

# In-House Show

TOGUM



**BOSCH**  
Invented for life

## Come on ! We open the doors !

### Invitation

Dear Ladies and Gentlemen,

A positive order situation within the last months gives us the opportunity to have nearly all the machines of our portfolio together in our workshop.

It allows the unique possibility to present these lines just before delivery to the end users.

Therefore we would be much honored to invite you

**to our In House Show 2009  
on the 18th and/or 19th of March.**

As you may see on the attachment we will show a considerable number of machines.

Moreover once a day we plan a demonstration with product on a mixing extruder with continuous ingredients dosing and a test on a ball forming line.

We are conscious that it is a short time decision but as it is concerning lines which will be delivered to our customers our margin is unfortunately very small for such an event.

Nevertheless, we do hope you will take the opportunity to participate. We are assured that it will be worthwhile for you.

Looking forward to welcoming you  
Your Bosch Team.

### Agenda

#### March 18th & 19th :

- From 9.00 to 18.00 : open-doors in our Factory in Reichstett for your visit
- Every day at 11.00 : Product Demonstration in our Laboratory

### To be seen in our factory : the complete range of machines from Togum

In March, our factory will present you our 3 types of lines (detailed further) :

- One Rolling & Scoring Line for Middle East with a capacity of 2000 kg/hr of chewing-gum
- One Ball Forming Line for a renowned European company for toffee with chocolate filling
- One Cut & Wrap Line for 2-colors chewy candy for Indonesia

### Trials in our Laboratory

Practice is the best way to learn !

In addition to the machine from our factory, you'll have the possibility to attend some trials in our laboratory :

### Mixing Extrusion Demonstration

Our Laboratory is equipped with a **mixing-extruder WMF 0144** which can mix all ingredients together over 2 mixing screws:

- This is the right substitute to mixers for:
  - Automated and 24hr production lines
  - **Large scale production** over 800 kg/hr
  - Quality requirements
  - Recipe flexibility
  - Cost reduction of manual labour
  - Significant saving in time

### Trials on a Ball Forming Machine

Connected to our Extruder RopeX 1010, the **Ball Former WAK 0045** will show you how to make cylindrical products, even full, hollow or centre-filled.

- Accurate product dimension and constant filling rate
- no leakages : **tight sealing by a cutting device following the motion of the rope**
- All the motions of the machine are controlled by servo-motors.
- Optimization of the production cycle: roller speed, forming time, etc.
- Quick-change of cylinders by a cassette system



# 12" Chewing gum Rolling & Scoring Line



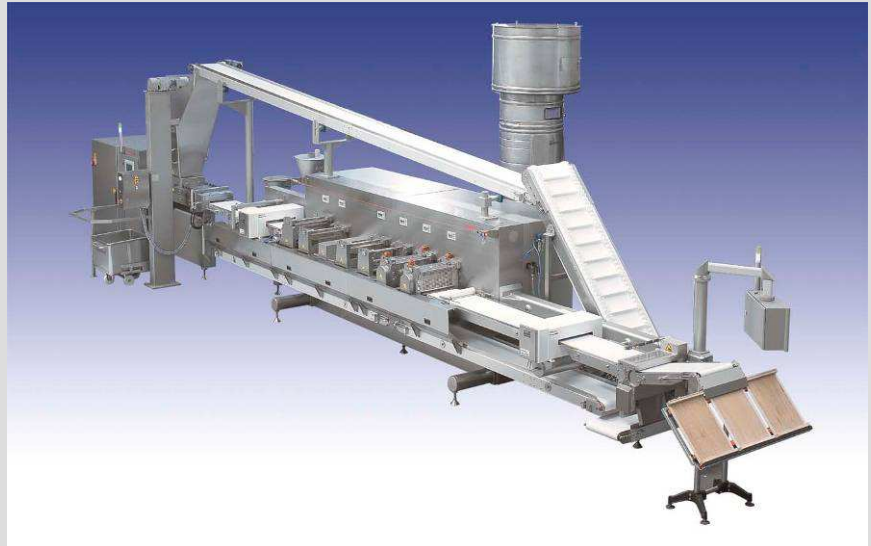
Already equipped with a Rolling & Scoring mill from Togum, this Middle-East customer wishes to double its chewing gum volume of sales. With the new design of its 12" R&S mill WWK 0401, Bosch shows the high quality of its equipment for gum products and consolidates its long-term partnership with this customer.

