cycles a minute thanks to the Long Dwell sealing system (PFM patent), excellent overall machine dimensions, perfect temperature control, precise film feed system and precise, electronic unwind that operates with maximum efficiency.

Servo version:

General machine operations driven by brushless motors with a direct electronic axis. User-friendly man-machine interface with intuitive programming system. Touch-screen colour control panel. On-line connection available for remote control.

Structure:

Cantilevered construction to make cleaning and sanitizing operations easier. The mechanical and electronic parts are housed in separate and protected areas. The front of the machine is free from obstruction and the sealing units are easy to access.

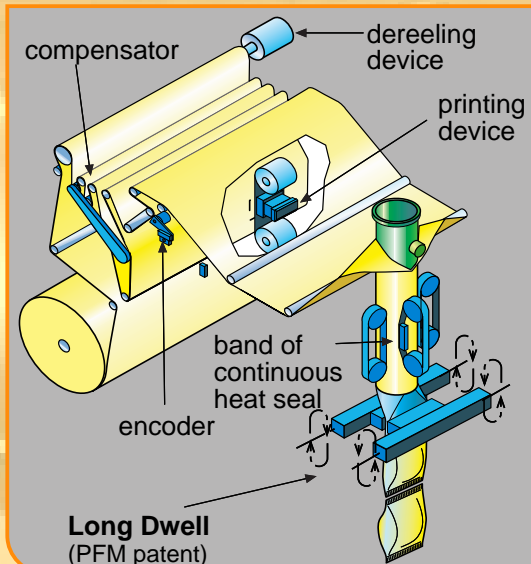
Feeding action:

The material is pulled continuously by side belts with automatic centering, a central presser and electronic position control.

The management software constantly checks the position of the material with respect to the sealing unit, thus ensuring maximum precision of the pack length and print position.



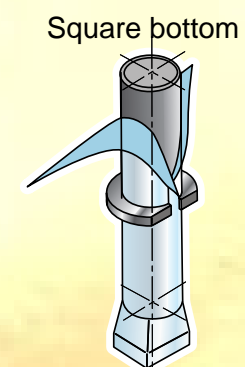
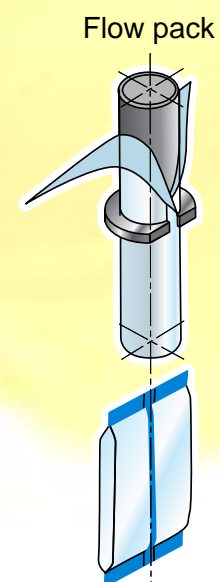
Examples of Hard Sweets and Bubble Gum packaging.



Long Dwell sealing system: Temperature, Pressure and Time are the three principle factors that when optimized, using appropriate wrapping material, enables high Integrity/Hermetic sealing to be achieved. The PFM Long Dwell sealing systems with equal temperature and pressure allow for a longer sealing time than the traditional rotary system. By taking advantage of the Time / Pressure element, Hermetic Sealing and high speed wrapping is, therefore, possible.



Up: sistema di caricamento automatico ad alveoli.



Forming tubes:

The perfect styling of the packs is the end result of detailed studies of the shape of the forming tube using dedicated software to meet specific requirements.

Flow-pack or square bottom packs with handle or off-centre sealing.

Examples of the "Square Bottom" packaging.



