<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>History</td>
</tr>
<tr>
<td>03</td>
<td>Profile</td>
</tr>
<tr>
<td>04</td>
<td>Design</td>
</tr>
<tr>
<td>05</td>
<td>Production and Quality Control</td>
</tr>
<tr>
<td>06</td>
<td>Storage and Drying</td>
</tr>
<tr>
<td>07</td>
<td>Cleaning and Destoning</td>
</tr>
<tr>
<td>08</td>
<td>Shelling, Gauging, Sorting and Packing System</td>
</tr>
<tr>
<td>09</td>
<td>Hot air dry roasting</td>
</tr>
<tr>
<td>10</td>
<td>Infrared rays roasting process</td>
</tr>
<tr>
<td>12</td>
<td>Blanching-peeling</td>
</tr>
<tr>
<td>13</td>
<td>Chopping plants</td>
</tr>
<tr>
<td>14</td>
<td>Processing plants for paste and cream</td>
</tr>
<tr>
<td>15</td>
<td>Salting, Flavouring and Coating units</td>
</tr>
<tr>
<td>16</td>
<td>Automatic oil roasting plants for peanuts, chips and pellets</td>
</tr>
<tr>
<td>18</td>
<td>Dates juice production plants</td>
</tr>
<tr>
<td>19</td>
<td>Drying plants for fruits and vegetables</td>
</tr>
<tr>
<td>20</td>
<td>Plant engineering and Handling Systems</td>
</tr>
</tbody>
</table>
History

In the mid 19th century, Angelo Brovia opened a small “blacksmith workshop” in Cortemilia, laying the foundations of a factory that will exceed the century.

His son Luigi expands his inheritance thanks to his philosophy to move on and always progress. His grandchildren, Mario and Gianangelo, establish the company F.B.C., specialised in the production of the first patented and automatic hazelnut picking machines.

Twenty years later, Mario Brovia turns the workshop into the modern and recent industry that nowadays is a leader, all over the world, for nuts processing technologies.

1950 Establishment of FBC Costruzioni meccaniche
1968 FBC turns into the company Brovia Mario
1978 Brovind begins its activity While shelling technologies for hazelnuts improve, the first industrial plants are manufactured
1979 Purchasing of Syntron Italia, that will become Brovind Vibratori
1989 Brovind System begins its activity with its headquarters in Turin
1990 Brovind Elettronica, starts its activity by producing software and electronic applications. Brovind technological knowledge is extended to all kinds of nuts such as peanuts, almonds, pistachios, walnuts etc. in order to get semi-finished products for the confectionery and ice cream industry
1990 Development of continuous dry and oil roasting technologies for peanuts and nuts at industrial level
1996 Brovind do Brasil begins its activity with its headquarters in San Paolo
1997 Constant research allows us to patent and develop a processing system to extract juice and liquid sugar from third-choice dates
2003 GBV Impianti starts its business to carry on and improve Brovind technologies for foods
Brovind is a modern concern which combines experienced competence, of over sixty years of activity, with modern design and manufacturing equipments, that allow to reach the best level in its working field.

The perfect match between men of great experience with dynamic and skilled young people, allows to get customers’ satisfaction, in terms of reliability and innovation.

المواصفات:

وحدة اقتصادية تسعى لأن تصل إلى القمة في مجال نشاطها بتركيب روح التنافس و نجاح تم ثرية ب 60 سنة و Brovind. مع تصميم حديث و آليات الإنتاج.

التنافس الحقيقي بين الرجال المحترف و الشباب المبتكر بصل إلى تحقيق رضاية الناس لتفانيات الوثيقة و الحديثة.
Design

Our staff is able to assist our customer to find a customized solution for any possible need to process nuts in different ways. Brovind offers a turnkey service composed of engineers, software programmers and designers, who develops the entire order. The project is completely carried out in 3D design technologies with the support of a structural analysis software.

The design department works out the project according to one’s needs:
- Installation lay out
- P&ID
- Flow charts
- Practical descriptions

**PROTOTYPES**

In collaboration with the research laboratory of the major industries, Brovind prepares prototypes to examine new products and relevant project.
Production and Quality Control

Our production is performed with the most up-to-date technology and within a planned time and system, in order to carry out turnkey machine and complete plants. Our working schedule is pursuant to UNI EN ISO 9001:2000 provisions. Over the last few years, Brovind has achieved many Certifications that qualify its reliability.

An efficient post-sale service to assist our customers!
Brovind guarantees:
- technical support during erection, start up and training
- flexibility and punctual delivery times
- accurate servicing
- modern assistance
- programmed maintenance service
- quick spare parts supply
- fast and detailed answers towards projects, quotations and production through the staff of the headquarter in Cortemilia (CN), Italy.

