



Presidency of the Republic
Ministry of Industry, Trade and Technology



Second Volume

FOOD INDUSTRIES

Knowledge-based products and equipment

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SECOND VOLUME

Knowledge-Based Products and Equipment
Food Industry





Presidency of the Islamic
Republic of Iran Vice Presidency for
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Knowledge-Based Products and Equipment

Second Volume: **Food Industry**

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Preface

One of the key factors in a nation's industrialization and economic complexity is technology. Complex economies can connect vast networks of individuals with relevant information to produce a variety of knowledge-based goods. Indeed, the types of goods or products that are ultimately supplied to international markets are taken into account when determining the complexity of an economy.

A knowledge-based economy is one in which the application of knowledge and information plays a significant role in shaping production and distribution, and where investments in knowledge-based businesses have drawn particular attention. Along with enhancing nations' competitiveness, the transformation of economies into knowledge-based economies has the potential to have a significant impact on international trade.

7000 knowledge-based businesses in Iran provide knowledge-based goods that are the result of the expertise and experience of professionals and university graduates. These businesses, which occasionally resemble enormous technology factories, sold more than 10\$ billion worth of goods last year and exported 1\$ billion or so to various nations. The Presidential Deputy for Science and Technology is recognized as the most significant authority for direction, leadership, and development of the technology area in Iran. It serves as a support organization for startups and knowledge-based businesses by finding and selecting these enterprises. This book, along with 19 other books, is a carefully curated selection of goods with a track record or export potential that was put together using data provided by chosen businesses for presentation to foreign clients, business people, and government and academic officials interested in using these goods. To review the company's manufacturing and distribution records, access to technical knowledge and specialized human resources, production and export capacities, and after-sales services, two specialized and commercial committees were formed separately, and each committee reviewed the products in detail with the participation of technical and commercial experts.

In this procedure, specialized committees were held with the collaboration of the experts of the center of companies and knowledge-based institutions of the Deputy for Science and Technology, headed by **Dr Reza Asadi Fard** and Coordinated by **Engineer Mojtaba Houshmandzadeh**. In addition, **Engineer Mehdi Ghaleh Noei** and **Engineer Ruhollah Estiri** presided over commercial committee meetings, which also included businessmen from the private sector, and I want to express my gratitude to these two groups for their work and assistance.

I also want to appreciate the project manager, **Zahra Afzali**, who has taken on a lot of responsibility and given close attention to the project's design and development from the beginning with innovative ideas.

I also think it's important to recognize and express my gratitude to my other colleagues for their efforts in gathering, reviewing, contacting firms, selecting, and rewriting texts, and finally editing and creating this book:

Project monitoring and editing team: **Mohammad Torabi, Fereshte Elahi**

Evaluation team: **Mohammad Reza Gheybi, Peyman Einizadeh**

Editorial team: **Samaneh Goudarzi, Zahra Farahani, Mohammad Matin Shirzad**

Design team: **Mohammad Hossein Pourdabbaq, Masoud Khalili**

I want to underline that the aforementioned goods may be offered in a variety of ways in the country of destination, including export of end products, export of semi-finished and assembled products at the destination, joint production in the destination country and other economic cooperation. In each of the aforementioned scenarios, the Export Development and Technology Exchange Fund is prepared to co-invest in the target countries and guarantee the purchases as a financial sponsor of knowledge-based export enterprises.

The book's conclusion also includes a list of export management firms authorized by the Deputy for Science and Technology for communication, Iran House of Innovation & Technology (iHiT), located in several countries, and commercialization and technology transfer agencies. Finally, I am hoping that this book will be beneficial to the readers and provide them with a thorough grasp of Iranian technological advancements.

Regards,
Mehrdad Amani Aghdam
CEO of Export Development and Technology Transfer Fund

Contents

CHAPTER 0

Introduction

The Origin of Industry and Export in The Eyes of Iranians	7
Industry and Export in Today's Iran	8
Where the New Technologies Stand in Iran's Industry	9
The Status of Knowledge-Based Products in Food Industry	10
The Technological Vision for Food Industry	12
The Division of Knowledge-Based Products in Food Industry	12

CHAPTER 1

Machinery & Equipment

Packaging Machinery, Shrinkpack, Triblock and Superblock	24
Fully Automatic Shrink Pack Machine	26
Cup Packing Machine with Extended Shelf Life (ESL)	28
Vertical Form-Fill-Seal Packaging Machine	30
Self-Adhesive Back Labeling Machine	32
OPP Labeling Machine	34
Bottle Washing, Filling and Packing Machine (Triblock)	36
Shrink Pack Overlap Packing Machine	38
Software and Devices Needed to Implement the Product Authenticity Plan	40
Types of Packing Machinery	42
Dense Liquid Automatic Filler Line	44
Fully Automatic Capping Machine	46
Cross-Cutting Machine	48

Vaccum Forming Packaging Machine.....	50
Multihead Weigher Machine.....	52
Types of Self-Adhesive Backed Labeling Machines.....	54
Triblock, Shrink Packaging Machine.....	56
Hot Glue Injection Unit.....	58
Liquids Triblock Filler Machine.....	60
Smart System for Aggregating, Transferring, Detecting and Separating Packaged Products.....	62
Trtblock Bottle Filler Machine (Washing, Filler and Sealing).....	64
Fully Automatic Shrink Pack Packaging Machine.....	66
Fully Automatic Seal Vaccum Packaging Machine.....	68
UF Cheese Production Line.....	70
Fully Automatic Milk Ultrafiltration (UF) Machine.....	72
Full Package of Mixer, Cooking and Processing of Processed Cheese.....	74
Juice & Milk Pasteurizer Unit.....	76
ESL Ultra Pasteurizer Unit.....	78
ESL-Based Milk Pasteurization Machine.....	80
Full Package of Vacuum Hemogenizer Mixer.....	82
Fully Automatic Machine for Cookies, Nut Cakes, Pastries and Bulk Bread.....	84
Backing Mix Production Machine.....	86
Automatic Wholemeal Flour Processing Machine For Baking Industrial Bread.....	88
Shelling Line Machinery for Pistachio, Almond, Hazelnut, Walnut, etc.....	90
Pistachio Sorter Machine.....	92
Industrial Food Freeze Dryer; Food and Oral Medicine.....	94
Dryer for Medicinal Plants.....	96
Perpendicular Paddy Ice Dryer Machine.....	98
Thermal Dryer.....	100
Sorting Line and Egg Packing.....	102
Egg packing line.....	104
Fire Tube Steam Boiler.....	106
Advanced Process Tanks.....	108
Super Heater.....	110
Boiler With A Capacity Of More Than 20 Tons Per Hour.....	112
Food Industry Processing Tanks.....	114
Blow Molding Extruder Machine.....	116
Pet Stretch Blow Molding.....	118
Industrial Autoclave.....	120
Automatic Blow Molding Extrusion Machine (Blowing Plastic Injection).....	122

Polymers, Films and Packaging Containers

Absorbent Polystyrene Foam Containers.....	128
Oxygen Barrier Nanocomposite Masterbatch.....	130
Easy Open Lid With Introduction Stitching.....	132
Polyurethane Base Lamination Adhesive, Cold Seal Adhesive.....	134
Active Nanocomposite Film and Bags For Food Packing.....	136
Bio-Based and Compostable Compounds, Films and Bags.....	138
Manzi Film and Bag.....	140
Fresh Pistacho Packing By Modified Atmosphere Method.....	142

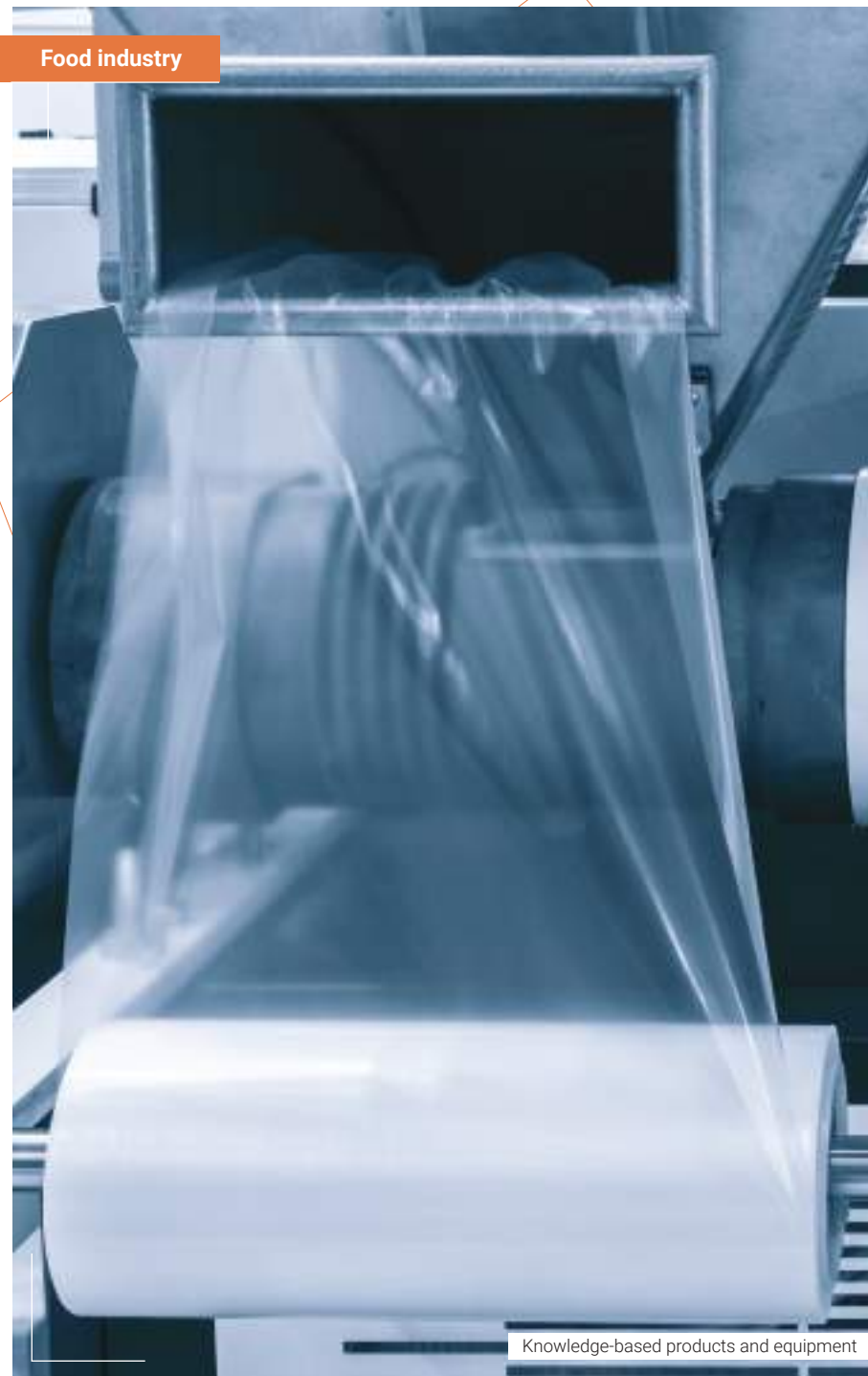
Extraction and Processing of Food Raw Materials

Modified Straches based on Corn, Wheat, Potato and	148
Flour Products Gel Treatment Agents.....	150
Dairy Products Stabilizer.....	152
Natural and Edible Colors.....	154
Various Natural Flavors.....	156
Natural Food Coloring; Currcumin, Carthamus, Chlorophyllin, Beetroot, Paprika.....	158
Plant Pigment Powder; Chlorophyll, Curcumin, Lycopene, etc.....	160
Stevia Extract with Food and Pharmaceutical Grade.....	162

Microorganisms based Products

Human Probiotic Supplements Products	168
Food Pobiotic Products	172
Human probiotic products with Semi-Continious Method	174
Kind of Freeze-Dried Human Probiotics	176
Fermented Brans; Rice and Wheat	178
Simple and Flavored Extract Powder of Hydrolyzed Yeast	180
High Protein and Vitamin Beverage; Supplement for Hemodialysis Patiensts	182
Food Grades Enzymes	184
Culture Starter of Yogurt and Butter	186
Yogurt Starter with Anti-Allergenicity Characteristics	188
Yogurt, Cheese and Kefir Starters	190
Vegetable Rennet Extracted from the Plant Whitania	192
Whitania Plantles and Plant Rennet	194

Food industry



Knowledge-based products and equipment

Introduction

The Origin of Industry and Export in The Eyes of Iranians

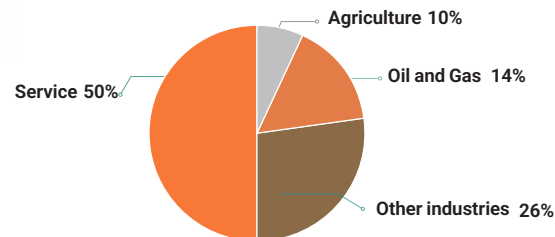
The ancient land of Iran has long been the source of knowledge and industry, and Iranians have played a significant role in the development, evolution and promotion of science and human awareness. Most historians of the world believe that most of the advances in science and human civilization are owed to Iranian civilization and the most brilliant works of art and the highest industrial levels has come from the minds of Iranians. Metalworking industries, agricultural industry, pharmacy and alchemy with themes including tile glazing, carpet dyeing, fabrics and glass were some of the industries that were considered by ancient Iranians. In parallel with the special attention to the development of industry, the history of mutual trade relations between Iranians and other civilizations in East and Central Asia, Europe and Africa has a long history, and Iranians have played a significant role in the expansion of global altruism since long ago by being on the route of the Silk Road and maritime trade.

We Iranians today, like our ancestors, consider industry, art and production in our ancient land to be a transformative and constructive place, and we consider the development of technological interactions and the trade of knowledge-based industrial products with other countries as an opportunity for friendship and the expansion of ties.

Industry and Export in Today's Iran

Industrial development has a very important place in the plans and policies of the Islamic Republic of Iran due to the creation of value added, job creation, increase in exports and reduction in imports, and the transition from an economy dependent on oil and mineral raw materials to an industrial and manufacturing economy, especially an economy dependent on new technologies, is a grand plan that has been adopted for this purpose. Currently, %50 of Iran's gross domestic product is allocated to services and another %50 to industry and manufacturing, which includes %10 agriculture and food industry, %14 oil and gas industry, and %26 other manufacturing industries.

The Share of Various Activities in Iran's GDP

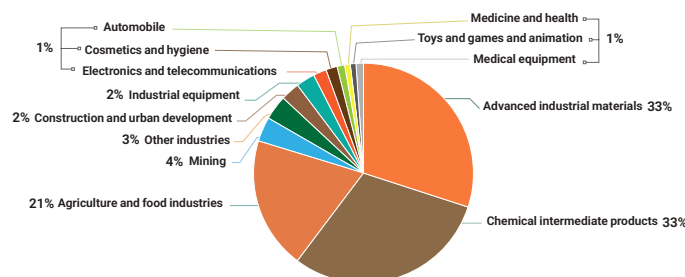


In the meantime, various industries such as pharmaceuticals, medical equipment, construction, communications and telecommunications, energy, mining, chemicals, etc. have a special share of Iran's gross domestic product, and their production, in addition to covering a considerable amount of country's domestic needs, are exported to various destinations.

According to World Customs Organization data, in 2021, the Islamic Republic of Iran had exports equal to 75 billion dollars, almost half of which is allocated to non-oil industries and processed industrial products. Advanced industrial materials, chemical intermediate products, agricultural products and food industry are all among the biggest exporting industries with more exports.

Iran's Exports in 2021

Ref: Trade Statistics for International Business Development ¹



¹ www.trademap.org

Regarding the main export destinations of Iran, it should be noted that China, India, Indonesia, Russia, Uzbekistan, Ghana, Germany and South Africa, as well as among the regional neighbours, Iraq, Turkey, UAE, Afghanistan, Pakistan, Oman, Turkmenistan. and Azerbaijan account for the largest dollar value of imports from Iran.

Where the New Technologies Stand in Iran's Industry

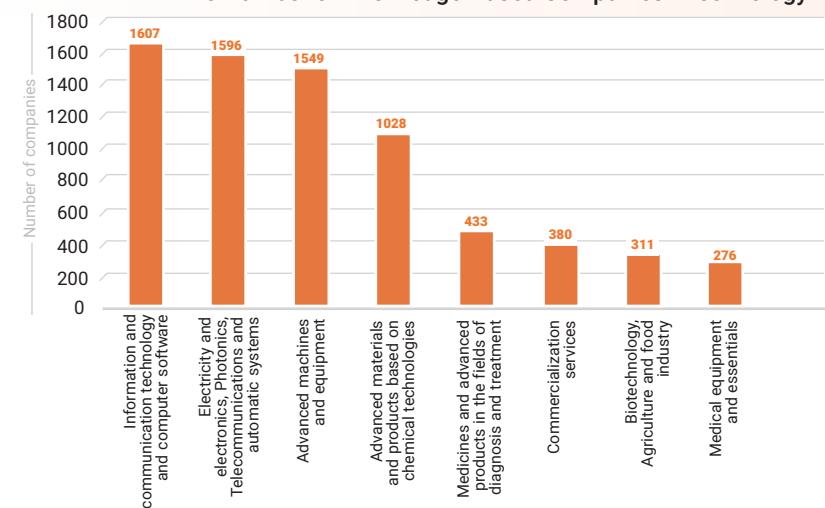
Paying attention to the development of new technologies, commercialization and its influence on manufacturing industries has caused the Islamic Republic of Iran to experience a growing progress in this field in the last decade; An issue that has taken place in Iran in the form of the development of knowledge-based enterprises. Based on this, the meaning behind knowledge-based enterprise is as follows:

A private company that produces products or provides services that have the following three features:

1. The product or service provided by the company has a high or medium to high technology level and its technical knowledge has a significant technical complexity (technology level condition).
2. The product or service design in the company is based on internal research and development or technology transfer (Research and development-based design condition).
3. The company is able to produce and provide the mentioned goods or services to the market (production condition).

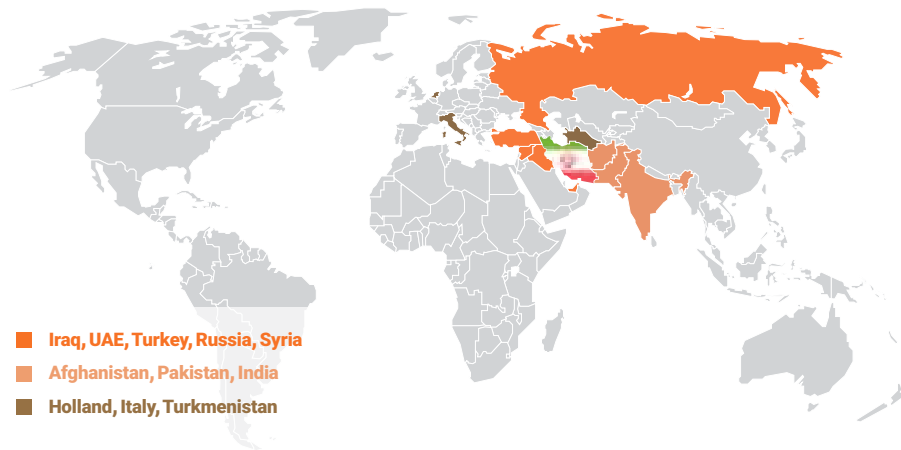
Currently, more than 7 thousand knowledge-based enterprises in Iran are producing products and providing services in the field of various technologies. These companies produce more than 15,000 products or services in total, and their direct employees, which generally include people with a high level of education, are around 250,000 people.