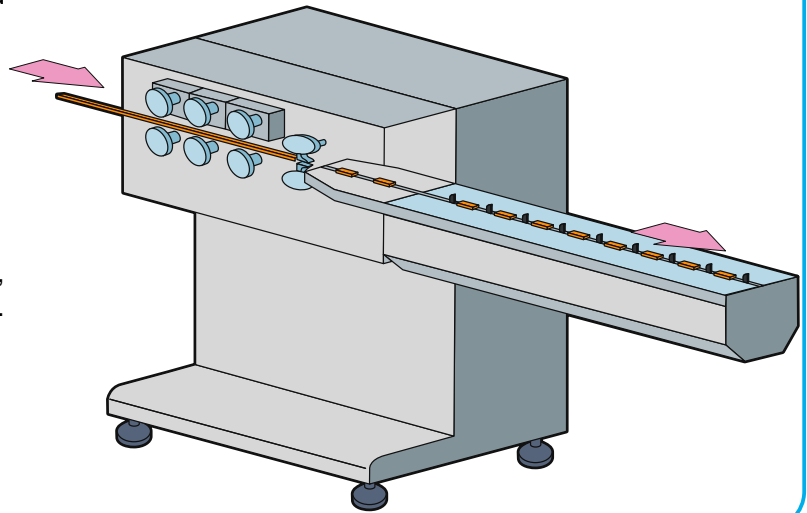
Stiff Pack

Loading and Cutting Systems

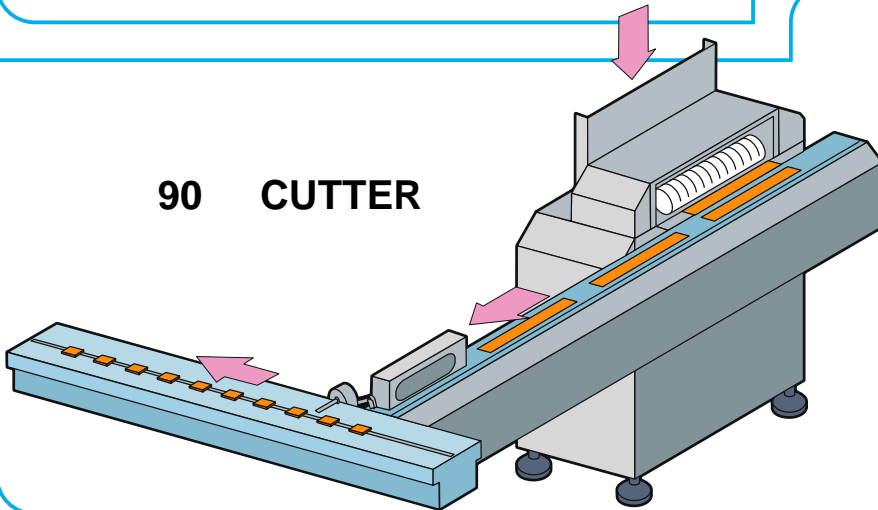
To cut bubble gum or toffee cord from the extrusion and pre-rolling line into uniform pieces.

- Speed: up to 1,600 cuts a minute.
- Three rollers with second and third variable speed roller: perfect product cord pulling and excellent elongation compensation.
- Cantilevered construction: very easy to clean in every visible or hidden point.
- Cutting unit with balanced titanium levers with only two (upper and lower) cutting blades that perform an elliptical movement (PFM patent): clean and attractive absolutely perpendicular cut, perfect weight, no production waste, easy to clean.
- Double side swivel to synchronise the product with the pitch of the loading belt.
- Internal lubrication circuit for moving parts.
- Brushless motor electronic operation: maximum operating control and perfect synchronism with the flow pack.

IN-LINE CUTTER



90° CUTTER



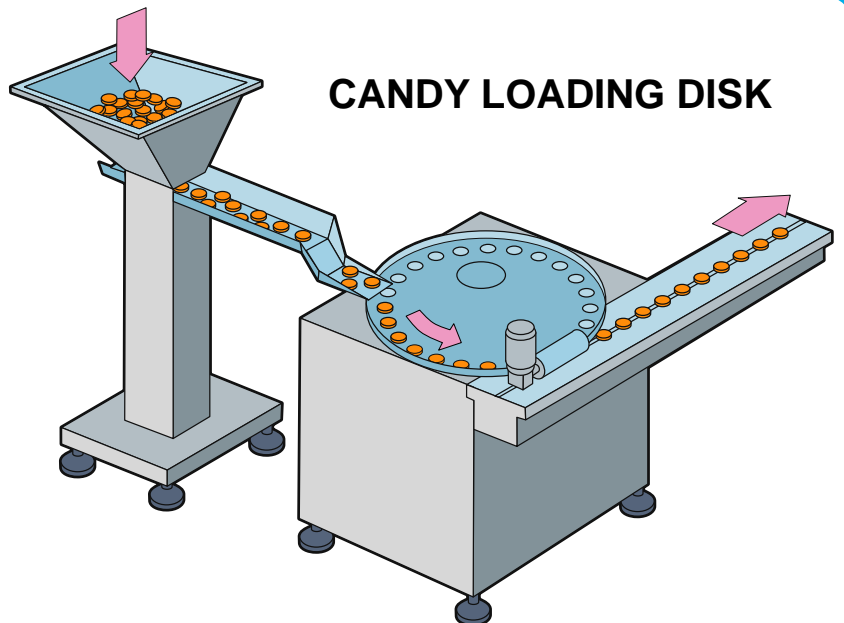
To pre-cut and load pieces of pre-dried chewing gum in homogeneous strips at 90° on the flow pack.

- Up to 80 movements a minute: from 1,000 to 1,500 portions a minute.
- Micrometric adjustment of the distance between the cutting rollers.
- Pushers with variable timing.
- Mechanical breaker with adjustable advance system.
- Adjustable storage unit for product loading.
- Constructed for perfect machine cleansing.

To load round, oval, rectangular and square hard candies automatically on the flow pack.

- Speed: up to 1,800 loading operations a minute.
- Disk braking system for perfect loading of the product on the flow pack belt.
- Electronic operation with brushless motors.
- Double plate with reverse movement.
- Heated plate.
- Easy to replace disk for rapid size change.

CANDY LOADING DISK



Multihead Weighers



Example of multihead weigher.

Sanitary: All the models have springless hoppers with large radius corners. The radial linear feeder drives are totally enclosed with no exposed wiring.

Parts that come in contact with the product can be removed quickly and easily, without any tools. All models meet IP65 requirements.

Simple: The large, high-resolution electro-luminescent display (640 X 400 dpi) is easy to read, even at an angle.

Easy to understand graphics and help messages can be used by inexperienced operators.

Extensive self-diagnosis functions are provided as messages on the screen, so that faults can be quickly repaired.