RESEARCH AND DEVELOPMENT
Brovind strategy is mainly turned to develop research activity and guarantee a constant technological progress for a thoughtful, qualified and demanding customer.
Storage Drying

Storage at controlled temperature
- Modular structure composed of arcs or containers, made in corrugated steel sheets to get the desired storing capacity. Particularly recommended for granulated products such as nuts, cereals and seeds
- Insulated walls for outside building
- Easy installation and reliable loading and unloading devices

External or indoor drying system to dry in-shell nuts
- Circulating heated air system
- Control of inlet humidity content and outlet drying level
- Inner mixing devices to move product
- Low working cost thanks to recovery of energy with shell-fuel system
Cleaning and Destoning

Plants and equipment to remove stones, impurities and residuals from nuts (with or without shell).
- Easy installation and reliable loading and unloading devices
- Efficient air filtering and suction plant

التنظيف و إزالة الحجر
الأجهزة و المعدات لفصل الأحجار و الإضافات و المواد(Matrix) المثيرة (بالقشرة أو بدون القشرة)
- معدات التنسيق و التفريغ الموثوقة بما و سهلة التنصيب
- معدات تنظيف و شفط الهواء
Shelling, Gauging, Sorting and Packing System

- Work out and design of turnkey customized plants
- Low production cost, easy to be used, high reliability

Millimetric gauging of in-shell product
Shelling with minimum reject
Sorting to recover nuts from rejects
Millimetric gauging of shelled product
Colour and manual sorting
Weighing and packing

Hazelnuts
Peanuts
Pistachios
Almonds
Walnuts
Nuts

بندق
النعناع السوداني
البقيع
النور
الجوز
النخاسات

Compact sheller
_SYSTEM NAME_
Hot air dry roasting

- To roast, dry and dehumidify every kind of nuts, (with or without shell), snacks and coated products
- Stainless steel structure
- Roasting is performed with three-sections forced air circulation: drying, roasting and cooling to get a product with an optimal thermal process
- Heating system is fuelled up by natural gas or LPG
- Electronic control of planned and recorded process parameters
- Automatic washing device for belt when wet or salted products are processed
- Technological versatility and high quality final products

King roaster
Infrared rays roasting process

- Brovind's patented system to roast, dry and dehumidify nuts and dietetic products such as flour, rice, bran, etc with infrared rays technology
- Vibrating helical track and ventilation system to get uniform roasting level
- Electronic equipment to control temperature, roasting level and product speediness
- Technological versatility and high quality final products

Infrared rays roaster
Blanching

Continuous cooling and peeling system for hazelnuts
- Bearing structure with separate and overlapped sections
- Product mixer and suction device for rejects
- High quality final product

Peeler and blancher for peanuts
- Continuous process to Blanch peanuts to be fried
- Stainless steel construction
- Blanching unit composed of stainless steel rolls, coated with replaceable abrasive material, running at variable speed
- Peels suction device

Peeler and blancher for almonds
- Continuous process to Blanch almonds
- Controlled working temperature
- High quality final product
Chopping plants

Chopper for roasted nuts, nougat, crunchy products and dried herbs
- Interchangeable cutting modules to get different sizes of final product
- Quick replacement and easy cleaning
- Screening and cleaning of different size of grains obtained through vibrating sieves

Hazelnuts
Peanuts
Pistachios
Almonds
Walnuts
Nuts

جهاز الحببة

جهاز المكسرات المحمولة و ناجبات و المقدو و الخضراوات الحافة
- آلات و قوالب القص القابلة للتحويل لتحضير الأحجام المختلفة للمنتج النهائي
- ال转化 السريع و التنظيف السهل
- التغذية و التنظيف في الإحجام المتنوعة المأخوذة من المكسرات المرتعة
Processing plants for paste and cream

**Paste production plant**
- Continuous milling and refining units to get nuts paste (hazelnuts, almonds, peanuts, pistachio, and other type of roasted nuts)
- Variable refining level, according to one's needs, up to 25 micron
- Low temperature processing system to improve and preserve the product's organoleptic characteristics

**Cream production plant**
- To get spreading, filling and coating cream
- Manual, semiautomatic or automatic control with PLC and recipe programme
- Ingredients containers, dosing and filing system
Salting, Flavouring and Coating Units

- Continuous salting and flavouring units for peanuts, pistachios, almonds, pumpkin seeds, chips, pellets, etc.
- Possibility of oiling, salting and mixing, at the same time through electronic dosing device, flavours, water or oil.

Hazelnuts
Cashew nuts
Peanuts
Pistachios
Almonds
Pumpkin seeds
Chips
Pellets

Salting unit
وحدة التملح
Automatic oil roasting plants for peanuts, chips and pellets

Oil roaster for peanuts and other types of nuts
- To obtain high quality snacks in terms of colour, taste, nutritional value and long shelf life
- Stainless steel belt to convey product in oil and its next dripping. Pump for oil recycling and indirect heat exchanger for temperature control and stability
- Maintenance and management low cost
- High capacity of thermal exchange, thanks to the new conception of heat exchanger
- Continuous filtering of frying oil

Potatoes chips processing lines
Potatoes chips processing lines starting from raw products to the final snacks. Automatic process.

Pellets oil roasting
Oil roasting lines for extruded pellets, complete with continuous flavouring and salting unit.
Dates juice production plants

After many years of researching and testing on a pilot plant, Brovind has developed a new technology to manufacture plants to process third-choice dates into clear and concentrate dates juice, or sugar, preserving all organoleptic and qualitative characteristics.

Processing lines for dates rejects
Processing lines for jams
Drying plants for fruits and vegetables

Static or continuous drying plants for fruits and vegetables

Complete drying and dehydration plant for fruits and vegetables such as spinach, basil, parsley, apples, etc.

Main features:
- Customized plan and design
- Low production cost
- Practicality and reliability

Pineapple
Bananas
Apricots
Apples
Plums
Spinach
Parsley
Basil
Different types of vegetables and fruits
Plant engineering and Handling Systems

Handling systems and plants for the following fields:
- Food
- Pharmaceutical
- Automation
- Pivoting bucket elevator
- Vertical bucket elevator
- Conveyor belt
- Spiral conveyor
- Pneumatic conveyor
- Vibrating conveyor