The Number of Knowledge-Based Companies - Technology Fields



The export of Iran's knowledge-based enterprises has been growing in the last 5 years, and these companies currently account for about %2 of Iran's non-oil exports.

The Largest Export Destinations of Iranian Knowledge-Based Enterprises in the Last 5 Years



The Status of Knowledge-Based Products in Food Industry

According to the recorded statistics, knowledge-based companies in the food industry have a small share of the total employment and annual income of knowledge-based enterprises. However, it should be noted that this industry has intermediate products and technologies that are used in the production of finished products of the food value chain, therefore the effects of this sector on increasing GDP is much greater than the recorded values.

Products such as animal and vegetable oil and fat, dairy products, cereal and legume flour, processing and protection of fruits and vegetables from spoilage, sugar and bread, pastry and biscuits are all at the end of the value chain of the food industry, and creating technological infrastructure provides the basis for improving the quality and health of human societies.

In recent years, considerable progress has been made in the development of technical knowledge of products based on microorganisms, such as human enzymes, starters and human probiotics, as well as food processing and packaging machinery and ultimately, advanced storage containers in Iranian companies. Also, due to the investments of private companies and government institutions in this area and its special and strategic position for the Islamic Republic of Iran, it is expected that in the coming years we will

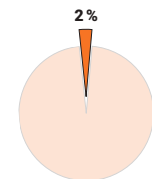
witness the growth of production and an increase in the quality of the products in this area and in exports.

In the last 5 years, a total of 47 million dollars worth of products of knowledge-based companies active in the food industry have been exported outside Iran.

The Main Export Destinations of Iranian Knowledge-Based Enterprises in the Fields of Food Industry



The Percentage of Food Industry Companies from All the Knowledge-Based Enterprises



The Technological Vision for Food Industry

The need for innovative strategies to enhance food sector productivity has grown as a result of the growing human population and the scarcity of food supplies. Because developing nations lack the infrastructure required for new food technologies, notably those relating to food packaging quality, costs will rise and, in the end, fewer people will have access to a variety of nutritious foods.

According to the European Institute of Food Processing (IFP-EU), there are three possible areas where progress in food science can occur:

- **Nanotechnology (NANO)**
- **Information and communication technology (ICT)**
- **Biotechnology (BIOTECH)**
- **Cognitive**

The term biotechnology refers to any technology related to biological systems, living creatures or their derivatives that is used to create or alter products and processes for a specific purpose. According to current scientific standards, this discipline is integrated with the NANO and ICT sectors and is heavily utilized in the food technology industry. Production of dietary proteins, enzyme preparation for food production, functional foods, including therapeutic and preventative foods, and the development of food components, such as vitamins and functional compounds, are among this field's top priorities.

The Division of Knowledge-Based Products in Food Industry

As previously stated, the food industry is one of the oldest industries active in Iran. In the last decade, the doubling of employment and production, as well as the significant improvement of the standards necessary to provide the products manufactured by the factories active in this industry to the consumer market, has caused the development of technical knowledge of many technological products within it. In this book, products have been collected that can be divided into the following areas:



The following explains each of the cases and their subsets, in order to provide a general understanding of these areas.

1

Machinery and Equipment

Any machine that is used in the process of automation, processing and packaging of food is included in this category of technological products. Currently, a significant part of the activity and capability of high-tech companies active in the field of food industry machinery in Iran is in the packaging industry, which accounts for the the largest portion of exports in this industry.

• **First Section | Packaging Machinery for Liquids and Legumes:**

Packaging lines include washers, filler(s) and cappers. Shrinkpack machines for packaging (such as beverage bottles), labeling machines (thermally or self-adhesive back), intelligent systems for separating packaged products, filling machines for filling containers with liquids, etc. all belong to this section.

• **Second Section | Dairy Industries Machinery:**

Dairy industry machinery can perform processes such as pasteurization to eliminate and stop the growth of microorganisms, and mixing to completely homogenize phases and filtering on dairy products.

• **Third Section | Industrial Baking Equipment and Machinery:**

Industrial baking equipment are production lines for products such as bread, cakes, biscuits, etc., in which dough making and baking are also done. These pieces of equipment have relatively high speed and precise automation.

• **Forth Section | Dried Fruit Machinery:**

These devices carries out special processes such as shelling, slicing, crushing etc. on dried fruit with different mechanisms.

• **Fifth Section | Fruit, Vegetable and Meat Drying Machinery:**

Many food and medicinal plants and materials that have high moisture content are dried by dryers in order to increase shelf life, reduce weight and prevent spoilage. These machines can be of thermal or cooling type (like freeze dryers).

• **Sixth Section | Sorting Machinery:**

Depending on the type, sorting machines are used for products such as eggs, dried fruits, nuts etc. The products entering these machines as input are classified based on specific parameters such as weight, size and shape, color, etc.

- **Seventh Section | Blow Molding Machinery and Process Equipment:**

Blow molding machines or air molding are used to produce plastic bottles. Heat exchanger, steam boiler, process tanks, autoclave, etc. are among the process equipment related to food industry.

Start chapter at page 24 »

2

Polymers, Films and Packaging Containers

The biggest consumer of polymers is the packaging industry. The products of this category include products that are made of compounds and polymers for food packaging and have special features such as longer shelf life and durability, resistance to radiation, preserving the taste and color of the product, compatibility with the environment, etc. The knowledge-based products of this category can be divided into the following subcategories:

- **First Section | Disposable Containers:**

The most important product of this subcategory is polystyrene foam containers, which help to keep food healthy by absorbing water. Packaging with high temperature tolerance, increased shelf life, resistance to radiation, compatibility with the environment are among the results of using new technologies in this field.

- **Second Section | Polymeric Compounds:**

Among the methods of preserving wet products such as fruits and vegetables is the Modified Atmosphere method. In this method, permeability or oxygen consumption is controlled by nanoparticles-based films. Also, bio-based and biodegradable film and granule and lamination glue of all kinds of polar and non-polar films are among the products of this subcategory.

- **Third Section | Packaging Films and Foils:**

Based on the materials used in the packaging industry around the world, the most used materials in packaging are paper materials (%36), metal (%17), polymers (%34), glass (%10) and other materials (%3), each of which has its own advantages and disadvantages. Polymers are available, diverse, relatively cheap materials that can be engineered, and today they have become the most important materials in the packaging industry, and their usage is increasing day by day. Among the polymers used in the packaging industry, we can mention polyethylene (PE), polystyrene (PS), polypropylene (PP), polyvinyl chloride (PVC), polyethylene terephthalate (PET), etc. Each of these polymers has its own application in packaging and not every polymer can be used for every type of packaging.

Start chapter at page 128 »

3 Extraction and Processing of Food Raw Materials

This category includes goods that are directly related to technology, raw materials and additives related to the production of ready-made food:

- **First Section | Processing of Food Raw Materials:**

This subcategory includes raw materials for product processing such as modified starch based on wheat, corn and potatoes, additives such as supplements, improving agents, stabilizers, extracts, coloring, etc. One of the products of this subcategory is fermented bran, that in its production process, the amount of phytic acid in cereal bran is reduced to less than the standard amount.

- **Second Section | Extraction of Food Colouring and Flavourings:**

This subcategory includes the extraction of raw materials used in the preparation of processed food products. Canned products, chocolates and dragées and jellies under different brand names are among the many purposes for which food coloring is sold. Flavorings also resemble dietary sweeteners (Stevia sugar extract) and are used in food products like food colors.

Start chapter at page 148 »

4 Microorganisms based Products

This category of products includes goods that are directly related to the use of microbes in the food industry and are used fundamentally to transform one substance into another. The role of microorganisms in the food industry is not limited to the production of fermented foods and beverages. Microorganisms produce large amounts of antimicrobial substances such as organic acids, enzymes and antibiotics. Some of these products are known as antimicrobial compounds and natural preservatives. Therefore, the products of this area are divided in this book as follows:

- **First Section | Human Probiotics and Food Supplements:**

Probiotics are a group of living bacteria that are useful for the body and depending on their type, have properties and positive effects on the immune system, stomach, intestines, blood pressure, skin, weight loss, etc.

- **Second Section | Food Grade Enzymes:**

Enzymes have different applications in the food industry, including the formation of isopeptide bonds between proteins in the production of meat products, dairy and bakery products, sugar production in the starch industry, etc.

- **Third Section | Dairy Starters:**

Starters are a type of bacteria that start the fermentation process in milk that leads to the production of cheese, yogurt and kefir. In some technological methods, vegetable rennet is used instead of microbial rennet to produce cheese and coagulate milk protein.

- **Forth Section | Products with Special Performance:**

Regarding these products, any special function attributed to a bacterium also apply to these products. It is noteworthy to mention that it is possible to find and produce these bacteria naturally and through searching in nature (such as bacteria producing xanthan or natural acids used in various industries). Also, all types of recombinant drugs produced by engineering recombinant bacterial strains are included in this subcategory.

Start chapter at page 168 »

FOOD INDUSTRY

First chapter

Machinery and Equipment

- Packaging Machinery for Liquids and Legumes
- Dairy Industries Machinery
- Industrial Baking Equipment and Machinery
- Dried Fruit Machinery
- Fruit, Vegetable and Meat Drying Machinery
- Sorting Machinery
- Blow Molding Machinery and Process Equipment



Second chapter

Polymers, Films and Packaging Containers

- Disposable Containers
- Polymeric Compounds
- Packaging Films and Foils



Third chapter

Extraction and Processing of Food Raw Materials

- Processing of Food Raw Materials
- Extraction of Food Colouring and Flavours



Fourth chapter

Microorganisms based Products

- Human Probiotics and Food Supplements
- Food Grade Enzymes
- Dairy Starters
- Products with Special Performance



First chapter



Machinery and Equipment



FIRST CHAPTER

FIRST CHAPTER

Second chapter

Third chapter

Fourth chapter

Machinery and Equipment

Packaging Machinery, Shrinkpack, Triblock and Superblock | 24

Fully Automatic Shrink Pack Machine | 26

Cup Packing Machine with Extended Shelf Life (ESL) | 28

Vertical Form-Fill-Seal Packaging Machine | 30

Self-Adhesive Back Labeling Machine | 32

OPP Labeling Machine | 34

Bottle Washing, Filling and Packing Machine (Triblock) | 36

Shrink Pack Overlap Packing Machine | 38

Software and Devices Needed to Implement the Product Authenticity Plan | 40

Types of Packing Machinery | 42

Dense Liquid Automatic Filler Line | 44

Fully Automatic Capping Machine | 46

Cross-Cutting Machine | 48

Vaccum Forming Packaging Machine | 50

Multihead Weigher Machine | 52

Types of Self-Adhesive Backed Labeling Machines | 54

Triblock, Shrink Packaging Machine | 56

Hot Glue Injection Unit | 58

Liquids Triblock Filler Machine | 60

Smart System for Aggregating, Transferring, Detecting and Separating Packaged Products | 62

Triblock Bottle Filler Machine (Washing, Filler and Sealing) | 64

Fully Automatic Shrink Pack Packaging Machine | 66

Fully Automatic Seal Vaccum Packaging Machine | 68

UF Cheese Production Line | 70

Fully Automatic Milk Ultrafiltration (UF) Machine | 72

Full Package of Mixer, Cooking and Processing of Processed Cheese | 74

Juice & Milk Pasteurizer Unit | 76

ESL Ultra Pasteurizer Unit | 78

ESL-Based Milk Pasteurization Machine | 80

Full Package of Vacuum Homogenizer Mixer | 82

Fully Automatic Machine for Cookies, Nut Cakes, Pastries and Bulk Bread | 84

Baking Mix Production Machine | 86

Automatic Wholemeal Flour Processing Machine For Baking Industrial Bread | 88

Shelling Line Machinery for Pistachio, Almond, Hazelnut, Walnut, etc. | 90

Pistachio Sorter Machine | 92

Industrial Food Freeze Dryer; Food and Oral Medicine | 94

Dryer for Medicinal Plants | 96

Perpendicular Paddy Ice Dryer Machine | 98

Thermal Dryer | 100

Sorting Line and Egg Packing | 102

Egg packing line | 104

Fire Tube Steam Boiler | 106

Advanced Process Tanks | 108

Super Heater | 110

Boiler With A Capacity Of More Than 20 Tons Per Hour | 112

Food Industry Processing Tanks | 114

Blow Molding Extruder Machine | 116

Pet Stretch Blow Molding | 118

Industrial Autoclave | 120

Automatic Blow Molding Extrusion Machine (Blowing Plastic Injection) | 122

Packaging Machinery for Liquids and Legumes ○

Dairy Industries Machinery ○

Industrial Baking Equipment and Machinery ○

Dried Fruit Machinery ○

Fruit, Vegetable and Meat Drying Machinery ○

Sorting Machinery ○

Blow Molding Machinery and Process Equipment ○



➤ Packaging Machines | Shrink Pack, Tri-Block and Super-Block

◆ Koosheshkaran Co.

www.koosheshkaran.ir



Product Introduction:

All sorts of plastic bottles are packed with shrink pack machines, which come in regular and overlap forms. Polyethylene (PE) with a thickness of 40 to 120 microns is used in the overlap roll, and following the cutting of the plastic, it is closed in such a way that the edges overlap. A pneumatic alignment system in a common shrink machine aligns bottles automatically without the need for a person. This machine's nylon consumption ranges from 30 to 120 microns thick, with a maximum length of 60 cm.

The Triblock Rotary Machine is a collection of three major pieces for cleaning, filling, and sealing plastic caps on a chassis used to package dilute liquids.

A collection of four pieces makes up the superblock rotary machine: cleaning, scoop filler, carbonated filler, and sealing for plastic caps on a chassis.

The machine can package a mixture of semi-concentrated and dilute liquids in appropriate proportions (for example, yogurt and carbonated water). The scoop and counter pressure filling mechanism is used.

Main Export Destinations:

China, Turkey, United Arab Emirates, Tajikistan, Turkmenistan, Kyrgyzstan, Poland, Afghanistan, Iraq

Exports History:

Over 5 M\$

Founded:

1991

Application:

- ✳ Shrink pack machines are used to fill PET bottles, polyethylene bottles, and other containers with items including mineral water, Kefir, and soft beverages.
- ✳ Water, juice, Kefir, herbal distillates, and other non-carbonated dilute liquids, such as water, juice, dough, and herbal distillates, are packed in PET bottles using a tri-block machine. Dilute carbonated liquids, such as carbonated soft drinks, carbonated water, carbonated juice, and other dilute carbonated liquids are packed in PET bottles using a tri-block machine.
- ✳ The superbloc machine is used to pack dilute carbonated liquids like soft drinks, water, Kefir, and fruit juices, among other things.

These products are final B2B equipment.

Technical Specifications:

		Regular Shrink Pack	Overlap Shrink Pack
Machine speed	package per minute	12	25
Maximum plastic width	mm	600	600
Container height	mm	120-330	120-330
Container diameter	mm	50-104	50-104

		Triblock Rotary	Superblock Rotary
Number of heads		6	6
Number of nozzles		24	Scoop filler and carbonated filler with 18 and 24 nozzles, respectively
Machine speed	container per hour	2000-6000	2000-5000
Container volume	ml	250-2000	250-2000
Container height	mm	120-330	120-330
Container diameter	mm	5-100	5-100

Advantages:

- ✳ High speed of machine
- ✳ A reasonable price for the machines' quality
- ✳ Warranty and after-sales services



➤ Fully Automatic Shrink Packing Machine

Shargh Sanat Neishaboore Co.

www.sharghsanat.com



Product Introduction:

This equipment is a packaging system for ready-made carton products and dairy products with shrink trays, to be sent to the consumer market. To do this, a layer of nylon is stretched and wrapped around the products. This is a cyclic machine, but due to its high rate of packaging (500 to 2000 packages per hour) it is installed on continuous lines.

In product packaging using the shrink packing machine, because the nylon used is transparent, the appearance of the product can be seen through it, which can be considered as a prominent feature.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2016

Application:

Packaging of products in:

- * Food industry
- * Chemical industry
- * Pharmaceutical industry
- * Cosmetic
- * Sanitary
- * Detergent and cleaning products

This product is final B2B equipment.

Technical Specifications:

- * **Electricity consumption:** around 7 kW
- * **Rate:** over 700 packages per hour
- * Economises on the length and thickness of the plastic
- * Shrink packing using the stretching technique

Advantages:

- * Low power consumption and economising on nylon consumption
- * Affordable price and added value for production lines
- * No need for service and maintenance in short intervals of time
- * High speed of work in the product packaging process

**Application:**

Dairy industry

➤ Cup Packaging Machine with Extended Shelf Life (ESL)

Shargh Sanat Neishaboor Co.

www.sharghsanat.com

**Product Introduction:**

The extended shelf life (ESL) glass filling machine is capable of producing dairy products with a longer packaged product shelf life. The distinguishing feature of these machines is the modified atmosphere and the disinfection of glasses and foils, which effectively reduce secondary pollution and increase the product's shelf life without preservatives.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2016

This product is final B2B equipment.

Technical Specifications:

- * Glass and foil disinfection system with hydrogen peroxide
- * Car cabin equipped with washing jets for complete washing inside the cabin
- * Filling set with ultra clean equipment and automatic washing capability
- * The car cabin is entirely closed and equipped with a positive filtered air system
- * Filling station equipped with servo motor with the ability to change the volume without mechanical change
- * Foiling station equipped with servo motor
- * Equipped with a side channel compressor to provide positive air inside the cabin
- * Equipped with compressor inlet air filtration system as well as superheater unit to disinfect the air inside the cabin



➤ Vertical Form-Fill-Seal Packaging Machine

Shargh Sanat Neishaboor Co.

www.sharghsanat.com



Product Introduction:

This machine is used for packing and filling packets such as sauce bags, milk, etc. This device has a rate of over 50,000 packages per hour.

This product receives a film with a certain thickness and width as a roll as the raw material of packaging and in the first stage makes the container and in the next stage fills it with the product and finally after sealing it with foil, cuts off the excess parts and delivers the data and the final product at the output.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2016

Application:

Food industry, for packaging various food products

This product is final B2B equipment.

Technical Specifications:

- * **Packing rate:** 6000 to 24000 packages per hour
- * **Packaging volume:** 10 cc to 1000 cc
- * Hygienic and clean packaging conditions

Advantages:

- * Low electricity consumption and reduced production costs
- * Economical price and added value for dairy product lines
- * Low service and maintenance costs



➤ Self-Adhesive Back Labeling Machine

🏠 [Shargh Sanat Neishaboor Co.](http://www.sharghsanat.com)

www.sharghsanat.com



Product Introduction:

This machine sticks adhesive-back pieces of paper to food packaging containers.

Various parts of the product include roll and roll opener, label guide rollers, label mark sensor, label separator blade, label feeder, conveyor belts, waste collection system and electrical and control section.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2016

Application:

Food industry and food product packaging lines for labeling

This product is final B2B equipment.

Advantages:

- * Low electricity consumption and reduced production costs
- * Economical price and added value for dairy product lines
- * Low service and maintenance costs



➤ OPP (Oriented Polypropylene) Labeling Machine

🏠 **Shargh Sanat Neishaboor Co.**

www.sharghsanat.com



Product Introduction:

This machine covers bottle products such as kefir, milk, soft drinks, yogurt cans, etc. and places the OPP sheet around the bottles and cans.

Using this product, the label is automatically separated from the continuous label roll and glued to the containers on a specific place automatically. Product production using this product, is done at a high speed in the packaging lines of various products.