## The line consists in :

- One Skip Loader TO-HE 500
- One Pre-Extruder WPF 1200
- One Pre-cooling Tunnel WTC 4500
- One Forming Extruder RopeX 1030
- One Rolling & Scoring Mill WWK 0401

## Product Characteristics :

- Pellets and sticks of chewing gum
- Pellets : L 19 x W 11,5 x H 5,5 mm
- Sticks : L 71 x W 19 x H 1,7 mm
- 12" sheet : L 459 x W 334 mm



## Skip Loading and Pre-Extrusion



Automatic feeding of the pre-extruder WPF 1200 by stainless steel containers of 500 kg for :

- Time saving by working with **batch process**
- Less manual labor

## Line Performance :

### Sticks :

- 80 sheets/min
- **Approx. 1400 kg/hr**

### Pellets :

- 44 sheets/min
- **Approx 1900 kg/hr**

Delivery Time : 7 months

## Extrusion of a chewing-gum sheet

The Extruder RopeX 1030 allows the extrusion of a continuous gum mat for high production volume :

- **Electrical opening** of the barrels, avoiding any risk of contamination due to use of hydraulic fluid
- Product-specific extrusion parameters: **Separate speed adjustment** of extruder screws and infeed rollers
- Touch screen for recipe management
- Load cell for the control of the hopper feeding level
- Process section separated from the remaining machine parts
- Easy maintenance and cleaning



## New Design of the 12" Rolling and Scoring Mill WWK 0401



The core of this 12" complete line, the Rolling & Scoring mill, can form sticks & pellets by simple change of the format related parts :

- **Cantilever design** : process parts separated from drives/electrical cabinet
- 4 rolling stations : individually driven by gearmotor, automatic gap adjustment, cooling by cold water
- 2 scoring station : quick-change for **easy change of format**
- Powder suction and recycling system
- Flap ejection of the metal-contaminated sheets
- **Control of the sheet dimension** by laser cell, and ejection of the wrong sheets.

\*All technical data should be considered as examples only, they are subject to important changes depending on the product/mass.

# Ball Forming Line for Toffee



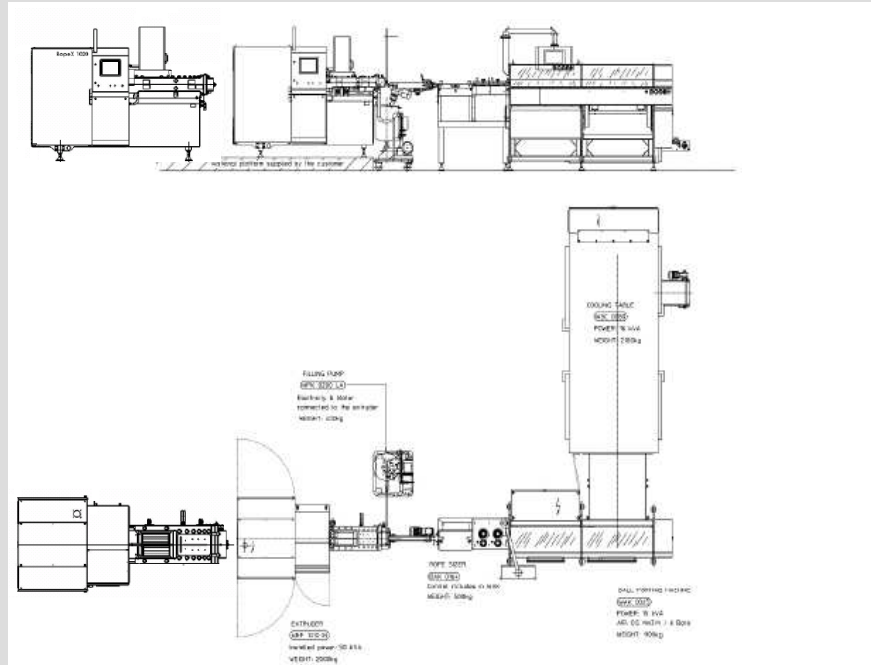
With seven lines of this type for this well-known brand, Bosch has been rewarded by the renewed confidence of this European leader in confectionery. Bosch was chosen as the *solely supplier able to process this complex and sensitive toffee ball*. This line will be installed in China.