The interchangeable, intelligent and modular weighing heads eliminate the need for a main control box.

Just change a unit to get right back on-line.

Fast service and maintenance eliminate production downtime.

Quiet: Springless buckets and the counterphase open/closed stepper motor ensure noise-free mechanical operation. And the standard, fully-enclosed linear vibrators eliminate virtually all noise.

For noisy products (such as nuts and hard candies), a special stainless steel "sandwich" construction makes the Dataweigh Series the benchmark for the industry.

High Performance: Thanks to the 32-bit super control console weighing is fast and extremely accurate.

It automatically calculates all operating parameters quickly and precisely, and even for the most difficult to weigh products.

Complete operator prompts and dialogs are selected using the touch screen panel.

The sealed stepper motor actuator unit offers absolute repeatability under conditions.

START TIME 11:31
COUNT WEIGHT

1	20.0g
2	20.0g
3	20.0g
4	20.0g
5	20.0g
6	20.0g
7	20.1g
8	20.0g
9	20.0g
10	20.0g
11	20.2g
12	20.0g
13	20.0g
14	20.1g
15	20.0g
16	20.0g
17	20.0g
18	20.3g
19	20.0g
20	20.0g
21	20.0g
22	20.1g
23	20.0g
24	20.1g
25	20.0g
26	20.0g
27	20.1g
28	20.2g
29	20.0g
30	20.1g
31	20.1g
32	20.2g
33	20.0g
34	20.0g
35	20.0g

SAMPLE INTERVAL HISTO.
PROGRAM No. = 1

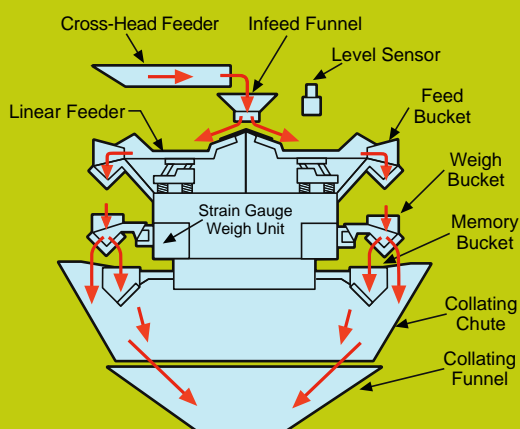
: FROZEN VEGETABLES
DATE 06/23/99
START - STOP 11:31 - 11:32
TARGET WT 20.0g
SAMPLE No 1000PC
T - WT 2004.5g
AVERAGE 20.0g
STD. DEV 0.0g
MAX WEIGHT 20.3g
MIN WEIGHT 20.0g
RANGE 0.3g

+	3.5	0
+	3.0	0
+	2.5	0
+	2.0	0
+	1.5	0
+	1.0	0
+	0.5	0
+	0.0	100
+	0.5	0
+	1.0	0
+	1.5	0
+	2.0	0

* = 11

The RCU-500 printer provides a hard copy of data.

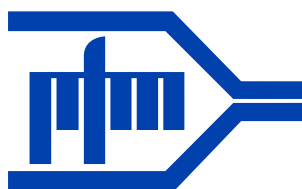
The printout can include statistics as well as individual or total weights for production control.



Technical Data:

	Candy	Blizzard High Speed	PV 260 Long Dwell
Products:	Round, square and oval Hard Sweets, Chewing Gum, Bubble Gum, Toffee.	Round, square and oval Hard Sweets, Chewing Gum, Bubble Gum, Toffee.	Granular Products, Sweets
Speed cycles/min:	Up to 1.100	Hard Sweets: 1.800/2.000 Chewign Gum: 1.000/1.200 Bubble Gum: 1.500/1.600 Toffee: S.T.	Up to 150
Type of Infeed:	Loading Disk, 90 Cutter, In-Line Cutter.	Loading Disk, 90 Cutter, In-Line Cutter.	Linear Weighers, Multihead Weighers, Volumetric Dosing Systems, Hived Calculation Systems
Wrapping Material:	Laminated or bonded polypropylene and polyethylene or High Speed cold-sealable materials	Laminated or bonded polypropylene and polyethylene or High Speed cold-sealable materials	Laminated or bonded polypropylene
Structure:	Cantilevered Ral + AISI 304	Cantilevered Ral + AISI 304	Ral + AISI 304
Crimper Width:	mm 250	mm 250	mm 520
Reel Diameter:	mm 350	mm 350	mm 350
Crimpers per Shaft:	2-4-6	2-4-6	1 Long Dwell, 1-2 Rotary)
Weight:	Kg 950	Kg 1.500	Kg 1.110
Power Supply:	380 V 3phase + N + E	380 V 3phase + N + E	380 V 3phase + N + E
Power Consumption:	Kw 6.3	Kw 7	Kw 4

Note: The technical data related to the wrapping speeds and the ones related to the dimensions of the products are calculated considering the variables separately. As a consequence, the maximum speeds are not reachable with the larger products being the specific wrapping speed determined in function of the dimensions of the specific product. Technical data must be confirmed by PFM.
PFM reserves the right to modify technical data without previous notice.



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