Important parts of the device include roller opener, roll traction, mark sensor, label feeder, cutter, vacuum drum, pad stand, outlet conveyor and electrical and control parts.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2016

Application:

Production line of various food products for labeling and labeling of product packages

This product is final B2B equipment.

Technical Specifications:

- ※ Packing rate from 2000 to 4000 packages per hour
- ※ The length and width of the label depends on the shape of the container and the customer choice
- ※ Hygienic and clean packaging conditions

Advantages:

- ※ Low electricity consumption and reduced production costs
- ※ Economical price and added value for dairy product lines
- ※ Low service and maintenance costs



➤ Bottle Washing, Filling And Packing Machine (Tri-Block)

🏠 Sepanta Co.



Product Introduction:

The triple block line consists of three washing, filling and packing machines. Models with 12 nozzles, 24 nozzles, 32 nozzles, and 40 nozzles are available. The throat flange of the dish is used to move the dishes in this machine. The bottle is sent to the machine through a wind tunnel, and the dimensions of the bottle may be changed in the shortest time with the list change of parts. Filling the bottles with the substance is done by gravity. The machine is built in such a manner that if there is no bottle, the filling nozzle will not open.

Main Export Destinations:

England, United Arab Emirates,
Yugoslavia, Iraq

Exports History:

Up to 500,000 \$

Annual Production Capacity:

12 machines

Founded:

2006

Application:

Packaging of dilute non-carbonated liquids in PET bottles

These products are final B2B equipment.

Technical Specifications:

- * **Water consumption (2 bar):** 40 l/m
- * **Consumption power:** 7 kW
- * **Container volume:** 250 to 2250 ml
- * **Container height:** 120 to 330 mm
- * **Container diameter:** 50 to 110 mm
- * Material of machine parts and all sections in contact with the product: Stainless Steel 304
- * 24 jaws for washing, 24 nozzles for filling, and 8 unique heads for capping
- * Having a central CIP system with the capability to program in machine monitoring
- * Having air and ground rails
- * Having magnetic sealing heads to adjust the tightness of the cap

Advantages:

- * The integration of the three devices and automatic line
- * A 12-month warranty
- * Up to ten years of after-sales service



➤ Shrink Pack Overlap Packaging Machine

🏠 Behpacksaz Co.

Product Introduction:

Shrink Pack Overlap Packaging Machines are used in production line machines to pack beverage and mineral water items, and shrink nylon is used for packaging. Shrink nylon is a form of plastic that, when heated, adheres to the object and takes on its shape. Cutting, packaging, shipping, nylon overlap, and heating are all included in one equipment.

The following are the components of this machine:

- * Thermal furnace
- * Cutting unit
- * Control system
- * Software system

Main Export Destinations:

Afghanistan

Exports History:

4 machines

Annual Production Capacity:

25 machines

Founded:

1999

Application:

Packaging in the beverage and mineral water industries

This product is final B2B equipment.

Technical Specifications:

- * Film cutting blade length: 900 mm
- * Maximum package height in standard machine: 380 mm
- * Maximum package width: depending on the height
- * Standard machine tunnel opening passage: 980 × 400 mm
- * Tunnel chamber length: 2500 mm
- * Size: 2400 × 1600 × 12500 mm (length × width × height)
- * Weight: 4000 kg
- * Pneumatic feeding: 6 bar
- * Plastic type and thickness: typical shrink layer 75 to 85 microns
- * Cutting accuracy in the cutting unit: 1 millimeter

Advantages:

- * Being automatic
- * High speed
- * No pausing



➤ Software And Devices Needed To Implement The Product Authenticity Plan

🏠 Arsham Machine Farzam Co.

www.arshammachine.com



Product Introduction:

In a global consensus to combat counterfeit goods, especially for health-oriented items such as medicine, a solution called the Track and Trace solution has been presented, which has been welcomed by most countries in the world. It should be noted that this product authenticity plan is based on the GS1 standard and is designed so that during packaging, a unique code (Random) is assigned to each product unit based on the barcode, tag, etc. It also considers different codes for all levels of packaging (aggregation code) so that meaningful communication is established between suppliers, manufacturers, and distributors. Therefore, at any time, the history of the product can be tracked and traced by the final consumer, government inspectors, market observers, etc.

This work is done by querying the relevant code from the central system, which the manufacturer and importers have already uploaded the information on their products in this system. Therefore, to implement this plan, the relevant production line consists of software and hardware platforms to enter the necessary information on each product unit and its different levels of packaging and then send the entered identity information to the central system.

Main Export Destinations:

Russia, Kazakhstan, Greece,
Pakistan, Bahrain, Jordan, South
Africa, Algeria, India, the United
Arab Emirates, Oman

Exports History:

Up to 500,000 \$

Founded:

2011

Application:

Manufacturers and importers of health-oriented products such as medicine, medical equipment, cosmetics, detergents, and foodstuffs; and industrial parts in other industries such as the automobile industry, etc.

These types of equipment are the product production line.

Technical Specifications:

The appropriate line for implementing the product authenticity plan is a set of software and hardware, including the following:

- * The software required to generate a unique code according to the protocol of the target country
- * Image processing software to control the quality of information printed on the product
- * Warehouse software to record product information at the time of delivery to distribution companies
- * Machines for printing information on the product according to the production line of the manufacturing company
- * Equipment and software necessary to create collective identifiers (parent-child relationship between different levels of packaging to monitor the goods distribution network)

Advantages:

- * Assuring the final consumer of the product's authenticity
- * Strict control and monitoring of the supply chain
- * The ability to identify counterfeit and smuggled products
- * Price-quality ratio compared to foreign competitors (much lower)
- * After sales service



➤ Types of Packaging Machinery

🏠 Esfahan Pack Co.

www.esfahanpack.com



Product Introduction:

The products of Esfahan Packaging Machinery include sewing polyethylene shrink machines (manual, semi-automatic, and fully automatic), overlap, PVC and POF sewing plastics (manual, semi-automatic, and fully automatic), thermal tunnel shrink, Die Cutting shrink tray machine with sewing polyethylene shrink machine, all types of horizontal and circular and stretch pallet machines, plate palletizer, and packaging line for panel and roll radiators.

Shrink machines consists of various components such as sewing jaws, product arrangement mechanisms, furnaces and heating elements, tunnel conveyors, and post-sewing. A pneumatic system is also included in automatic variants. These machines organize and pack various items in six, twelve, or twenty-four distinct configurations.

Main Export Destinations:

Afghanistan

Exports History:

Up to 500,000 \$

Founded:

2011

Application:

Plastic stitching is used to pack various items such as mineral water bottles, soft drinks, carbonated drinks, fruit juices, porcelain dishes, brick packaging, cartons, and so on, with various types of shrink machines.

Stretch pallet machines are used to pack pallets of various merchandise using stretch plastic.

Packing profiles, sandwich panels, carpets and rugs, thermal insulation, and other items are all done with horizontal stretch machines.

Circular stretch is also used to plasticize, screw, or metallize ring-shaped items like irrigation pipe coils, polyethylene pipe coils, rebar coils, and other similar products.

The palletizer is used to build a pallet of goods up to the necessary height at the end of the production line in the food and beverage industries (particularly mineral water and drinks), petrochemical, oil and gas, and other sectors.

These products are final B2B equipment.

Technical Specifications:

- * Shrink machines can pack between 5 to 15 packs per minute, with automated and overlap variants capable of packing up to 35 packs per minute.
- * Stretch pallet machines are capable of packing up to six packages per minute. Pallets range in size from 100 × 100 to 200 × 200, with a maximum height of 260 cm.
- * Coils up to 120 cm in diameter can also be wrapped using circular stretches. This company's packaging machines may be used to pack rollers with a diameter of 150 cm.

Advantages:

- * Parts of the machines are localized and indigenized as much as possible, and the company's products are less expensive and than those made by equivalent foreign companies.
- * After-sales services are provided for a period of ten years.
- * The devices' fuel and energy usage have been optimized as much as possible.

International Standards or permission:

- * ISO 9001 certification from Norway DNV
- * Swiss SGS No. 0912 / 12CH



➤ Dense Liquid Automatic Filler Line

♣ Bahar Machine Alborz Co.

www.baharmachine.ir



Product Introduction:

Filler, sealer, and labeler are all parts of the concentrated liquid filler series. Filling concentrated liquids, particularly foamy liquids, requires a unique mechanism to ensure that the liquid does not foam within the bottle, hence filling them is a delicate job. The quality of the fillers, however, is determined by the degree of leakage or liquid flow from the nozzles. The filler machine's operation is as follows: the operator inserts the bottles on the rail, the machine executes the filling process automatically, and the bottles exit the machine's output rail. This machine has a washing software system that allows you to alter the washing time and volume. The opp labeler machine is highly smart, and it adjusts to the speed of production.

Founded:

2011

Application:

Beverage industry.

This equipment is the product production line.

Technical Specifications:

Filler machine:

- ✧ Capable of filling concentrated and dilute materials ranging from 100 to 1200 cc
- ✧ Material filling rate ranging from 40 to 50 per minute depending on the type of material and standard container
- ✧ Machine weight: approximately 800 kg
- ✧ Main dimensions: 210 × 125 × 125 cm
- ✧ Conveyor length of the machine from beginning to end: 3 m

Sealer machine:

- ✧ Two servo motor heads
- ✧ Capable of sealing all types of PET and polyethylene bottles at a rate of 35 to 45 containers per minute, depending on the container
- ✧ The machine's chassis is made of heavy profile cut using a CNC machine and an anti-acid epoxy coating, while the machine's body cover is made of 304 stainless steel.

Opp labeler machine:

- ✧ American Train reversed-engineered
- ✧ Appropriate to opp labeling on spherical containers with capacities ranging from 1000 to 4500 cc
- ✧ Machine speed: 3000 to 4000 containers per hour as long as suitable incoming and outgoing traffic and standard container and label are provided.
- ✧ Machine chassis is composed of a thick profile cut with a CNC machine with an anti-acid epoxy coating and a stainless steel 304 body coating.

Advantages:

- ✧ Being automatic
- ✧ Ability to adjust speed



➤ Fully Automatic Capping Machine (Twist-Off Metal and Plastic Caps)

🏠 Parsian Tarh Sina Co.

www.ptsmachinery.ir



Product Introduction:

The sealing machine is used to automatically close twist-off metal caps with changes in the lifting section for plastic caps, with different sizes, on containers with different shapes and dimensions per hour. This machine consists of two main parts: lifting and sorting the seal and then packing and it is placed after the filler machine in the production line and provides the possibility of sealing the container without manual intervention and automatically (Whenever there is input from the line).

Annual Production Capacity:

15 machines

Founded:

2005

Application:

Packaging of food products

This product is final B2B equipment.

Technical Specifications:

- * **Device material:** Stainless steel
- * **Capacity:** up to 12000 per hour (depending on the shape and the type of container and cap)
- * **Machine dimensions:** 3000×1500×3000 mm
- * Suitable for caps of 38 to 82 mm size
- * Equipped with magnetic seal lift and sorting system without the need for compressed air to turn the caps over
- * Adjustable for 30 to 250 mm-high glass without the need to replace any parts
- * Equipped with speed control and various sensors
- * Ability to steam under the seals if needed

Advantages:

- * Reasonable price in relation to quality
- * After sales service



➤ Cross-Cutting Machine

🏠 Parsian Tarh Sina Co.

www.ptsmachinery.ir



Product Introduction:

Cross-cutting machine is used for slicing summer crops and similar fruits such as carrots, cucumbers, celery, beans, Jalapeno peppers, etc. with adjustable dimensions and thickness. Loading is done with a basket and if needed with the help of a lift and depending on the type of product, it has a capacity of up to a ton per hour.

Annual Production Capacity:

10 machines

Founded:

2005

Application:

Slicing carrot, cucumber, green beans, pickled cucumber and similar products

This product is final B2B equipment.

Technical Specifications:

- * **Main basket material:** stainless steel
- * **General dimensions of the device:** 1000 × 1000 × 1000 mm
- * Ability to cut with a length of 1 to 5 cm
- * No need to place the product in a special place (loading with basket)
- * Capacity: up to a ton per hour
- * Ability to change the blades very easily from the outside of the device without the need to open the internal parts of the device

Advantages:

- * Reasonable price in relation to quality
- * After sales service



➤ Vacuum Forming Packaging Machine

🏠 Tarsam Pack Co.

www.tarsampack.com



Product Introduction:

The high-speed blister packing machine is used to pack tablets and capsules and has main components such as flat preheater (direct heating), flat molding with easy interchangeability and fully mechanical function and forming by blow molding, the ability to install tablets and capsules feeders (universal and brush feeder), resealing with the capability to sew in rotary or flat pattern and the possibility of easily changing the mold, the ability to insert dates on packages in the specified place and easy change of letters (embossing), cutting design in a zigzag pattern for optimal use of film space and reducing device waste to a minimum, the product rejection system by vacuum and end of line sorter with product unloading conveyor and easy connection to the cartoning machine.

The cartoning machine is completely automatic and has features such as low weight, wide use in manufacturing, and high efficiency with minimum noise. This machine can be connected to a production line and operates completely automatically. A completely automated brochure folder and a brochure holder are included in the machine.

The fully automatic Magazine system is used on the device for products in the form of sheets, such as blisters such as tablets, capsules, ampoules, chewing gum, and smarties, and the device has a batch number system to insert information such as production date, expiration date, etc. on the carton seal.

Annual Production Capacity:
30 machines

Founded:
2005

Application:

Blister machines are used to package a variety of pharmaceutical, cosmetic, health, and food items. Cartoning machines are also used to pack a variety of medical, pharmaceutical, cosmetic, and food equipment items, such as pills, round bottles, tubes of various lotions and toothpastes, hair dyes, and other similar items.

These products are final B2B equipment.

Technical Specifications:

* Blister packaging

1. Dimension: 2600×900×1780 cm
2. Weight: 2200 kg
3. The machine course: 20-120
4. Power consumption: 9 kw
5. Cutting speed (bpm): 60-160
6. Depth of bubble form: 10
7. Dimensions of forming: 240×250
8. PLC control system and a 7-inch HMI control panel (touch panel) that can be set in any language such as Persian , English and etc.

* Cartoning packaging

1. Dimension: 280×135×175 cm
2. Weight: 1200 kg
3. Power consumption voltage: 220-380 v/16 A/50 HZ
4. Power consumption: 1.5 kw
5. Air pressure required: 5 bar
6. Amount of air consumption: 0.3 m³/min
7. Capacity: 80-100-150-200 box/min
8. Plc control system and a 7-inch HMI control panel (touch panel) that can be set in any language such as Persian , English , Turkish and etc.

Advantages:

- * The machines packing speed is extremely fast.
- * The products have high-tech technology and are only available and exclusive in the Middle East.
- * Compared to European machines, it costs one third with 80 % quality.
- * The machine comes with a 20 year after-sales service and a 3 year guarantee.



➤ Multihead Weigher Machine

Behpoo Co.

www.bhpoo.com



Product Introduction:

Multihead weigher is a fast, accurate and reliable weighing machine, used in packing both food and non-food products.

This machine works in combination with vertical or horizontal Form-Fill-Seal machine, Tray sealers, Thermoforming machines in packaging lines of food industries.

This machine has different models such as 10 head, 14 head and 20 head and has a speed of up to 120 batches per minute with an accuracy of about one gram (depending on the product and target weight).

Main Export Destinations:

Turkey, Iraq, Afghanistan

Exports History:

More than 50 machines/400,000\$

Annual Production Capacity:

180 machines

Founded:

2010

Application:

Multihead weighers were used initially for weighing certain vegetables. However, today they are applicable for weighing granular materials including snacks, chips, nuts, grain and beans, sweets and chocolate, sugar and sugar cubes, spaghetti and pasta, sticky products like shredded cheese and nuggets, falafel and frozen vegetables etc.

This product is final B2B equipment.

Technical Specifications:

- * **Number of heads:** 10, 14, 20
- * **Output weight range:** 10 to 3000 gr
- * **Speed:** Up to 120 bags/min
- * **Accuracy:** ± 1 gr
- * **Bucket volume:** 1.6 and 2.5 lit

Advantages:

- * High quality and accuracy and reasonable price
- * Available after-sales service in the countries of region



➤ Types of Self-Adhesive Backed Labeling Machines

🏠 Vafa Fanavaran Asia Co.

www.vafa-group.com



Product Introduction:

The adhesive backed labeling machine's function and task is to label all types of containers made of plastic, glass, and metal with any geometric shape (cylindrical, cubic, curved surfaces, etc.). The following are the components of this device:

1. **Label affixing unit (applicator):** provides exact label affixing to the needed number of labels on the product.
2. **Round unit (Reprand):** This is a device that rotates cylindrical containers.
3. **Special all-electronic controller unit:** Speed control of various elements of the device, tactile color monitor that allows the user to control various device components.

Founded:

2007

Application:

Food, cosmetics, medicine, chemical, vehicle, and other industries

This product is final B2B equipment.

Technical Specifications:

- * **Capacity of the attaching machine:** about 10 thousand labels per hour
- * Having two electric motors of 0.37 kW
- * Having four electric motors of 0.18 kW
- * Having two sets of 63 K 0.7 degree step motor or 400K servo motor
- * Having one inverter device 1
- * Having two inverter devices 0.5
- * Having LPC microcontrollers based on ARM7 processor

Advantages:

Automation and high speed of the machine



➤ Triblock and Shrink Packaging Machines

🏠 Fara Sanat Kaj Co.

www.farasanatpack.com



Product Introduction:

For non-carbonated and carbonated drinks, a tri-block machine is used to wash, fill, and cap PET bottles. This machine is a fully functional mechanical system with a high level of automation. Shrink machine is used after the washing, filling and sealing operations, as well as labeling, for packaging in packs of 6 and 12, and it packs them without the need for the stitching part.

Main Export Destinations:

Russia, Iraq, Afghanistan

Annual Production Capacity:

up to 500,000 \$

Founded:

2019

Application:

- * **Triblock:** carbonated drinks and juices etc. in PET bottles from 250 to 2250 ml
- * **Shrink pack:** bottle packaging

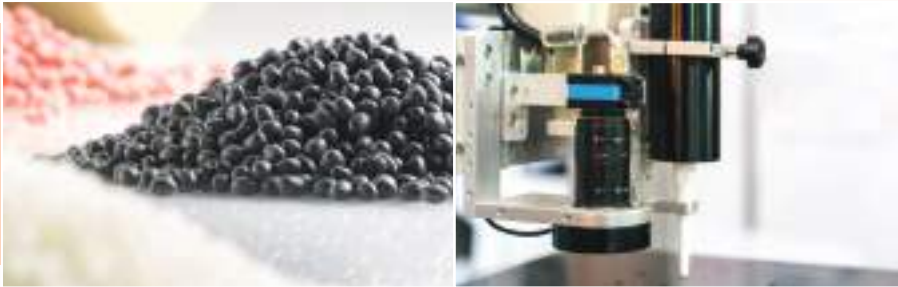
These products are final B2B equipment.

Technical Specifications:

- * **Three-block machine capacity:** 12000-5000 bottles per hour
- * **Three-block machine components:** three washing machines with 24 jaws, filling with 32 nozzles and capping with 8 heads for plastic caps
- * **Shrink machine capacity:** 3 packets/min

Advantages:

- * Reduced production waste
- * High efficiency



➤ Hot Glue Injection Unit

Spadana Co.

www.sadrainstruments.com



Product Introduction:

The hot glue injection unit is used for melting all sorts of hot-melt adhesives with various viscosities and EVA and Polyolefin bases, and has the task of transferring, producing, and regulating pressure as well as melting the glue without breaking its resins.