## The line consists in :

- One Pre-Extruder WPF 1020
- One Forming Extruder RopeX 1020
- One Filling Pump WFK 0200
- Rope Sizer BAK 0164
- One Ball Former WAK 0045

## Product Characteristics :

- Toffee with chocolate filling
- Ball Ø19,5 mm
- Filling : 20 %
- Challenge: texture very soft and ductile, inconsistent shape, delicate filling



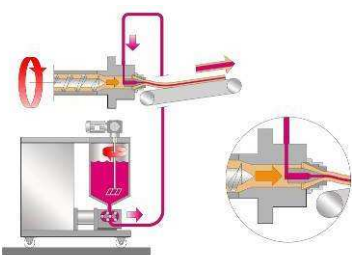
## Extrusion of chocolate filled rope



Filling pump connected to the pressure head with a 3-way-valve.

Special pump WFK 0200 for chocolate :

- Tank of stainless steel, 50l with stirrer
- **Tempering of the tank and of the pipe** with hot water
- Continuous speed adjustment
- Flowmeter



## Sizing of the filled rope

Sizing of the rope from Ø 24 mm to Ø19 mm :

- Sloped belt with laser sensor to control the rope diameter
- **2 pairs of sizing rollers** with continuous speed adjustment
- Regulation of the ball former : inclined exit table made of teflon, with 2 visual sensors



## Line Performance :

Pre-extrusion : two ropes Ø 20 mm

Forming extrusion : one rope Ø 24 mm

Ball Former :

- 63 Balls/Stroke
- 22-23 Strokes/min
- **Approx 330 Kg/hr**

Delivery Time : approx. 5 months



## Forming of toffee balls



This illustration is an application example only

The WAK 0045 is the specialist ball former for all sensitive products such as **filled products, soft textures or complex shapes** :

- Cutting knife following the rope movement
- No leakage : Pushing device for a gentle closing of each rope end
- **3 forming rollers** to give the final shape to each ball
- Special toffee execution : **teflon coating** of all sizing parts (rollers, knife...)



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# Cut & Wrap Line for bi-color Chewy Candy **BOSCH** Invented for life

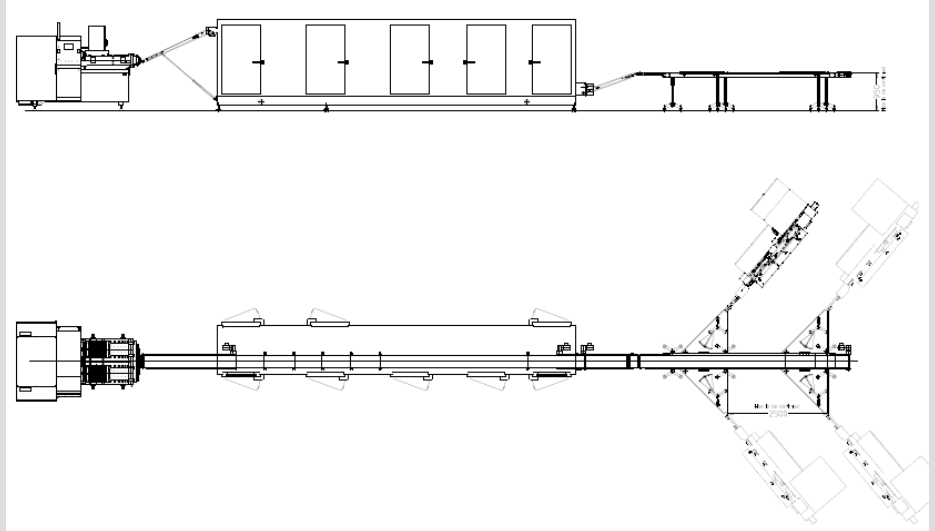
*This project demonstrates how to give a customer the opportunity of “One-stop shopping” : by using the cross-competences of the Bosch Group, the complete line for Cut & Wrap chewy candy, from product forming to packaging, will be delivered within the next months to Indonesia.*

## The line consists of :

- One Co-Extruder RopeX 2020
- One Cooling Tunnel WTC 1300
- Four Miniwrap BVK 2000 S

## Product Characteristics ;

- double-layer chewy candy
- L 30 x W 14 x H 7 mm
- 2 colors : 50/50
- challenge : 2 different product masses