Annual Production Capacity:

200 machines

Founded:

2014

Application:

Food, pharmaceutical, textile, printing and packaging, medicine, ceramic and tiles, nuclear energy, gas, oil, steel, and petrochemical refinery are only a few of the industries.

This product is final B2B equipment.

Technical Specifications:

Customized design based on the type of adhesive and production circumstances

Advantages:

- * Reasonable price to quality ratio
- * after sales service

**Application:**

Beverage packaging

➤ Liquids Triblock Filler Machine

🏠 Barzin Sanat Koosha Co.

www.barzinsk.ir

**Product Introduction:**

In packaging bottles, especially PET bottles, triblock refers to having three roles. The following are the three functionalities that are installed on a device:

1. Bottle washer
2. Load filler nozzle
3. Sealer

The speed of tri-block machines is typically determined by the bottle volume and manufacturing capacity. This machine also has an air conveyor system to align the bottles and increase speed.

Founded:

2012

These products are final B2B equipment.

Technical Specifications:

- * **Capacity:** more than 10,000 bottles per hour
- * **Sealing capacity:** 3000 caps and head sealers
- * **Normal operating temperature range:** from 10-40 °C with high humidity
- * **Input power:** working voltage 380 volts and frequency 50-60 Hz with a power of 8 kW
- * **Container diameter:** 50-105 mm
- * **Wind use:** compressed air with a pressure of 6 to 10 bar

Advantages:

- * In all phases of the device, high quality and performance are required.
- * Reasonable price in relation to quality



➤ Smart System for Aggregating, Transferring, Detecting and Separating Packaged Products From Production Lines to Warehouses

🏠 Nita Machine Keyhan Co.

Product Introduction:

Multiple manufacturing lines are common in many industries, and these production lines commonly make and package distinct items. The movement of this vast and diversified amount of items to their production storage is one of these manufacturers' main issues. However, all items entering the warehouse in these factories must be watched and stored as warehouse input. This intelligent system's functioning mechanism ensures that the commodities are delivered to the processing system through a conveyor at a safe distance. It also uses mechanical devices to separate packages according to their needs, such as barcode readers, weighing, RFID, and so on. This device must operate at a fast speed and complete the separation process in accordance with the requirements.

Founded:

2016

Application:

Manufacturers and distributors

These products are final B2B equipment.

Technical Specifications:

The device's many components include an input and output conveyor, a spacer, a product identification system, and a sorter (conveyors can be controlled by the PLC of the device simply or with adjustable speed).

Advantages:

- * High speed
- * Automation



➤ Triblock Bottle Filler Machine (Washing, Filler and Sealing)

🏠 Karsan Paya Apadana Co.

www.kpaco.ir



Product Introduction:

Along the mineral water production process, the triblock filling machine performs the three major tasks of washing bottles, filling them, and capping them. Gravitational, cylinder and piston, vacuum, modular, and peristaltic pumps are the five major categories of these machines.

Depending on the substance, container, injection amount, and precision, each case will be different. This device contains a sensor to safeguard the traffic queue at the exit valve and is in the forms of gravitational and rotational.

Founded:

2017

Application:

In the food sector and mineral water production, this device is used for cleaning, filling, and closing bottle caps.

This product is final B2B equipment.

Technical Specifications:

- * **Machine capacity:** 7000-10000 bottles per hour
- * **Manufactured bottle volume:** 0.5-1.5
- * **Number of faucets:** 24-32

Advantages:

- * High manufacturing capacity
- * Compared to the high quality of items, the price is low.
- * Extensive after-sales service



➤ Fully Automatic Shrink Pack Packaging Machine

🏠 Nadi Pack Co.

www.nadipack.com



Product Introduction:

Two steps are involved in shrink packing. Sewing the film around the product is the first stage, and heating the closed film is the second. This machine combines a completely automatic shrink sewing machine with a fully automatic shrink tunnel machine, as its name suggests. When the two machines are combined, a tiny, completely automated factory is created.

Fully automatic shrink pack machines consist of two machines that can be attached to each other, both of which are fully automated and have the following features:

- * Sewing machine for shrink film sewing
- * A heat tunnel to heat the product while it is sewed.

Application:
Packaging industry

This product is final B2B equipment.

Technical Specifications:

	Capacity	Power	Weight	Maximum consumption volume	Dimensions
	product	kW	kg	mm	mm
Sewing machine	1800	8	164	250	600 (width)
Thermal tunnel machine	2000	2-3	110	250	530×350

Advantages:

- * High speed
- * Automation



➤ Fully Automatic Seal Vacuum Packaging Machine

🏠 Nadi Pack Co.

www.nadipack.com



Product Introduction:

Food can be packaged in disposable containers using a seal vacuum machine. Vacuum seal machines, often known as seal packs, remove air from within the packages, extending their shelf life. These machines can introduce protective packaging gases such as CO₂ and N₂ into the package in addition to venting the inside air. This keeps the product from oxidizing and smelling inside the package.

Application:

Packaging industries

This product is final B2B equipment.

Technical Specifications:

- * **Packing speed:** 8-12 packages per minute
- * **Body material:** steel
- * **Power:** 5.5 kW (three-phase power: 380 volts and 50 to 60 Hz)
- * **Machine dimensions:** 2750 × 900 × 1550
- * **Weight:** 500 kg
- * **Pump power:** 63 m³/h
- * The vacuum settings has an accuracy of -0.001 mm Hg and positive pressure up to the amount of open ambient pressure with an accuracy of + 0.01 mm Hg
- * This machine is capable of packing containers with a maximum height of 100 mm and the maximum film width is 480 mm.

Advantages:

- * High speed
- * Automation



➤ UF Cheese Production Line

🏠 Shargh Sanat Neishaboor Co.

www.sharghsanat.com



Product Introduction:

Cheese packaging lines are highly flexible, producing 1800 to 8000 packages with 100 to 450 cc volumes. The structure of packaging lines consists of four parts:

1. Glass charging and disinfection set: separating the glass and transferring it to the UV ray tunnel.
2. Filling set: glass transfer to the filling conveyor, glass detection, anti-stick spray, concentrate and rennet injection, anti-foam spray, and transfer set to the coagulation tunnel conveyor.
3. Coagulation tunnel: This tunnel is for keeping the filled glasses for about 20 minutes to coagulate and transfer the packages to the output conveyor.
4. Packaging set: entering the glass and placing it inside the holes, placing parchment paper, adding dry salt, putting foil on the glass and injecting nitrogen (azote) gas, waterproofing (sealing) the aluminum foil on the containers and taking the glasses out to the output conveyor and finally placed in the cartoning machine selectively.

Main Export Destinations:

Iraq, Kuwait, Afghanistan

Exports History:

Up to 500,000\$

Founded:

2016

Application:

Food industry for packing cheese

This equipment is the product production line.

Technical Specifications:

Device Model	Each Package Volume	Container Dimensions	Packaging Speed	Minimum Dimensions of Settlement (Meter)
Uf500-1800	200 × 450	90 × 130	Max = 1800	7 × 11
Uf500-3200	200 × 450	90 × 130	Max = 3200	9 × 13
Uf500-4500	200 × 450	90 × 130	Max = 4500	9 × 13
Uf-100-4000	100 × 200	70 × 95	Max = 4000	7 × 11
Uf-100-8000	100 × 200	70 × 95	Max = 8000	9 × 13

Filter precision for all models: ±1%

Advantages:

- ✧ Equipped with SIEMENS controller (Germany)
- ✧ Equipped with German SICK sensors
- ✧ Equipped with German FESTO pneumatics cylinders
- ✧ Equipped with DANFUSS inverters



➤ Fully Automatic Milk Ultrafiltration (UF) Machine

🏠 Sout Machine Co.

www.soutmachine.com



Product Introduction:

The ultrafiltration device is used to concentrate milk or whey using membrane filters or membranes. This device has several special membrane filters or UF membranes (Spiral Wound system or a screen with organic polymer membranes) which has the ability to concentrate milk at a ratio of 5 to 1, and after condensing the milk, in order to produce cheese, some rennet is mixed with milk and poured directly into packaging containers and packed.

Main Export Destinations:

Italy, Bolivia, Azerbaijan, Turkmenistan, Syria, Iraq

Exports History:

Up to 10,000,000 \$

Founded:

1993

Application:

Production of white cheese

This equipment is the product production line.

Technical Specifications:

- ✳ **Standard machine capacities:**
3000, 5000 and 10000 liters per hour

Advantages:

- ✳ Reducing water and energy consumption
- ✳ Reducing crop waste
- ✳ Reducing environmental impacts
- ✳ Reducing human error by using an intelligent system

International Standards or permission:

ISO 9001
ISO 14001
ISO 18001
ISO 22000
CE



➤ Full Package of Mixer, Cooking and Processing of Processed Cheese

🏠 Parsian Tarh Sina Co.

www.ptsmachinery.ir



Product Introduction:

The full package of mixer, cooking and processing of processed cheese is used to perform all stages of cooking, mixing and complete processing of various types of processed cheeses. The main cooking tank is equipped with a multi-layer cutter with very high cutting power and speed and a low-speed mixing arm. Steam enters the product directly during the process and is placed in the texture. The process is done in a mechanized way in vacuum and the steam is constantly blown into the texture of the product and the excess air and steam are removed, also the product is constantly stirred and cut until the cheese reaches the desired texture.

Annual Production Capacity:

15 machines

Founded:

2005

Application:

Production of types of processed cheese

These products are final B2B equipment.

Technical Specifications:

- * **Device material:** all stainless steel AISI 304 and AISI 316L
- * **Manufacturing capacity:** from 300 up to 600 liters per batch
- * **Device dimensions (capacity: 300 liters):** 4500×2500×4000
- * Has a system of direct steam injection to the product and indirect steam for heating up to 95 °C
- * Cutter with a speed of 3000 rpm with the possibility of speed control
- * Strong arm for kneading the product and equipped with material lift
- * Equipped with vacuum mixing system

Advantages:

- * Reasonable price in relation to quality
- * After sales service



➤ Juice & Milk Pasteurizer Unit

🏠 Sout Machine Co.

www.soutmachine.com



Product Introduction:

Pasteurization refers to the heating of food in order to destroy bacteria and inhibit their development. This machine operates by taking raw milk with a temperature of 4 °C from the storage tank and raising it to 72 °C to 75 °C without utilizing a flame or heater and instead relying on the temperature of hot water. It is held at this temperature for 16 seconds before being cooled to 4 °C for pasteurized milk (and 25 °C to 45 °C for other products such as yogurt, cream, kefir, or cheese), and then transferred to another storage repository. The number of suctions and plate sheets used in the device's construction are the key differences between yogurt, cream, Kefir, and milk pasteurizers for cheese, and the remainder of the pasteurization temperature settings can be modified via the device's control panel.

Main Export Destinations:

Italy, Bolivia, Azerbaijan, Turkmenistan, Syria, Iraq

Exports History:

Up to 10,000,000 \$

Founded:

1993

Application:

Dairy products and juice pasteurization

This product is final B2B equipment.

Technical Specifications:

- * **Unit standard capacities:**
3000, 5000, 10000, 15000, 20000, 25000 and 30000 l/h
- * **Ice water temperature:** less than 3 °C
- * **Steam and ice water pressure:** 4 bar
- * **Compressed air pressure:** 6 bar

Advantages:

- * Reducing water and energy consumptions
- * Reducing product waste
- * Reducing environmental impacts
- * Reducing human error by using an intelligent system

International Standards or permission:

- * ISO 9001
- * ISO 14001
- * ISO 18001
- * ISO 22000
- * CE



➤ ESL Ultra Pasteurizer Unit

🏠 Dama Gostarsazan Novin Co.

www.damagostargroup.com



Product Introduction:

Pasteurization of milk and other dairy products is one of the most essential heat treatment techniques. The materials will have a long shelf life if this procedure is done correctly, and the sources of common human and animal illnesses will be eradicated. The pasteurization temperature rises from 74-90 degrees Celsius to 128 degrees Celsius, with a storage duration of 4 to 21 seconds at this temperature. The amount of time it takes to maintain a product and how long it lasts without preservatives varies depending on the product.

Main Export Destinations:

Iraq

Exports History:

Up to 500,000 \$

Founded:

1999

Application:

Used to make goods such as cream, milk, baby food, ketchup in various concentrations, and other related items.

This product is final B2B equipment.

Technical Specifications:

- * Up to 128 °C indirect heating capabilities
- * Energy usage in a 5000 litres/hour capacity
- * 6 BAR compressed air pressure
- * The amount of compressed air on the control panel: 120 NI / H
- * The regulator and the steam valve produce 80 NI / H of compressed air.
- * The amount of steam used was 240 KG/H at a pressure of 6 BAR.
- * 400 volts / 50 Hz is the required power.
- * The quantity of water used during full CIP, sterilization, and flushing is 15000 liters per hour.
- * In sterile CIP and flush, the required water pressure is at least 3 BA.

Advantages:

- * Decreased reliance on aseptic packaging technologies that are complicated.
- * Up to 40 % energy efficiency compared to foreign technologies.

**Application:**

Dairy industry

➤ ESL-Based Milk Pasteurization Machine

🏠 Hamgaman Co.

Product Introduction:

The milk is pasteurized utilizing a heat shock and a rise in reservoir pressure in ESL technology, which increases the shelf life of the milk from 3 to 4 days to roughly 21 days without affecting the taste or beneficial elements.

A heat shock of 125-7 °C for around 5 seconds is required for an ESL valve. Hydrogen molecules make up a major portion of milk (due to the water in the milk). A regulated magnetic field is delivered into the flow valve of the input system in this device, which causes the equalization of hydrogen molecules, dependent on the properties of milk (fat, etc.), and as a result, the milk is ready to accept heat shock with the least amount of energy, and heat shock is given to the milk using an elemental heating system and a PNP cooling system, and an ESL milk product is produced.

These products are final B2B equipment.

Technical Specifications:

- * Heat shock difference 120 °C
- * Heat shock error coefficient 5 °C
- * Heat shock duration 4.6 seconds
- * Error coefficient of Heat shock duration 0.8 seconds
- * Maximum ESL milk production capacity in an in vitro sampler: 7 liters per hour (168 liters per day)

Advantages:

- * Decreasing energy consumption
- * Reasonable price in relation to quality



Application:

- * Production of hot and cold sauces such as ketchup, pepper mayonnaise, etc., cream, chocolate cream, desserts and similar products in the food industry
- * Production of creams, hair dyes in the cosmetics industry as well as similar products in the chemical industry

➤ Full Package of Vacuum Homogenizer Mixer

🏠 Parsian Tarh Sina Co.

www.ptsmachinery.ir



Product Introduction:

This homogenizer mixer has an automatic operation and it is equipped with load-cell and automatic batching with software adjustment by the user right from the panel of the device. The mechanism of action of this device is micronisation of the product texture, in vacuum and away from oxygen, with the help of high speed rotor-stator homogenizer (3000 rpm) and complete homogenization of aqueous, oily and powdery solid phases. This ultimately leads to the production of a sauce, cream or a completely homogeneous and stable fluid, and the whole process from the beginning, including batching and dosing, and then the discharge of product is done automatically and adjustably from the user panel of the device (PLC-HMI). Parameters such as process temperature, vacuum level and different batching steps can be controlled.

Annual Production Capacity:

15 machines

Founded:

2005

This product is final B2B equipment.

Technical Specifications:

- * **Device material:** all stainless steel AISI 304 and AISI 316L
- * **Manufacturing capacity:** 100 to 120000 liters per batch
- * **Device dimensions (capacity: 1000 liters):** 3000×3000×2500 mm
- * Having side tanks equipped with pre-mixing homogenizer with a power of 5.5 kW for the entry of raw materials
- * Having a load-cell to display material weight and schedule process steps
- * Triple-wall tank, the ability to connect steam and cold water to control the temperature of the product in different stages
- * Equipped with lube pump for discharge, circulation and material handling

Advantages:

- * Reasonable price in relation to quality
- * After sales service



➤ Fully Automatic Machine for Cookies, Nut Cakes, Pastries and Bulk Bread

🏠 Omid Karan Lahij Co.

www.omidico.com



Product Introduction:

The dough and the filling are put into two separate hoppers in these machines, and the filling is inserted within the dough by extruder screw barrel at the same time as the kernel is pressed and cut out of the nozzle, thanks to a specific and regulated mechanical mechanism. The impact of weights connected to pneumatic jacks, flattens and patterns the surface of the dough roll, which is subsequently deposited in the tray by the guiding system. The moderate technical difficulty of this product is demonstrated by the line's reasonably high speed, perfect automation, and variety of goods, particularly pastries with two-color doughs.

A production line for these goods may also be set up by adding a coating, tunnel oven, cooling, and packing.

Main Export Destinations:

More than 50 countries including: Germany, UAE, Turkey, Syria, Russia, Canada, Greece, Iraq and...

Exports History:

5,000,000 - 10,000,000 \$

Annual Production Capacity:

150 machines | 24 full automatic product line

Founded:

2001

Application:

Flour, cake and confectionery industries

These equipments are the product production lines.

Technical Specifications:

the fully automatic machine for cookies, pastry and biscuits with filling is produced in the following 5 types:

number of nozzles	Production Capacity (n/h)	Weight (kg)	Product weight	Machine dimensions (mm)	Power consumption
6	20000-28000	1700	8-55 g	2250 × 1700 × 4800	12 kW - 380 watts - 3 phases
8	30000-38000	1900	8-55 g	2200 × 2000 × 5500	15 kW - 380 watts - 3 phases
10	40000-50000	2100	8-55 g	2200 × 2250 × 5500	17.5 kW - 380 watts - 3 phase
12	50000-64000	2050	5-45 g	2200 × 2500 × 6000	20 kW - 380 watts - single phase
16	80000-115000	1100	5-25 kg	2200 × 2000 × 3000	10 kW - 380 watts - 3 phases

Control system: PLC and touch screen

Advantages:

- * Line speed is rather fast
- * Precise automation
- * a wide variety of products
- * CE



➤ Baking Mix Production Machine

Argon Sanat Sepahan Co.

www.argonsanat.com



Product Introduction:

Generally, a mix machine is a device that can be used to mix, shape, and knead materials while also cooking them at the right temperature. This machine is used to make processed cheese and other similar items by mixing, baking, and processing them. Crushing, mixing, homogenizing, heating, and chilling are the stages of this machine.

Founded:

2010

Application:

Dairy industry

This product is final B2B equipment.

Technical Specifications:

- * **Capacity:** 100 to 500 liters
- * The machine is made of 304 and 316 stainless steel with triple walls
- * **Machine equipment:**
 - Crushing and homogenizing blades
 - Stirrer arm with scraper blade
 - Inlet cone with automatic valve on top of the device to charge raw materials
 - Outlet with pneumatic valve for an easy evacuation
 - Jacket-equipped wall for heating and cooling operations, along with the valve with the capability to control via PLC
 - Direct and indirect steam injection system and filtration system for direct steam injection
- * **Vacuum system including pump:** vacuum pressure display gauge, controllable valve, and vacuum pressure regulating valve
- * Portable electrical panel, Touch Screen with PLC program installed on the device

Advantages:

- * A machine that is both efficient and combines numerous process stages into one.
- * Affordability in relation to quality



➤ Automatic Wholemeal Flour Processing Machine For Baking Industrial Bread

🏠 Nan Yousof Co.



Product Introduction:

This item is a flour processing line for bread baking. In the first phase, the classic millstone technique is utilized to revive the right process of making wheat flour, ensuring that all healthy and stable wheat components are present in wholemeal flour, and instead of water circulation, an electromechanical approach is employed in millstone rotation performance.

After kneading by the mixer, a particular fermentation chamber is designed and built so that the materials inside the dough can grow naturally, and all of the technological expectations have been observed in its precise calculation (dough rest between 3 to 4 hours). Machines that automatically execute dough molding and flattening are designed and built in the third phase. In the fourth phase, a vibratory and indirect heat furnace is designed, and traditional types of bread (such as Taftoon, Sangak, and Barbari) are cooked in the clay and mud environment. Finally, this system has been made with various sorting, cooling, and packaging mechanisms.

Founded:

2013

Application:

Flour and bread industries

This product is final B2B equipment.

Technical Specifications:

- ✧ Having a dishwashing system after discharging the dough
- ✧ **Flour support helix:**
250 kg flour tank, with flour transfer helix, with 2 gearbox motors
- ✧ **Roller:**
200 g automatic rolling mechanism, with three motors, gearbox, hopper and electronic accessories
- ✧ Aromatic granulation system by all-steel vibrating feeder
- ✧ Conveyor belt system for transfer of flattened roll to the middle transfer with two motors and gearbox.
- ✧ The main structure of the baking oven with bread extractor: Clay oven with 2 gearbox motors and 2 heat burners and mechanical accessories

Advantages:

- ✧ Semi-automatic machine
- ✧ Improved quality of bread
- ✧ Elimination of wheat bran has a positive impact on public health (whole grain bread)



➤ Shelling Line Machinery for Pistachio, Almond, Hazelnut, Walnut, Etc.

Tabrizkar Co.

www.tabrizkar.ir



Product Introduction:

The shells of nuts are broken and separated from kernels with this instrument. The non-use of water in the product's production stages, as well as the absence of human intervention in the production stages and the automatic performance of the production stages, are all characteristics of this device. The weight difference method is used to separate the kernel from the shell in this section. The device's operation steps are as follows:

1. Feeder tank and primary lift
2. Grading
3. Breaking the hard skin
4. Stages of cleaning and separating soft parts, dirt and useless parts, skin, semi-broken, whole kernels from each other
5. Control bar
6. De-dusting cyclone

The characteristics of the production machine vary depending on the product's hardness, toughness, or fat content. The placement of the cylinder groove, rotation speed, blade surface material and size, blade angle relative to the horizontal axis, mesh size, and, most crucially, cleaning

Main Export Destinations:

Export to about 30 countries in 4 continents such as: Spain, Turkey, Afghanistan, Uzbekistan, Russia, Greece, Cyprus, Lebanon, Kyrgyzstan, Tajikistan

Exports History:

Over than 5 M\$

Founded:

2014

technique (gravity, volumetric weight, and mass weight) should all be taken into account.

Application:

To separate the kernels of closed-shell pistachio, almond, hazelnut, walnut

This equipment is the product production line.

Technical Specifications:

- * Capacity 100 kg/h to 1000 kg/h and higher tonnages,
- * Fully automated,
- * A continuous and linear performance,
- * Power consumption up to 50 amps depending on the line capacity

Advantages:

- * Very high efficiency
- * Low noise
- * An integrated design
- * Ease of operation
- * Very low cost of maintenance and services
- * Free installing, launching, instruction and guarantee

International Standards or permission:

- * ISO 9001
- * CE



➤ Pistachio Sorter Machine

🏠 Nojhan Co.

www.nojhanco.ir



Product Introduction:

This machine is used to sort and categorize the desirable pistachio from discolored pistachio, goo (pistachio skin still attached), broken pistachios, unsplit pistachios and waste (pistachio skin and branch).

Using laser systems and image processing is the separating mechanism in this machine. The identification system comprises two cameras in front of each other that take photos at a frequency set by the main board and assess if the pistachio is acceptable or unwanted by analyzing the photographs. The main board detects the unwanted pistachios and instructs the pneumatic rejectors' driving board to shoot the pistachio into a different basket.

Annual Production Capacity:

40 machines

Founded:

2014

Application:

- * Pistachio packaging factories
- * Pistachio producers
- * Pistachio exporters
- * Pistachio seed sorting terminals
- * Sellers of nuts and dried fruits

This product is final B2B equipment.

Technical Specifications:

- * **Capacity:** 0.5 - 1 ton per hour
- * **Weight:** 150 - 600 Kg
- * **Dimensions (height-length-width):** 2 × 2 × 0.9 - 2(m)
- * **Electric power consumption:** 1 - 4 Kw

Advantages:

- * Special for pistachios
- * Possibility of pistachio sorting with high accuracy



➤ Industrial Food Freeze Dryer | Food And Oral Medicine

Parseh Co.

www.parsefreezedry.com



Product Introduction:

Heat and vacuum technologies are used in the freezer dryer machine to dry heat-sensitive materials. The substance is frozen first, and then the frozen water in the material is sublimated by lowering the pressure and adding heat. The direct conversion of ice to steam is the most essential physical phenomena in this process. The majority of the product qualities are retained in this manner, and there is no need for a cold chain to keep the product fresh. The machine software controls the drying process automatically. There are three types of production freeze dryers: research, food, and pharmaceutical.

Main Export Destinations:

Middle East, Central Asia, Eastern Europe, Latin America and North Africa

Exports History:

Up to 500,000 \$

Annual Production Capacity:

50 machines

Founded:

2009

Application:

Food industries (fruits, summer crops, vegetables, dairy products, food products, etc.), applications of the pharmaceutical industry, including injectable drugs, vaccines, human body tissues, biological products, probiotics, enzymes, starters and ...

This product is final B2B equipment.

Technical Specifications:

- * **General machine dimensions:**
1.2-6 m wide, 1.6-16 m long, and 1.6-16 m high,
- * **Tank material, shelves and ice condenser:** AISI 304 Stainless Steel
- * **Number of shelves:** 5 + 1 to 24 + 2
- * **Shelves dimensions:** 390 × 1030mm to 10000 × 1200mm
- * **Total usable sublimation area:** 2 to 204 m²
- * **Condenser capacity:** 24 to 2500 kg / Batch
- * **Ultimate tank pressure:** 0.02 to 0.1mbar
- * **Machine control:** PLC & HMI
- * **Power consumption:** 6 KW to 220 KW
- * **Voltage:** three-phase, 380 V, 50 Hz
- * **Approximate machine weight:** 750 to 34000 kg

Advantages:

- * Reasonable quality and price
- * up-to-date technologies used in the device
- * the ability to design and build custom-made according to customer requests

International Standards or permission:

- * ISO 9001
- * CE



➤ Dryer for Medicinal Plants

🏠 Grouc Co.

www.grouc.com



Product Introduction:

To dry medicinal plants, this machine employs two methods: hot wind and an infrared lamp. The temperature ranges from ambient to 90 °C, with humidity control ranging from 10%-90%. It is also possible to create scenarios for various temperatures and humidity levels, as well as varied infrared lamp illumination cycles. The machine also has a circulation fan attached. An electronic board with a micro AVR controls the temperature and humidity.

Founded:

1994

Application:

Medical plants dryer

This product is final B2B equipment.

Technical Specifications:

- ※ Four heat lamps are built inside the all-steel interior body.
- ※ Drying by radiation
- ※ It contains dehumidification and circulation fans
- ※ Temperature, humidity, and time are all controlled via a programmable control system.
- ※ Temperature change is less than one degree.
- ※ Temperature range: from ambient to 95 °C
- ※ Unique mesh trays (depth × height × width) 120 × 70 × 65 cm

Advantages:

Reasonable propotion of price to quality



➤ Perpendicular Paddy Ice Dryer Machine

🏠 Khazar Electric Co.

www.khze.com



Product Introduction:

Since paddy and grains have significant moisture after harvest, their shelf life is shorter than three days, after which they will decay, get moldy, and induce aflatoxin illness if they do not dry out. This problem can be easily solved by using a Perpendicular Paddy Dryer Machine. This machine dries paddy and grains using heat and rotation, and it keeps the moisture content of the rice and grains under control.

Main Export Destinations::

Azerbaijan, Armenia, Afghanistan, Indonesia, Tajikistan,
Turkmenistan, Iraq, Kenya, Colombia and....

Exports History:

1,000,000 - 2,000,000 \$

Annual Production Capacity:

200 machines

Founded:

1986

Application:

- ※ Drying paddy to turn into rice in rice mills
- ※ Drying wheat, corn, beans, and other seeds and grains

This product is final B2B equipment.

Technical Specifications:

- ※ **Machine capacity:** 4.5 to 12 tons in one working cycle
- ※ **Drying speed:** 1 to 1.5 h
- ※ **Dimensions:** 3.27 m long, 1.94 m wide, 5.57 m high
- ※ **Fuel type:** gas or diesel
- ※ **Maximum combustion:** 13.5 l/h
- ※ **Voltage:** Three-phase 380 volts

Advantages:

- ※ Drying grains (such as soybeans) in the form of seeds.
- ※ The machine's high drying capacity and speed in drying operations
- ※ Due to the revolving flow of rice and grain, there is less fuel usage.
- ※ When compared to other types of dryers, the low power consumption is attributed to the gearbox and type of electric motors used.
- ※ Spreading paddy within the machine with the help of the distributor system
- ※ Ease of service and repair of machine parts



➤ Thermal Dryer

🏠 Ehyagaran Ghalb Sanaat Asia Co.

www.royeshgar.com



Product Introduction:

Fruits, fresh vegetables, and a variety of medicinal herbs can all be dried with the dryer. This gas dryer has a tray with a thermal type, and its furnace is isolated from the cabin, so only hot air is delivered to the product indirectly through the blowers, and consequently the product dries uniformly.

The canalizations within the chamber are created using simulation software and scientific models such as Fibonacci to ensure that hot air flows at the same temperature and speed throughout the chamber. This machine has a smart control, and by accurately adjusting the humidity, temperature, and timing for each product, the product can be dried to the desired quality while avoiding burns, energy waste, and capital loss.

The product is put on shelves and trays constructed of galvanized iron with a steel coating that are resistant to heat, corrosion, and fruit acid reaction.

Main Export Destinations:

Canada, Armenia, Georgia, Oman, Iraq, Afghanistan

Exports History:

up to 500,000 \$

Annual Production Capacity:

50 machines

Founded:

2012

Application:

Drying all kinds of fruits, vegetables and medical plants

This product is final B2B equipment.

Technical Specifications:

- * Input to output weight ratio: 1 to 10
- * Chamber dimensions: 220 × 170 × 120 cm
- * Furnace dimensions: 100 × 100 × 150 cm
- * Gas consumption: 4-5 m³
- * Power consumption: 2-2.2 kWh
- * Number of trays: 60
- * User area: 216,000 cm²
- * Loading capacity: each tray 1.5 -7 kg per load
- * Machine weight: 500 kg

Advantages:

- * Low fuel consumption and great production capacity
- * Reasonable price compared to product quality

International Standards or permission:

- * ISO 9001: 2015



Application:

Poultry industry for sorter, candling, loader, packaging and printer in egg packaging

➤ Sorting Line and Egg Packing

🏠 Hamgam Radin Lyan Co.

www.hrl-co.com



Product Introduction:

The egg packer machine receives the eggs in bulk and arranges them in six rows, rotating the eggs so that the sharp tip is at the bottom and the broad bottom (air chamber) is at the top, and the eggs are ready to be laid on the egg tray carton. The eggs are electronically weighed, split into weight categories, and removed from the machine using an egg sorter.

The following are the parts of the sorting line and egg packing:

1. **Input:** There are two methods for sorting and packing eggs: cage entry and automation.
2. **Candling:** The input eggs are transferred from the loader to the condenser, where they are turned about themselves before passing through the light portion. The piece exposes cracks, blood stains, fractures and dirt of the eggs, which are separated by hand, in the light portion, which employs unique LEDs.
3. **Sort section:** The eggs are measured electronically from the candling section to the sort section, and then sorted into weight ranges of 0.5 g to 100 g according to the sorting program provided by the user to the machine.
4. **Packaging:** Each grade's output eggs are gathered in either of two ways: manually or by packer.
5. **Traying:** After packaging, the eggs should be trayed. Production and expiration dates, manufacturer brand, health code, and, in the event of export, ir code are all included in the combination.

Founded:

2012

This equipment is the product production line.

Advantages:

- ※ The machines are fully automated
- ※ optimal energy usage
- ※ High efficiency



➤ Egg Packing Line

🏠 Arian Behrang Siah Ghalam Co.

www.abjetprinter.com



Product Introduction:

The egg trays are put into the completely automated loader in this line, which loads the eggs from the tray to the candling machine. The pecked and contaminated eggs are subsequently discovered by egg candling. Eggs are graded in four classes in the egg sorter based on their weight. The egg can then be manually picked off the table, or a farm packer can be used to position the egg with a sharp point inside the tray using a farm packer. A jet printer is often put at the end of production lines, after all production procedures have been completed. Its primary responsibility is to input variable product information such as manufacturing date, expiration date, price, serial number, manufacturer logo, working shift, barcode, etc.

Founded:

2016

Application:

Poultry industry for egg packaging including:

Loader, Candling, Sorter, Farm Packer, Labeler, and Jet Printer

This equipment is the product production line.

Technical Specifications:

This line's entry is in the form of trays with 30 slots.

Farm packer:

- * Engine power: 0.37 KW and 0.18 KW
- * Accuracy: 0.1%
- * Operating temperature: -10 degrees Celsius and above
- * Collection capacity: 30,000 eggs per hour

Advantages:

Accurate timing for a better performance of line components

Technical Specifications:

Boiler output	Pressure	Safety Valve	length	width	Height
Kg/hr	bar	Inch	mm		
DS-HS-FT-500	10 (150)	1 4/1	2600	1850	1800
DS-HS-FT-750			2600	2000	1800
DS-HS-FT-1000			2600	2150	1950
DS-HS-FT-2000			3300	2350	2350
DS-HS-FT-3000			3850	2650	2600
DS-HS-FT-4000			4500	2750	2600
DS-HS-FT-5000		1 2/1	5000	2950	2900
DS-HS-FT-6000			5100	3100	3100
DS-HS-FT-7000		2	5200	3200	3100
DS-HS-FT-8000			5700	3300	3200
DS-HS-FT-10000			5900	3700	3600
DS-HS-FT-12000			6300	3780	3600

Advantages:

- * Existence of several hand holes and manholes in Daboo- Sanat's boilers causes to have an easy access to the boiler tubes' areas and furnace which simplifies descaling and maintenance.
- * Because of having a wetback design, the maximum required longitudinal distance in the boiler's rear side is 1000mm.
- * These boilers are designed based on the maximum pressure, which is 1.1 times as much as operating pressure. Also, boiler are tested hydrostatically at the pressure of 1.5 times over than its design.
- * Base on the boiler operating pressure (i.e. 10 bar), the steam outlet temperature is 184 °C.
- * The required electricity source for the boiler operation is three phase (50 Hz, 380 V).
- * The design of this boiler is such that minimum possible pressure loss occurs in its combustion chamber, so, any type of standard burner can be used in order to run it.
- * Economizer, recuperator, and turbulator are some kind of energy consumption reducing components which can be implemented according to the boiler capacity and operating pressure and also economic issues.

International Standards or permission:

- * E12953 | HTM2031 | EN285
- * ISO 9001:2008

➤ Fire Tube Steam Boiler

🏠 **Makhzan Foolad Rafe Co.**

www.daboosanat.com

**Product Introduction:**

The steam boiler is a sealed tank that converts water into steam to be used in a variety of applications using combustion fuel. According to the kind of steam produced, steam boilers are classified as FIRE TUBE or WATER TUBE boilers, each of them having its own types.

These boilers with the capacity of 50 - 31750 kg/h operate at different operation pressures between 3 - 25 bars. The design of boilers is fire tube, horizontal, three pass and wet back which have the ability to run with different kinds of fuel such as gas, liquid, and solid (coal) fuels.

Some of these boilers' excellent features are optimum fuel consumption, high efficiency, simplicity of precaution and maintenance, Low occupancy volume, and high strength. In this boiler's design, the main furnace tube (1st pass) is located at below the boiler's horizontal axis line. The secondary part of the furnace is set at the end of boiler and is wetback type. This design has a significant effect on occurring the turbulent combustion products flow and eliminates the need of incombustible materials and brick at the end of the boiler. Moreover, this design causes to increase the boiler life and efficiency, and also decrease its maintenance cost. Based on the boiler operating conditions (its capacity and operation pressure), the boiler's furnace can be selected in two different types: Corrugated furnace and Hoop furnace.

Main Export Destinations:

Azerbaijan, Armenia, Uzbekistan,
Turkmenistan, Iraq, Kazakhstan,
Afghanistan

Exports History:

Up to 10,000,000 \$

Founded:

1999



➤ Advanced Process Tanks

🏠 Aroko Farayandsazan Sharif Co.

www.arokobioeng.com



Product Introduction:

Process tanks are used in pharmaceutical organizations to offer adequate conditions for the manufacture, processing, and storage of solutions. Among these reservoirs, we can note the culture medium and buffer environment construction and maintenance tanks. In order to homogenize temperature and concentration, most tanks feature a mixer at the bottom.

Main Export Destinations:

Turkey

Exports History:

Up to 500,000 \$

Annual Production Capacity:

50 machines

Founded:

2013

Application:

Chemical and pharmaceutical industries

This product is final B2B equipment.

Technical Specifications:

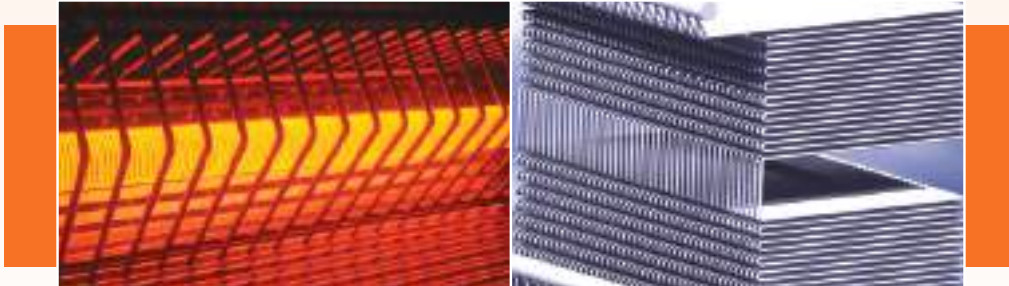
- * **Material:** Stainless Steel 316 L and electropolished
- * **Capacity:** 20-10,000 l
- * **Operating temperature:** up to 150 °C
- * All pipes and connections are in place for a SIP / CIP tank.
- * Having several input lines to add the appropriate components to the tank
- * Having a gas membrane filter to feed inlet gas to the tank in a sterile way
- * Specially designed magnetic stirrers with high tension for solution (if needed)
- * Having a rupture disc to protect the tank from undesired pressures that exceed the design pressure.
- * Using a PLC control system with a SCADA or HMI to run the equipment totally autonomously.
- * Having a variety of alarms to alert the operator in the event of an emergency

Advantages:

- * high-quality design and construction processes in a variety of capacities.
- * Reasonable pricing compared to product quality.

International Standards or permission:

- * Complying with pharmaceutical GMP principles and design according to ASME BPE standard
- * OHSAS 18001:2007
- * STEM CELL AND REGENERATE MEDICINE
- * ISO 9001:2016
- * ISO 45001



➤ Super Heater

🏠 Packman Co.

www.packmangroup.com



Product Introduction:

A superheater is a converter that uses the heat of a furnace's combustion gases to remove moisture from steam and overheat it. In the circulation circuit of superheaters, a large number of parallel tubes are in touch with a series of exhaust pipes. The boiler condensate water enters this external superheater and is preheated before entering the boiler again. The preheating temperature is carefully controlled to avoid saturation at 200 °C, which would result in steam. This superheater's burner is full-modular, and the control system is set up to match the flame length to the output steam temperature of the superheater to maintain the necessary temperature tolerance. This superheater's control mechanism is an open loop.