## Co-Extrusion of chewy candy

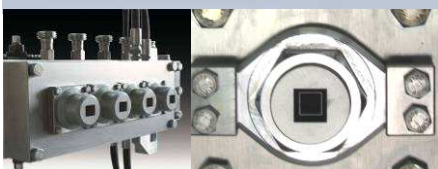
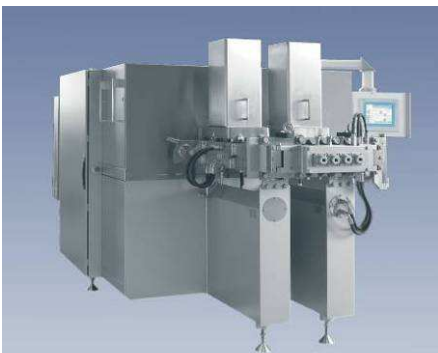
Making 2-colors products is always a challenge in term of process, but a real asset in term of consumer appeal.

The co-extruder RopeX 2020 from Togum is a flexible machine for high production volumes :

- 2 pairs of screws joining in one common pressure head, to form bicolor products
- Separate drives for extrusion screws and infeed drums, for a better intake capacity
- Tempered barrel and pressure chamber
- Control panel with Touch Screen for speed and temperature adjustment

## Special Chewy candy execution :

- Teflon coating of the hopper, feeding drums, extrusion screws and dies
- CIP system
- Asymmetrical infeed rollers

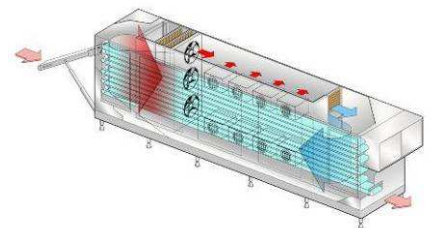


## Efficient Cooling for in-line Packaging



After the extrusion giving the shape to the final product, the 4 ropes are being cooled down by the cooling tunnel:

- Multi-level conveyor belts for space saving
- Adjustable belt speed ensuring an optimized residence time and for compensation of the product stretching
- Closed construction, with 80 mm thick insulated outer walls to avoid loss of cooling energy
- Cold air flow created by the evaporators, and blown by the ventilators
- Humidity catch thanks to the defrosting function of evaporators to facilitate wrapping
- Heating battery to avoid any thermal shock on the product surface

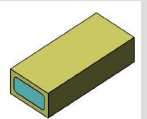


## Line Performance :

Forming extrusion : **up to 1800 kg/hr**

Cooling Tunnel :

- 9 levels
- length : 8, 5 m /level
- Total cooling length : 76,5 m
- Residence time : approx. 3 min



Wrapping : up to 4 x 1000 pce/min

Delivery Time : approx. 5 months

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# Product demonstration in our Laboratory

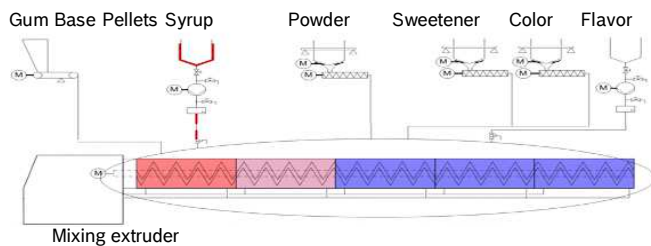


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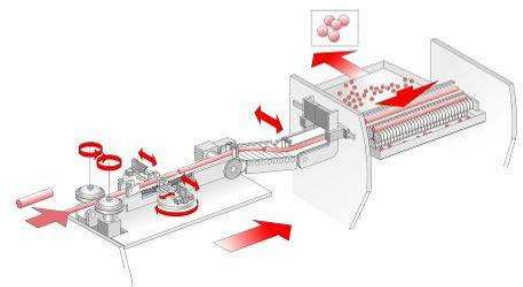
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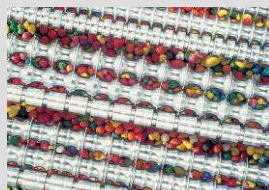
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- All the motions of the machine are controlled by servo-motors.
- Optimization of the production cycle: roller speed, forming time, etc.
- Ergonomic touch screen and operator panel for easy access and storage of all production parameters for each product shape and/or recipe.
- Quick-change of cylinders by a cassette system



## Technical data

- Final product from Ø10 to 35 mm
- One forming unit with 3 forming rollers :
- up to 40 cycles/min\* for powder filled and hollow products
- up to 25 cycles/min\* for semi-liquid filled products
- 1000 mm length



## Imprint

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