Main Export Destinations:

Germany, Azerbaijan, Uzbekistan, Afghanistan, Iraq and Kuwait

Exports History:

Up to 500,000 \$

Annual Production Capacity:

500 ton

Founded:

1975

Application:

- ✧ Oil and petrochemical industries
- ✧ Food industry
- ✧ pharmaceutical Industries
- ✧ Desalination and water treatment industries, etc.

This product is final B2B equipment.

Technical Specifications:

- ✧ **Superheater power:** 7000 kW (3000 kW is needed in terms of design, but 7000 kW is considered due to possible losses.)
- ✧ **Superheater capacity:** 25 ton / hr
- ✧ **Operating pressure:** 25 bar
- ✧ **Inlet and outlet steam temperatures:** 225 °C and 400 °C, respectively
- ✧ **Inlet and outlet gas temperatures:** 1200 °C and 340 °C, respectively
- ✧ **Outlet steam temperature tolerance:** ± 3 °C

Advantages:

- ✧ High capacity and efficiency
- ✧ Optimal fuel consumption
- ✧ Reasonable pricing compared to product quality

International Standards or permission:

- ✧ ISO 9001:2015
- ✧ ISO 10002:2014
- ✧ ISO 14001:2015
- ✧ ISO 10004:2012
- ✧ ISO 31000:2018
- ✧ GMP



➤ Boiler with a Capacity of More Than 20 Tons Per Hour

Arvin Bokhar Co.

www.arvinbokhar.com



Product Introduction:

A boiler is a machine that converts water to steam under continuous pressure and is used in a variety of industries. This steam is used in production lines and other equipment to transfer heat, produce motion, and modify pressure, among other things.

A boiler is a closed tank in which the heat of the fuel combustion generates water vapor for usage outside. The boiler's interior is divided into two sections: the fire side and the water side. The total of all surfaces on the boiler's fire side is referred to as the boiler heat level. All of a boiler's internal and pressurized components are made of ferrous alloys. Boilers are classified into two groups of steel and cast-iron based on their type of material. Low-pressure steam is produced by a cast iron boiler. Steel is used in the majority of boilers.

A corrugated furnace is used in this boiler. This furnace is also known as a folding or accordion furnace, therefore it has excellent heat transmission and efficiency. Safety and high efficiency, plenty of steam space, completely dry steam generation, a flame inspection valve fully equipped with automatic control, the ability to replace a fully automatic panel (PLC) with a normal electrical panel, using 17MN4 alloy steel sheets according to DIN17155, fire pipes 8 according to DIN17175, using automatic and advanced devices for the construction of the boiler, using turbolators inside the pipe to increase the efficiency of the boiler and create turbulence (turbulence) in the smoke are some features of this product.

This boiler has an Iranian certificate and standard plate, as well as inspection of consumables and all

Main Export Destinations:

Afghanistan

Exports History:

Up to 500,000 \$

Founded:

1975

stages of manufacture and all tests, rock wool insulation of the boiler body with a thickness of 100 kg/m³, and a glossy stainless steel sheet boiler cover.

Application:

Boiler exhaust steam is used for heating, sterilization, driving power, washing and cleaning, removing moisture and other purposes in various industries such as printing and dyeing, food processing, ironing garments in garment manufacture, and so on.

This product is final B2B equipment.

Technical Specifications:

This product is available in a variety of versions, each of which has varying capacities and dimensions based on the manufacturing model:

- * **Capacity:** 500-16000 kg/h
- * **Length:** 1800-7000 mm
- * **Width:** 1200-4000 mm
- * **Height:** 1200-4500 mm
- * **Natural gas fuel consumption:** 35-1070 m³/h
- * **Diesel fuel consumption:** 30-960 l/h

Advantages:

- * High-capacity steam production
- * Low fuel usage and high efficiency
- * After-sales service in relation to the product's price

International Standards or permission:

- * ISO 9001:2008
- * ISO 10002:2004
- * EN12953 and BS2790 standards
- * ASME standard



➤ Food Industry Processing Tanks

🏠 Robat Makhzan Co.

www.robattmakhsan.com



Product Introduction:

Process tanks are the tanks that execute the beginning and final cooking of food, pharmaceutical, and chemical items at various temperatures, as well as the addition of by-products to the primary product composition.

The number of blades, the angle of the impellers, and the number of impeller levels alter depending on the product, allowing the mixing operation to be completed in the shortest time possible with highest quality while the viscosity of the material remains effective throughout the process.

These tanks can be built of 304, 316 stainless steel, or other sheets, depending on the product. In the food industry, 316 stainless steel sheet is extensively utilized. The firm purchases the sheet for these tanks, and then uses forming equipment such as rolling or pressing to create the necessary curvatures on them.

important components of this apparatus:

- Tank body
- Thermal and refrigeration jacket
- Stirrer
- PLC control system are all

Main Export Destinations:

Afghanistan

Exports History:

Up to 500,000 \$

Founded:

1996

Application:

Food industries

This product is final B2B equipment.

Advantages:

- * High-quality design and manufacture process that is suited to the customer's demands
- * Reasonably priced in comparison to the high manufacturing quality



➤ Blow Molding Extruder Machine

🏠 Pars Co.

www.pars-bm.com



Product Introduction:

Blow molding is a manufacturing technique used to create hollow plastic objects such as bottles. Extrusion molding, injection molding, and tensile injection molding are the three methods for blow molding. The plastic raw material is melted and put into the extrusion chamber in the extrusion blow molding process, often known as EBM. It next goes into a metal mold, where the molten plastic is molded by air blowing. The mold is opened and the manufacturing section is removed when the product has cooled. This device includes an automation system, a PLC controller system for controlling the temperature and pressure of thermal zones, and other features.

Founded:

2012

Application:

This machine may make plastic bottles for sanitary, cosmetic, medicinal, food, toy, oil, and other applications.

This product is final B2B equipment.

Technical Specifications:

- * **Clamp force:** 12 tons
- * **Number of heads:** 1 to 8
- * **Capacity:** 9500 bottles per hour
- * **Production volume:** up to 10 liters
- * **Number of stations:** 1 or 2
- * **Extruder length:** 50 to 80 mm

Advantages:

- * Manpower reduction and high production safety
- * Power usage is reduced.
- * Added beaker for zero-waste production
- * Installing control parison to determine the wall thickness and less consumption of raw materials
- * Increased production rate
- * Affordability and a extensive after-sales service



➤ Pet Stretch Blow Molding

🏠 Karsan Paya Apadana Co.

www.kpaco.ir



Product Introduction:

Plastic bottles are produced with a pet stretch blow molding machine. PET bottles go through two steps in the manufacturing process. The preform is made by pumping crystalline PET melt into the mold, and then molding and blowing the amorphous PET (preform). This machine is completely automated and completes the second stage of the bottle manufacturing process. The tank, hopper, stretch, and oven are the four components of this equipment.

Founded:

2017

Application:

Food and beverage industry

This product is final B2B equipment.

Technical Specifications:

- * **Capacity:** 2500 to 5000 bottles per hour (According to the customer request)
- * **Volume of the produced bottle:** 60 to 3000 cc
- * **Power consumption:** 25 kW
- * **Cold water temperature used in the machine:** 3-7 °C

Advantages:

- * High manufacturing capacity
- * Compared to the high quality of items, the price is low.
- * Extensive After-sales service



➤ Industrial Autoclave

🏠 Yadavaran Rafe Esfahan Co.

www.rafea.ir



Product Introduction:

A closed chamber that can resist high pressures and temperatures is known as an autoclave. This machine is mostly utilized in the sterilizing process. This device creates proper physical and chemical conditions for the removal of dangerous microorganisms by injecting water vapor or another fluid into the tank. Autoclaves can also be used for processes such as rubber vulcanization and hydrothermal synthesis. Both laboratory and industrial versions of this product are available.

A circulation fan is included in this device to ensure that the air within the autoclave is consistent and homogeneous. This fan is of the backward kind, and it is launched using two different processes. Due to the high working pressure of the device, magnetic coupling is utilized to circulate the circulation fan shaft in the first type, and the Mechanical Seal system is employed to drive the centrifugal fan in the second type. This set contains a method for simultaneously providing pressure, temperature control, and vacuum.

Annual Production Capacity:

30 machines

Founded:

2009

Application:

- ✳ To achieve excellent quality in the production of composite parts
- ✳ In industries where high temperatures and operating pressure are necessary.
- ✳ Food industries
- ✳ Plastic, metallurgy, and concrete industries
- ✳ Medicine, dentistry, hospital waste decontamination, microbiology, equipment sterilization, and so fourth.

This product is final B2B equipment.

Technical Specifications:

- ✳ According to the hydrostatic test, the maximum pressure that may be tolerated is 20 times the normal pressure.
- ✳ **The maximum working temperature:** 180 °C
- ✳ **Hydraulic unit:** 7.5 kW and 1500 RPM
- ✳ **Heating system:** 60 watt ceramic element

Advantages:

- ✳ High turbine power generating capacity
- ✳ Accurate and high-quality design and manufacture process
- ✳ Reasonable pricing compared to product quality

International Standards or permission:

- ✳ Body under pressure ASME Sec. VIII DIV. 1&2&3
- ✳ Quick opening door ASME Sec. VIII DIV. 1&2&3
- ✳ Body design based on Sec VIII Div1



➤ Automatic Blow Molding Extrusion Machine (Blowing Plastic Injection)

🏠 Abtin Dana Plast Co.

www.abtinplast.com



Product Introduction:

The Automatic Blow Molding Extrusion Machine is used to make polyethylene bottles that cannot be made by injection molding and must be molded by blowing. Through a funnel, the plastic raw material is injected into the extruder screw barrel cylinder, where it is cooked before being delivered to the die head in the extruder section, where it gets an intestinal shape (Parison). The number of cavities (material output) is determined by the bottle weight, the time it takes to chill the bottle, the quality of the mold, the machine's volume, and its proportion to the machine's production volume.

After enough Parison has come out, the mold encloses it and sends it to the Blow pin system, which uses wind pressure to form the material. This operation is completed simultaneously with cooling. Finally, the mold is opened, the bottle and the surrounding burrs are delivered to the beaker, and the excess parts are removed. Currently, this machine is only available as a single station.

Exports History:

More than 50 machines/400,000 \$

Annual Production Capacity:

18 machines

Application:

- ※ This machine is utilized in several industries, including food, beverages, pharmaceuticals, health, cosmetics, and detergents.
- ※ Plastic cans and bottles can be made with this machine.

This product is final B2B equipment.

Technical Specifications:

- ※ **Number of stations:** one
- ※ **Number of die head cavities:** up to 12
- ※ **Power consumption:** 25 amps
- ※ **Consumed raw materials:** PP-PE-PVC-PETG
- ※ **Capacity:** 550 bottles weighing 55 grams with a volume of 900 cc per hour

Advantages:

- ※ Short time cycle and high manufacturing speed
- ※ Very low power consumption and high efficiency
- ※ Waste removal and returning to the manufacturing cycle
- ※ Cost-effective along with very high quality

Second chapter

Polymers, Films and Packaging Containers



SECOND CHAPTER

- First chapter
- SecondCHAPTER
- Third chapter
- Fourth chapter

Polymers, Films and Packaging Containers

- Absorbent Polystyrene Foam Containers | 128
- Oxygen Barrier Nanocomposite Masterbatch | 130
- Easy Open Lid With Introduction Stitching | 132
- Active Nanocomposite Film and Bags For Food Packing | 134
- Bio-Based and Compostable Compounds, Films and Bags | 136
- Polyurethane Base Lamination Adhesive, Cold Seal Adhesive | 138
- Manzi Film and Bag| 140
- Fresh Pistacho Packing By Modified Atmosphere Method | 142

Sections

- Disposable Containers
- Polymeric Compounds
- Packaging Films and Foils



Application:

Packaging of protein products, such as chicken, liver, gizzards and red meat

➤ Absorbent Polystyrene Foam Containers

🏠 Mazeroon Foam Ghaem Co.

www.mazeroonfoam.com



Product Introduction:

Absorbent polystyrene foam containers are designed and marketed for packaging protein products, one of the problems of which is the presence of blood. Storage of non-frozen meat and other such foods in disposable containers should be such that by absorbing the water of the desired food product, suitable conditions are provided to maintain the health of the food product and prevent its spoilage. This product can absorb water and aqueous solutions up to several times its weight.

Main Export Destinations:

Germany, Russia, Kuwait, Azerbaijan, Turkmenistan, Iraq, Afghanistan

Exports History:

Between 1 and 5 million dollars
More than 2,500 tons in the last three years

Annual Production Capacity:

About 2000 tons

Founded:

2004

This product is a final B2B consumer product.

Technical Specifications:

- * Polystyrene container
- * With foam appearance (spongy)
- * With a density of 106 kg per cubic meter
- * With different colors and dimensions according to customer request
- * With an absorption rate of 4 g / g (400%)
- * Absorption rate of 12 g / min

Advantages:

- * Proportion of price to appropriate quality



Application:

Packaging industries (foodstuffs, beverages, medicines, medical stuffs and detergents), packaging films.

➤ Oxygen Barrier Nanocomposite Masterbatch

Baspar Pishrafteh Sharif Co.

www.bps Sharif.com



Product Introduction:

Masterbatch is a widely used product in the plastic industry, which is added to raw materials to create desirable properties in the final product. Polymers have many applications in various industries, Such as the production of auto parts, wires, cables, fittings, home appliances, etc. Masterbatch is combined with polymers as a property improver and prepares them to become the final product.

This product is supplied to the customer in masterbatch and in the form of granules and is used to produce food preservation films. These masterbatches have nanoparticles that change the structure of polymer chains. In this way, they create a complex path or spatial hindrance through the creation of crystallinity, preventing the passage of oxygen and the destruction of packaged food. Oxygen shield is divided into two types: active and passive. The passive oxygen shield has clay nanoparticles and prevents oxygen from entering the package. On the other hand, the active oxygen shield has organic materials such as bivalent iron compounds or ascorbic acid and Butylated Hydroxytoluene (BHT). It reduces the oxygen inside the container to zero and acts as an oxygen scavenger.

Founded:

2012

This product is final B2C Consumer product.

Advantages:

- * Reducing gas penetration (oxygen, CO₂, and steam)
- * Increasing inhibitory properties (mechanical, thermal, chemical, and microbial)
- * Preventing product color change and oxidation
- * No reduction in transparency
- * Preservation of functional properties during long periods between production and final consumption



Application:

Packaging of food or pharmaceutical products

➤ Easy Open Lid with Induction Stitching

📍 Rayan Polymer Aria Co.

www.rayanpolymer.ir



Product Introduction:

This product is produced in the form of polymer multilayer film with an aluminum layer. This device uses electromagnetic induction to adhere to polymer or glass containers that are not heat-sealable, resulting in the aluminum layer producing thermal energy.

This product is supplied to the consumer in a pre-cut form based on the size and shape of the container opening. These lids are attached to the aperture of the container and prevent food leakage after being placed in the torsion doors of containers. They are closed on the container owing to electromagnetic induction after being inserted in the torsion doors of containers. Furthermore, the attachment of this film to the container's opening indicates that the food or pharmaceutical container has not been manipulated or opened.

Annual Production Capacity:

20,000 ton

Founded:

2017

This product is final B2B consumer product.

Technical Specifications:

Temperature tolerance and chemical inactivity before 80 °C

Advantages:

- ✧ Inductive and simple installation on glass and polymer food or pharmaceutical containers
- ✧ Low cost compared to added value for products
- ✧ Extends food storage period while keeping freshness and quality



➤ Polyurethane Base Lamination Adhesive

Cold Seal Adhesive

🏠 Kimia Mana Polymer Co.

Product Introduction:

A solvent-free two-component polyurethane-based lamination adhesive is used to laminate a range of polar and non-polar films (such as BOPP films, etc.) to package a variety of foods. Isocyanate, polyal, and chain expansion agents are the three major components of polyurethane. Catalysts, puffs, fillers, lubricants, and pigments, in addition to these materials, can be employed for unique purposes or to optimize the manufacturing process. Cold-seal adhesives are primarily utilized in the food packaging industry. After attaching the adhesive to the metallized BOPP film, it is run through heat tunnels at high speeds at 70-80 degrees, and the water is evaporated before it is rolled up. Cold seal adhesives employ four different types of base resins, which are responsible:

- Self-mixing and elastic qualities
- Pressure sensitivity
- Strong bonding to the metallized layer as a primer
- The resin used to regulate the viscosity
- Drying time, and so on.

Founded:

2017

Application:

- * Polyurethane-based lamination adhesives: Food and pharmaceutical packaging
- * Cold Seal Adhesives: Food Wrap Manufacturers

This product is a final B2B consumer product.

Technical Specifications:

Polyurethane base lamination adhesives:

- * Solvent-free two components

Component A:

- * Viscosity: 100 ± 650
- * Density: 1.15
- * Blending speed: 100
- * Chemical properties: isocyanate

Component B:

- * Viscosity: 1500 ± 3500
- * Density: 1.19
- * Blending speed: 80
- * Chemical properties: hydroxyl

Cold seal adhesives:

- * Solid percentage above 55
- * Very low viscosity (600-1000 cmP)
- * Inter-layer adhesion 3-3.5 N / mm
- * Ability to cover with very low heat ($1.5 \text{ g} / \text{m}^2$)
- * PH: 10 to 10.5

Advantages:

Polyurethane base lamination sheets:

- * Proper adhesion to different surfaces (polar and non-polar surfaces)
- * absence of excess isocyanate groups
- * An appropriate viscosity for proper heating

Cold seal adhesives:

- * Increasing the packing speed of wrappers in productions lines
- * No packing contamination at room temperature and only with double jaw pressure
- * Easy to open and retain adherence for a long time



➤ Active Nanocomposite Film and Bags For Food Packaging

🏠 Baspar Pishrafteh Sharif Co.

www.bps Sharif.com



Product Introduction:

In this product, the company helps to increase the shelf life of food and agricultural products by controlling breathing from the packaging wall. Since agricultural products still breathe after harvesting (which means that they consume oxygen and give back gases such as CO_2 , ethylene and moisture) and each agricultural product requires a specific percentage of these gases to maximize shelf life, controlling gas exchange from the wall of polymer packages becomes very important. Therefore, the concept of selective permeability is proposed in advanced polymer nanocomposites. These polymers can create the amount of gases required for food and agricultural products. For example, for cucumber, a gas combination of 9% oxygen and 0% carbon dioxide is required for the longest shelf life inside the packaging space, whereas these figures will be 97% oxygen and 90% carbon dioxide for cherry. The bags produced from advanced polymer nanocomposites of Baspar Advanced Sharif Company provide the conditions required for long-term food storage.

Founded:

2012

Application:

Food packaging for exporting agricultural products to distant areas and long-term storage

This product is a final B2B consumer product.

Technical Specifications:

- * Materials used: polyethylene, polypropylene and polyamide polymer bases
- * Use of additives such as nanoclay in order to optimize and make the gasses permeable (using the company's oxygen shield masterbatch)
- * Use of additives or masterbatches according to the breathing environment of the product

Advantages:

Competitive price and high quality



➤ Bio-Based and Compostable Compounds, Films and Bags

🏠 Zist Polymer Sharif Co.

www.zistpolymer.com



Product Introduction:

Zist Polymer Sharif produces two series of environmental friendly compounds for different sectors of plastic industry. Our bio-based compounds are blends of thermoplastic starch (TPS) with conventional synthetic resins such as PE, PP and PS. Lower carbon footprint is the major advantage of bio-based compounds; while they are readily processed and recycled in conventional plastic production machines. Our bio-based compounds are certified as one and three star "OK BIOBASED" materials by TUV Austria.

The second series of Zist Polymer Sharif environment friendly products include compostable polyester compounds with different amounts of bio-based content. These compounds have excellent processability and engineering properties comparable to their oil-based counterparts. These compounds are fully biodegradable in composting facilities and have the "OK COMPOST" certificate from TUV Austria.

Annual Production Capacity:

Compound: 10000 ton/ year

Film: 2000 ton/ year

Founded:

2019

Application:

Plastic industry, resin base

This product is a final B2B consumer product.

Technical Specifications:

		Grade	Base Polymer	Bio-Type	Characteristics
	Injection Modeling	71103 I	Polypropylene	Bio-based	- Ease of processing - High stiffness - Recyclable
		80309 I	Biodegradable Polyester	Compostable	- Feasible on conventional injection molding machines
	Thermoforming	71103 T	Polypropylene	Bio-based	- Processable on a wide range of different equipment - Excellent printability along with strong ink adhesion
		80309 T	Biodegradable Polyester	Compostable	- Very good mechanical properties Food contact approved
	Film Blowing	72103 F	Polypropylene	Bio-based	- Wide processing window and thickness range - Excellent printability and strong ink adhesion
		60510 F	Biodegradable Polyester	Compostable	- Moisture resistant High tear resistant Good seal ability

Advantages:

Producing environmental-freindly products



Application:

This packaging is used to store agricultural products and food, and it is especially significant in the case of export, because it takes a long time from packing to consumption, and a lot of capital is spent on the product's manufacturing, storage, and shipping.

➤ Manzi Film and Bag

🏠 Mana Pak Dana Co.

www.fa.mpd.co.ir



Product Introduction:

Manzi product is a type of food storage bag made of polyamide group polymers. These films, which are based on the MAMH (Modified Atmosphere Modified Humidity) technology, assist in maintaining optimal storage conditions for fruits and vegetables. The plant's natural respiration is used to control oxygen, carbon dioxide, and humidity in these bags. Because various plants and fruits develop and are stored in different ways, their chemical activity and respiration rates, as well as the gases created or consumed, change. As a result, their packing, storage, and storage environment should be distinct and intensive. This product belongs to the smart packaging category, which has the capacity to adjust the conditions within the package, thus improving the product's quality and longevity while also preserving its freshness.

Exports History:

Up to 300,000\$

Annual Production Capacity:

300 ton

Founded:

2018

This product is a final B2B consumer product.

Technical Specifications:

- * This product is made up of an alloy polymer basis that comprises polyamide, copolyamide, and polyester, as well as additional additives.
- * 90 microns to 8 mm porosity for agricultural product respiration

Advantages:

- * Food and agricultural goods have a long shelf life while preserving their quality, weight, nutrition, flavor, and freshness.
- * For export items, the price is reasonable compared to the excellent quality and added value.



➤ Fresh Pistachio Packaging By Modified Atmosphere Method

🏠 Ava Farhang Pesteh Iranian Co.

www.pestaco.com



Product Introduction:

Pistachios are sold in dried or salted form in markets, and fresh and with moist skin in fruit stores throughout the harvest season, which then the skin becomes dry or black. Modified atmospheric packaging is used to package fresh pistachios with moist skin, which helps to extend the shelf life of the product. This package consists of a PVC polymer sheet with a layer of nanoparticles containing natural and organic fungicides (pistachio skin essence). For more than 60 days, existence of such nanoparticles plus the essence of pistachio's moist skin inhibits the development of aflatoxin-producing fungus.

Founded:

2019

Application:

- ※ Using this style of packaging to wrap fresh pistachios with or without moist skin as an antifungal coating.
- ※ When it comes to products with high respiration rate, this sort of packaging is ideal.

This product is a final B2B and B2C consumer product.

Technical Specifications:

Packaging capacity: from home packaging up to 50 kg of pistachios per package

Advantages:

Ability to package the product and stitch it together quickly and easily.

Third chapter —
Extraction and Processing of Food Raw Materials



THIRD CHAPTER

- First chapter
- Second chapter
- THIRD CHAPTER
- Fourth chapter

Extraction and Processing of Food Raw Materials

Modified Straches based on Corn, Wheat, Potato and ...	148
Flour Products Gel Treatment Agents	150
Dairy Products Stabilizer	152
Natural and Edible Colors	154
Various Natural Flavors	156
Natural Food Coloring; Currcumin, Carthamus, Chlorophyllin, Beetroot, Paprika	158
Plant Pigment Powder; Chlorophyll, Curcumin, Lycopene, etc.	160
Stevia Extract with Food and Pharmaceutical Grade	162

Sections

- Processing of Food Raw Materials
- Extraction of Food Colouring and Flavourings



➤ Modified Starches Based On Corn, Wheat, Potato and...

🏠 Zarand Co.

www.ecofusionstarch.com



Product Introduction:

Starch is the world's oldest, most plentiful, most readily accessible hydrocolloid. Ordinary starches have weak food resistance and rheological characteristics. These are a range of modified starches derived from wheat, corn, potatoes, and other sources that are used in the food business. In addition, all of them enhance the product's texture, extend its shelf life, boost transparency and viscosity, substitute fat, improve flavor, and provide other benefits.

Annual Production Capacity:

Over than 20,000 tons

Founded:

1986

Application:

As a raw material in food industries

This product is a final B2B consumer product.

Technical Specifications:

Changes in rheological behavior caused by chemical and physical changes

Advantages:

Modified starch can change the rheological behavior of regular starches by chemical or physical modification, resulting in the high strength, viscosity, and texture necessary in the end product.

International Standards or permission:

- ※ Manufacturing Sanitary Permit
- ※ ISO certificates
- ※ ISO 22000
- ※ ISO 9001



➤ Flour Products Gel Treatment Agents

🏠 Daneshgaran Novin Delsa Co.



Product Introduction:

In all phases of bread manufacturing, including mixing, fermentation, and baking, treatment agents increase the quality of the final products by developing flexibility and resilience and boosting the tolerance of the dough. It also enables us to produce products with improved size and appearance, as well as the capability to keep freshness for longer throughout the consumption. The gel treatment agents for flour products are a homogenous mixture of fatty acid derivatives, enzymes, organic acids, and emulsifiers that are manufactured in two steps before being blended with additional fillers and lubricants. This product improves the ability of the flour and the resulting dough to form a sheet and a very thin layer, as well as the non-stickness of several layers of dough, allowing up to 42 layers of dough to be stacked without being connected to one another in the final product.

Founded:

2009

Application:

Bread and confectionery industry

This product is a final B2B consumer product.

Advantages:

- * Improving the quality of final bread and flour products
- * Using nutritious and healthy ingredients
- * Product prices are reasonable compared to the great quality of the products.



➤ Dairy Products Stabilizer

◆ Pooyan Co.



Product Introduction:

A distinct type of dairy stabilizer is added to each food as a stabilizing component to assist retain its structure. These items contain a variety of components that aid in the solidification of food.

Molded yogurt stabilizer has a high water absorption rate and is utilized to create the desired gel structure and texture in the product. Stirred yogurt stabilizer offers all of the advantages of a molded yogurt stabilizer, but unlike the traditional molded yogurt, which is gel-like, the texture of the product made with this stabilizer is entirely creamy and soft. Low-fat mayonnaise stabilizers give the finished product a creamy texture. Ketchup group stabilizers are a blend of various stabilizers that are blended with the powder ingredients of the formulation (such as sugar, salt, and spices) during the manufacturing process and then evenly dispersed in the product's aqueous phase.

Founded:

2013

Application:

Mayonnaise, ketchup, yogurt, kefir, dairy desserts, ice cream, and a range of drinks all include food stabilizers.

This product is a final B2B consumer product.

Technical Specifications:

The shelf life of a product is determined by a specified time frame and the type of product produced. Stabilizers for mayonnaise and ketchup are derived from natural substances such as starch, protein compounds, and gums. The stabilizers of yogurt, ice cream and kefir are a mixture of hydrocolloids and milk protein in yogurt stabilizers. Gums and various chemicals are also used to make beverage and dessert stabilizers.

Advantages:

- * Long shelf life
- * Using substances that are both healthy and approved
- * Product prices are reasonable compared to the great quality of the items.
- * Lowering the product's ultimate cost
- * Simple to use



➤ Natural and Edible Colors

◆ Magnolia Flavor and Aroma Co.

www.magnolia-flavor.com



Product Introduction:

Edible color is an additive to make foods more attractive and encourage consumers. Food coloring includes dyes or pigments that add color to food or beverages. Color is a molecule that absorbs specific wavelengths of visible light and transmits or reflects the rest; the coloring results from the color molecule's activity. Color is essential in the food industry; therefore, to obtain color, they mix certain compounds with specific flavors and make food color to change the flavor and aroma of foods and drinks. These colors are used to increase attractiveness and appetizing or to add color to foods that have lost their color due to exposure to light, air, temperature, humidity, and storage conditions. Food coloring can modify natural changes in food color, enhance naturally occurring colors and make them more visible to consumers.

Main Export Destinations:

Russia, China

Exports History:

Up to 500,000\$

Founded:

1983

Application:

In the food industry for producing cream, snacks, candies, chewing gum, Sohan (Confectionery), ice cream, drinks, desserts, puddings, etc.

These products are final B2B consumer products.

Technical Specifications:

Color Code	Color Type
B3	Dark brown
B1	Brown
G2	Dark green
G1	Light green
R2	Dark red
R1	Red
Y4	Orange
Y3	Saffron yellow
Y2	Classic yellow
Y1	Icterine (Lemon yellow)

Consumption of each color per kilogram: 2-3 grams

Advantages:

- * Not having a specific smell
- * Transparency
- * Very high power
- * Proper shelf life and stability in the product
- * Absolutely natural

International Standards or permission:

- * ISO 22000
- * ISO 18001
- * ISO 9001
- * ISO 14001
- * HACCP
- * GMP



➤ Various Natural Flavors

◆ Magnolia Flavor and Aroma Co.

www.magnolia-flavor.com



Product Introduction:

One factor that plays a very prominent role in the dead heat competition of food products is the pleasant taste of the product. The taste of food plays a significant role in customer choice. Taste includes the aroma and flavor of food. The pleasantness of the taste is a matter of personal attributes, which are sometimes influenced by weather and culture. Tastes can create pleasurable moments for people. Desired flavors can often be tempting or even nostalgic. Many producers are pursuing the goal of manufacturing healthy products with high nutritional value, observing the principles of quality control, proper packaging, and finally obtaining customer satisfaction. Natural flavors are extracted directly from the natural substance. These flavorings are usually prepared from distillation, dissolution, grinding of extracts, decoction, and other methods (extracts are purer). These flavorings are all-natural, high quality, and usually cost more. Some of the flavors produced by Magnolia Flavor and Aroma Company are:

Animal oil flavor: This flavor is liquid and soluble in oil and has the aroma of natural and traditional animal oil.

Saffron flavor: This flavor is extracted from Sargol Momtaz Nagini saffron (The best Quality and best part of the Saffron flower) and contains all the effective ingredients of saffron. Its color and constituent compounds are 100% natural and can be used in the amount of 1.2 to 1.5 times Sargol saffron in all kinds of rice, stew, traditional Iranian

Main Export Destinations:

Russia, China

Exports History:

Up to 500,000\$

Founded:

1983

dishes, desserts, and herbal tea. In addition, it can be used in the dairy, meat, beverage, confectionery, and chocolate industries.

Butter flavor: This flavor is liquid and soluble in oil and has natural ingredients. This product can be used on rice, all kinds of soups, all kinds of stews and dishes, pizza cheese, and also for flavoring vegetables, chicken meat, or roasted meat. This flavor is also used in cakes, cookies, and sweets.

Smoke flavor: This flavor is liquid and has natural compounds. This product is suitable for pouring on rice, Mirza-Ghasemi, eggplant caviar (eggplant meal), steak, canned beans, and all foods that require a smoky or grilled aroma. Also, this flavor can be used to cook traditional pieces of bread, sweets, pickles, sauces, and meat products and snacks.

Application:

In the food industry, confectionery, bread, etc.

These products are final B2B consumer products.

Technical Specifications:

Flavor Name	Sensory Characteristic	Color	Flavor Type	Appearance	Color Type
Animal oil	Oil	Brown	Natural	Liquid	Without adding color
Saffron flavor	Saffron	Yellow, E100, E160C, E162	Natural-Identical	Liquid	With natural color
Butter	Dairy	Yellow	Nature-Identical	Liquid	Without adding color
Smoke	Smoke	Brown	Natural	Liquid	Without adding color

Advantages:

- ✧ Natural raw materials
- ✧ Advanced technology
- ✧ Strict quality control
- ✧ Low dosage
- ✧ Great variety
- ✧ Easy and convenient to use



➤ Natural Food Coloring

Curcumin-Carthamus-Chlorophyllin-Beetroot-Paprika

◆ Freer Co.

www.freerco.com



Product Introduction:

Curcumin food coloring is a dark yellow, viscous liquid color made from aqueous carthamus extract (*Carthamus tinctoris* L.). Carthamus extract, pigments, and other plant elements were used to create this color. It is totally water soluble.

Carthamus food coloring is a viscose green liquid obtained by extracting spinach. It was then chemically stabilized by removing the magnesium from the molecule's center and replacing it with copper. The resultant color is sodium copper chlorophyllin, which is fully water soluble.

Beetroot food coloring is a dark purple-red liquid color made from beetroot pressing (*Beta vulgaris*). Beet juice is homogenized after being combined with various emulsifiers and stabilizers. The main coloring element in beetroot is betanin, which is entirely soluble in water.

Paprika food coloring is a viscose liquid with a dark orange-red color obtained by solvent extraction from paprika (*Capsicum annum*). The color intensity of the paprika extract is then standardized to 40.000-80.000 CU by adding food-grade emulsifiers and vegetable oil.

Annual Production Capacity:

1000 tons

Founded:

2013

Application:

- * Dairy products (ice cream-dairy desserts-cheese-butter-margarine, etc.)
- * Seasonings and sauces
- * A variety of bakery and confectionery products
- * Fruit drinks
- * Snacks and popcorn
- * Fruit gum
- * Juices and fruit concentrates

This product is a final B2B consumer product.

Technical Specifications:

	Color	Odor	Solubility	Humidity	PH
Curcumin	Dark or- ange-yellow	Odorless	Water soluble	5%	6-7
Carthamus	Dark yellow-red	Typical		40%	5-4
Chlorophyllin	Green	Odorless		5%	6-4
Beetroot	Dark purple-red			-	4-5
Paprika	Dark or- ange-red		Oil soluble	3-5%	5-6.5

* **Form:** liquid

Advantages:

- * The ratio of the value of the dollar to the rial, dollar sales provide a very competitive advantage for foreign customers.
- * Quality equal to foreign samples
- * High production volume and available -3 Has health licenses

International Standards or permission:

- * ISO 9001:2015
- * ISO 2200:2018
- * Halal Certificate



➤ Plant Pigment Powder | Chlorophyll, Curcumin, Lycopene, etc.

📍 Golchin toos Co.

www.afzoone.co.com

afzoon

Product Introduction:

Many foods include synthetic colors, which can cause a variety of health problems. Natural pigments, however, are employed in the food industry and manufacturing of a variety of food products as a healthy additive. Since natural pigments are obtained from fruits, plants, and agricultural goods, the formulation of these color additives has no negative impact on human health. Chlorophyll, curcumin, lycopene, and other natural dyes are derived from a variety of plants using precise procedures. Anthocyanin is a natural pigment that is used to make natural colors.

These pigments are derived from a variety of natural sources. For instance, chlorophyll, bixin and norbixin, curcumin, anthocyanin, and lycopene are derived from alfalfa plants, anato seeds, turmeric, red grape skin and sour tea, and tomatoes, respectively.

Founded:

2015

Application:

The following natural and edible colors are used in the food and pharmaceutical industries:

- * Production of snacks and extruded food products
- * Spaghetti, pasta and pastry products
- * Pharmacy and medicinal plants
- * dairy
- * cosmetic products

These pigments are employed in livestock, poultry, aquatic animals, and human nutrition and medicine.

This product is a final B2B consumer product.

Technical Specifications:

Such pigments are powdered and water soluble, each having a unique solvent-to-solid ratio, purity percentage, and molecular weight. Some of these pigments have the following specifications:

	Molecular weight	Solvent-solid ratio	Purity percentage
	g/mol	%	%
Chlorophyll	893.51	5 to 10	94.6
Bixin and Norbixin	394.5	1 to 5	95
Curcumin	368	2	90
Anthocyanins	207.252	-	90
Lycopene	536.9	26.36	95.5

Advantages:

- * Price is reasonable compared to quality, and it has a wide range of uses
- * Creating added value for food industry's producers
- * Using only natural resources and substances and minimizing the dangers associated with synthetic materials



➤ Stevia Extract with Food and Pharmaceutical Grade

⬆ Mazehsazan Nopazhooh Shomal Co.

www.awishco.com



Product Introduction:

Stevia sweetener is 100 to 300 times sweeter than sugar and is non-nutritive, meaning it has nearly no calories. In some circumstances, the sweetener stevia can be used to substitute sugar in food products, making them diabetic-friendly. The extraction of this sweetener necessitates measures such as removing bitterness and waste from the derived product. This product gives a liquid stevia sachet without the use of impure ingredients.

Founded:

2015

Application:

- * Beverage industry
- * Flour industry (cakes and cookies)

This product is a final B2B consumer product.

Technical Specifications:

- * 100-300 times sweeter than sugar
- * **Physical state of the product:** liquid
- * **Purity percentage:** 95

Advantages:

- * Assisting with weight loss
- * Maintaining insulin levels in the blood and regulating insulin synthesis in the body
- * Since diabetic people tend to lack B6 and B12 vitamins, enriching this sweetener can help make up for the shortage of these two vitamins.

Fourth chapter



Microorganisms based Products



Fourth CHAPTER

- First chapter
- Second chapter
- Third chapter
- Fourth CHAPTER

Microorganisms based Products

- Human Probiotic Supplements Products | 168
- Food Pobiotic Products | 172
- Human probiotic products with Semi-Continious Method | 174
- Kind of Freeze-Dried Human Probiotics | 176
- Fermented Brans; Rice and Wheat | 178
- Simple and Flavored Extract Powder of Hydrolyzed Yeast | 180
- High Protein and Vitamin Beverage; Supplement for Hemodialusis Patiensts | 182
- Food Grades Enzymes | 184
- Culture Starter of Yogurt and Butter | 186
- Yogurt Starter with Anti-Allergenicity Characteristics | 188
- Yogurt, Cheese and Kefir Starters | 190
- Vegetable Rennet Extracted from the Plant Whitania | 192
- Whitania Plantles and Plant Rennet | 194

Sections

- Human Probiotics and Food Supplements
- Food Grade Enzymes
- Dairy Starters
- Products with Special Performance



➤ Human Probiotic Supplements Products

◆ Tak Gene Zist Co.

www.takgene.com



Product Introduction:

Probiotic products are mostly produced based on lactic acid bacteria and bifidobacteria. These microorganisms are the main part of the intestinal microflora and are also found in fermented foods.

- * **Biocide:** This probiotic is for children and its active ingredient is Bifidobacterium lactis.
- * **Bioflora:** This Probiotic strengthens the digestive and immune systems and its active ingredients are Lactobacillus acidophilus, Bifidobacterium Bifidum, Bifidobacterium Lactis and Bifidobacterium Langum.
- * **Biodigest:** It is a probiotic for gastrointestinal health and its active ingredient is Saccharomyces boulardii.
- * **Biodiab:** It is a probiotic for diabetes and its active ingredient is Bacillus coagulans, Lactobacillus acidophilus, Lactobacillus lactis, Lactobacillus casei, Bifidobacterium langum, Bifidobacterium Bifidum.
- * **BioIBS:** A probiotic to improve the symptoms of irritable bowel syndrome and its active ingredient is Lactobacillus casei, Lactobacillus rhamnosus and Lactobacillus acidophilus.
- * **Biogen:** is a useful product for maintaining good health and its active ingredients are Lactobacillus acidophilus, Lactobacillus rhamnosus, Lactobacillus plantarum, Streptococcus thermophilus, Bifidobacterium langum and inulin

Main Export Destinations:

Azerbaijan, Lebanon, Iraq

Exports History:

Up to 500,000 \$

Founded:

2009

Application:

Biocides:

- * Prevention and improvement of diarrhea caused by antibiotics
- * Improving digestive problems
- * Adjustment and regulation of immune system responses
- * Prevention and improvement of infectious diarrhea
- * Helps to improve the effects of food allergies in children, skin reactions (rash and eczema) and gastrointestinal problems (cramps and abdominal pain and vomiting)
- * Improving the symptoms of gastroenteritis

Bioflora:

- * Preservation and strengthening of the natural flora of the gastrointestinal tract
- * Adjustment and regulation of immune system responses
- * Improves functional gastrointestinal problems such as constipation, diarrhea, etc
- * Helps to improve lactose intolerance metabolism
- * Biodigest:
- * Helps to improve the symptoms of Helicobacter pylori and prevent and heal gastric and duodenal ulcers
- * To prevent and treat diarrhea caused by the use of antibiotics (especially Clostridium difficile), viral and bacterial diarrhea, travel diarrhea and tube feeding.
- * Use as an adjuvant to treat diarrhea and prevent diarrhea from antibiotics
- * Improving the pattern of intestinal microbiota
- * Prevention and treatment of gastrointestinal problems caused by the prescription of antibiotics

Biodiab:

- * Helps control blood sugar levels
- * Regulation of metabolic activities
- * Reduction of oxidative stress damage
- * Improving HBA1C and fasting insulin levels (blood sugar control factors)
- * Decreased insulin resistance (HOMA-IR)
- * Adjustment and regulation of immune system responses

Bio IBS:

- * Reducing the complications of irritable bowel syndrome
- * Improves bloating and gas and abdominal pain
- * Adjustment and regulation of immune system responses and reduction of chronic and mild inflammation in patients with IBS
- * Reduction of visceral hypersensitivity pain
- * Prevention of autoimmune diseases

Biogenesis:

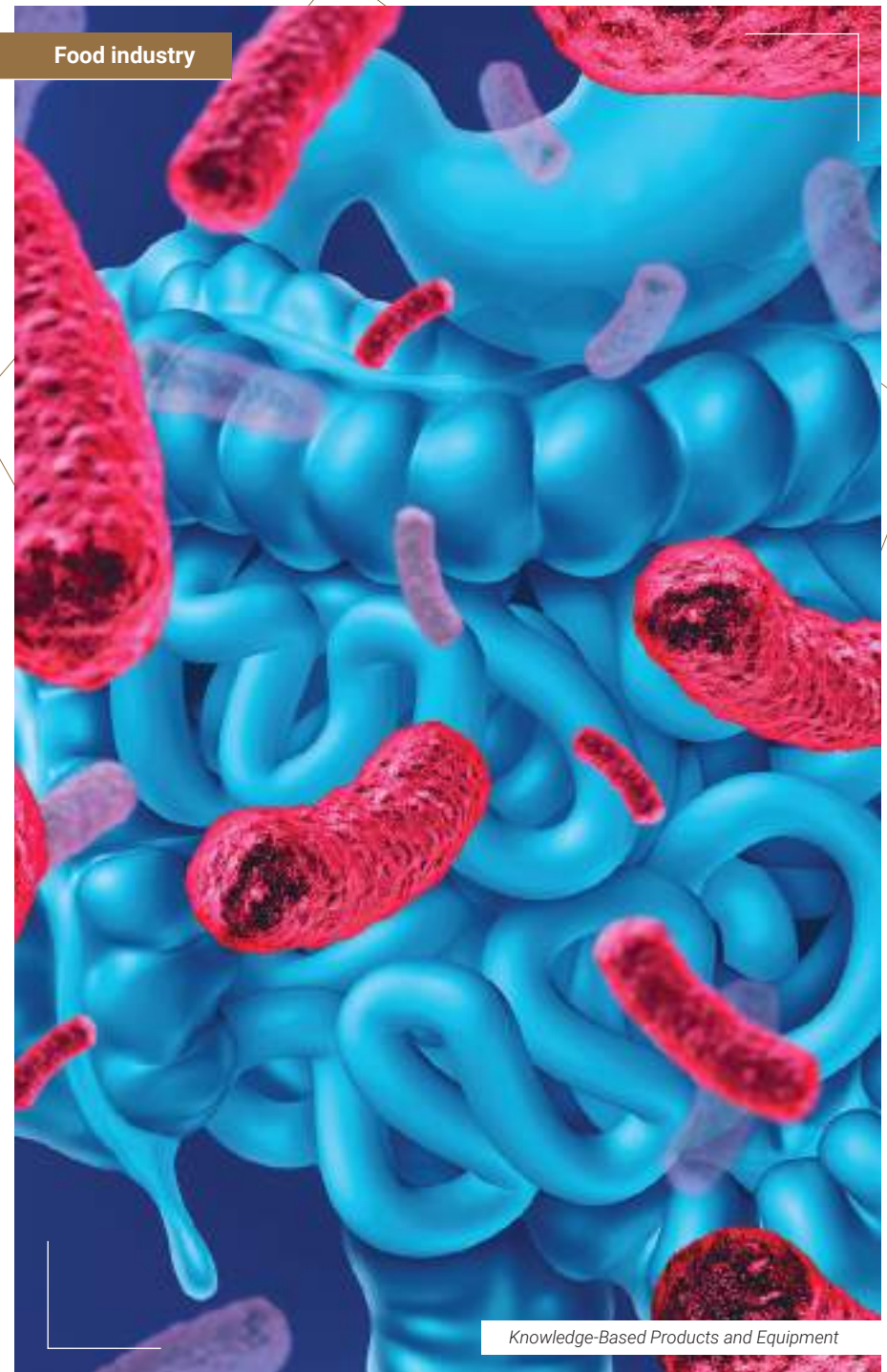
- ✧ Preservation and strengthening of the natural flora of the gastrointestinal tract
- ✧ Improves gastrointestinal function and prevent constipation
- ✧ Reducing the risk of high blood pressure
- ✧ Helps control blood cholesterol and triglyceride levels
- ✧ Help control blood sugar
- ✧ Reducing the risk of osteoporosis

These products are final B2C consumer products.

Technical Specifications:

The form of these products is in powder form and its biological origin is in the form of bacteria.

Food industry



Knowledge-Based Products and Equipment



➤ Food Probiotic Products

◆ Tak Gene Zist Co.

www.takgene.com



Product Introduction:

Human & animal probiotic products include:

Dairy progeny of *Lactobacillus acidophilus*:

This progeny which is named the Acid-Friendly Lactic Bacterium, is a gram-positive, non-sporulating bacterium that is highly resistant to acidic conditions. By activating a small amount of oxygen, this bacterium ferments carbohydrates and produces lactic acid, and on the other hand, it is important for combating harmful bacteria of the reproductive system for women's health.

Dairy progeny of *Bifidobacterium lactis*:

Bifidobacterium lactis is a gram-positive, anaerobic bacterium found in the digestive tract of mammals such as humans. The microbial flora of each person's gastrointestinal tract is as unique and completely specific as a fingerprint. This product is able to produce B vitamins such as (Thiamine, Niacin, Pyridoxine, etc.), folic acid and vitamin K.

Lactobacillus casei dairy progeny:

Lactobacillus casei is a special species of the genus *Lactobacillus* that is resistant to a wide range of pH and temperature and often lives in the mouth and small intestine. The presence in the mouth and the presence of oxygen in this environment and on the other hand the activity in the oxygen-free environment of the small intestine indicate the voluntary anaerobicity of *Lactobacillus casei*. This bacterium has the ability to stick to the wall of the intestinal epithelial tissue due to the presence of ticoic acid in its wall, and during

Main Export Destinations:

Azerbaijan, Lebanon, Iraq

Exports History:

Up to 500,000 \$

Founded:

2009

activity in the dormant phase, it produces the enzyme amylase, which facilitates the digestion of long-chain carbohydrates and prevents constipation.

Bacillus coagulans:

A probiotic product containing *Bacillus coagulans* bacteria that is resistant to stresses in industrial processes and therefore can be used in the dairy and non-dairy industries. *Bacillus coagulant* is a gram-positive bacterium, catalase-positive, sporulating and optional anaerobic, and belongs to the bacillus family. The optional homofermentative nature of this bacterium causes most of the metabolites of this microorganism to be lactic acid.

Application:

Lactobacillus acidophilus dairy progeny:

- * Lowering blood cholesterol
- * Dealing with food pathogens (*Clostridium*, *Salmonella*, *Escherichia coli*, etc.)
- * Reduction of infection of the mouth and dental plaque through dealing with *Streptococcus mutans*
- * Positive effect on women's health
- * Improving irritable bowel syndrome
- * Improving gastrointestinal health

Bifidobacterium lactis:

- * Strengthens the immune system
- * Improves small bowel syndrome
- * Improves the health of premature children
- * Helps to lose weight and cholesterol
- * Controls type 2 diabetes

Lactobacillus casei dairy progeny:

- * Prevention of abdominal pain and stomach cancer
- * Reducing the complications of antibiotics and gastrointestinal infections
- * Prevention of pediatric diarrhea, infectious diarrhea and bloating after digestion

Bacillus coagulans:

- * Resistance to pressures of extrusion and production processes
- * Resistance to thermal processes (pasteurization and baking processes)
- * Resistance to low temperatures during refrigeration and storage
- * Resistance to other stresses and tensions in the production line

Technical Specifications:

- * **Product type:** powder

These products are final B2C consumer products.



➤ Human Probiotic Products with Semi-Continuous Method

◆ Zist Takhmir Co.

www.zisttakhmir.com



Product Introduction:

There are different types of human probiotic products according to their application, which according to their brand names include BB Care, PediLact, GeriLact, FamiLact, KidiLact, KidiLact Zinc, LactoFem, LactoVag and VitaLact. All of these probiotic products are synbiotics compounds (probiotic + prebiotic) and contain high amounts of beneficial and safe bacteria as probiotics, which are described in the table below:

Probiotic product	Type of bacteria and materials available
BBcare	Bifidobacterium lactis - fructooligosaccharide
PediLact	3 strains of lactic acid bacteria - fructose oligosaccharide
KidiLact	10 strains of lactic acid bacteria, including the special strain for children " <i>Bifidobacterium infantis</i> " - fructooligosaccharide
KidiLact Zinc	10 strains of lactic acid bacteria + fructose oligosaccharide
GeriLact	7 strains of lactic acid bacteria + fructose oligosaccharide
FamiLact	9 strains of lactic acid bacteria + fructose oligosaccharide
LactoFem	7 strains of lactic acid bacteria + fructose oligosaccharide
LactoVag	" <i>Lactobacillus rhamnosus</i> " strain + inulin
VitaLact	3 strains of lactic acid bacteria + multi vitamins + essential minerals

Application:

Probiotic product	Application
BBcare	Treatment of bloating and colic in infants and children up to 2 years - baby digestive supplement
PediLact	Treatment of bloating and colic in infants and children up to 2 years - baby digestive supplement
KidiLact	Strengthens the body's defence in children 2 to 10 years old at the time of disease outbreak
KidiLact Zinc	Strengthening the body's defence in children 2 to 10 years old during the outbreak of diseases as well as the children's skin and hair health, treatment of diarrhea
GeriLact	Chronic constipation, bloating and abdominal pain in the elderly
FamiLact	Improving and reducing the duration of diarrhea treatment for all family members
LactoFem	Prevention and treatment of urinary tract infections in girls and women
LactoVag	Reducing menopausal symptoms such as vaginal dryness in women
VitaLact	Providing essential vitamins and minerals to the body of all family members

These products are final B2C consumer products.

Technical Specifications:

All probiotic products are supplied in biological origin of the strain type and the form of supply of each is:

Probiotic product	Form of medication
BB Care- PediLact	Drops
GeriLact-FemiLact-LactoFem-LactoVag	Capsule
KidiLact-KidiLact Zinc	Sachet
VitaLact	Tablet

Exports History:

Up to 500,000 \$

Annual Production Capacity:

30 millions boxes

Founded:

2008

Main Export Destinations:

South Korea, Afghanistan



➤ Kinds of Freeze-Dried Human Probiotics

◆ Fara Daroo Fanavar Mehr (Farabiotic) Co.

www.farabiotic.com

farabiotic
LACTOBACILLUS BIFIDOBACTERIUM

Product Introduction:

Probiotic products mainly contain lactobacilli and bifidobacteria, which are the main part of the intestinal microflora. Also, beneficial yeast *Saccharomyces boulardii* is used in some probiotic products.

The beneficial effects of probiotics in maintaining the health of the digestive system and preventing and curing diseases have been proven in many studies and are mentioned in valid global guidelines. The probiotic products of Fara Daroo Fanavar Mehr Company are:

- * Reuteflor drops
- * Ramnoflor drops
- * Reuteflor sachet
- * Sabular Sachet
- * Sabular capsule
- * Regflor capsule
- * Comflor capsule

Annual Production Capacity:

1,000,000 pcs per year

Founded:

2012

Application:

- * **Reuteflor drop:** decreasing symptoms of infantile colic, reducing excessive crying time in infants
- * **Ramnoflor drop:** treatment of acute infectious diarrhea, prevention and treatment of antibiotic associated diarrhea (AAD)
- * **Reuteflor sachet:** helping relieve chronic constipation in children, reducing functional abdominal pain and symptoms of irritable bowel syndrome in children
- * **Sabular sachet:** treatment of acute infectious diarrhea, prevention and treatment of traveler's diarrhea, antibiotic associated diarrhea and *Clostridium difficile* associated diarrhea, reducing side effects of *H. pylori* eradication
- * **Sabular capsule:** treatment of acute infectious diarrhea, coadjuvant therapy for *H. pylori* eradication, prevention and treatment of traveler's diarrhea, antibiotic associated diarrhea and *Clostridium difficile* associated diarrhea
- * **Regflor capsule:** decreasing irritable bowel syndrome (IBS) symptoms and improving quality of life
- * **Comflor capsule:** in patients with ulcerative colitis inducing remission in ulcerative colitis, maintenance of clinical remission, prevention of pouchitis and maintenance of clinical remission in pouchitis

This products are a final B2C consumer products.

Technical Specifications:

Product name	Pharmaceutical type	Customer	Probiotic strain
Reuteflor	Drop	Infants	Lactobacillus reuteri
Ramnoflor			Lactobacillus rhamnosus
Reuteflor	Sachet	Children and adults	Lactobacillus reuteri
Sabular			Saccharomyces boulardii
Sabular	Capsule	Adults	Saccharomyces boulardii
Regflor			Bifidobacterium infantis
Comflor			Lactobacillus plantarum, Lactobacillus casei, Lactobacillus acidophilus, Lactobacillus bulgaricus, Bifidobacterium infantis, Bifidobacterium longum, Bifidobacterium breu and Streptococcus thermophilus

International Standards or permission:

Manufacturing license from the Iran Food and Drug Administration (IFDA)



➤ Fermented Brans | Rice and Wheat

◆ Parsian Enzyme Iranian Co.

www.parsianenzyme.com



Product Introduction:

Rice and wheat bran are by-products of the wheat and rice milling processes, and they have a wide range of nutritional and technological properties, including strong water binding, emulsifying and foaming abilities, as well as minerals, vitamins, vital amino acids, and antioxidants. However, because of its anti-nutritional inhibitor, Phytic acid, and the fact that it reduces the volume of bread and the stiffness of the tissue, it has decreased the overall approval of the consumer and consumption limits. Fermented bran containing lactic acid bacteria, as a result of microbial fermentation and the creation of phytase enzymes and active substances, can lower the quantity of phytic acid in cereal bran to below the standard level and improve the product's health characteristics (including fiber, B vitamins, magnesium, iron, phosphorus, manganese, etc.).

Founded:

2010

Application:

Nutritional supplements

This product is a final B2C consumer product.

Advantages:

It includes a significant level of fiber as well as other useful compounds for the human body.



➤ Simple and Flavored Extract Powder of Hydrolyzed Yeast

♣ Soren Tech Toos Co.

www.sorentt.ir



Product Introduction:

As a source of nutrients, hydrolyzed yeast (also known as yeast extract) is obtained from *Saccharomyces* yeast as the primary component. Vitamins, proteins, and other nutrients necessary for growth and development are abundant in this material. The usage of yeast extract and its many compounds is recognized as a beneficial and natural dietary supplement. The necessary amino acids that this yeast ordinarily produces might be included as one of the components of this product. All of the B vitamins, except vitamin B12, are the primary active ingredients in yeast extract, unless the brewer's yeast is supplemented with vitamin B12 as well. As the finest source of natural vitamins, yeast extract has garnered a lot of attention for this reason. Yeast extract contains minerals (about fourteen different kinds), particularly chromium, phosphorus, and selenium. Protease, polycarboxylase, and polydianase are only a few of the enzymes used in the manufacture of hydrolyzed yeast. In this technique, natural polymers have the proper flavor in addition to the diversity of hydrolysis.

Founded:

2004

Application:

- ✧ Types of dietary and food supplement industries
- ✧ As a supplement for livestock and poultry

This product is a final B2B and B2C consumer product.

Technical Specifications:

- ✧ **Product components:** hydrolyzed yeast and maltodextrin
- ✧ **Brand name:** Yeasttoos-Proplex

Advantages:

Manufacturing products of excellent quality at low prices

International Standards or permission:

Manufacturing health license by Iran Ministry of Health and Medicine



➤ High Protein and Vitamin Beverage

Supplement for Hemodialysis Patients

🏠 Fakher andishan Rad Co.

www.farad-int.com



Product Introduction:

Produces high-protein, high-vitamin beverages (vanilla diaphragm/strawberry/banana/coconut in multilayer sterile sachets) for hemodialysis patients in multilayer sterile sachets and in the form of vanilla, strawberry, banana, and coconut diaphragm. This product is created and manufactured as a unique, practical, and comprehensive diet to address the nutritional demands of dialysis patients by providing the nutrients required for their health in a tasty way.

Annual Production Capacity:

1,000,000 packet

Founded:

2017

Application:

- ✳ Acute malnutrition prevention in hemodialysis patients
- ✳ Proteins, vitamins, minerals, and other nutrients that are lost during dialysis can be replaced.
- ✳ Increasing albumin levels in the blood
- ✳ Mineral balance, particularly salt and potassium, is beneficial to heart health.
- ✳ Improving the nutritional and health-related quality of life

This product is a final B2C consumer product.

Technical Specifications:

This product is made as a sterile beverage shake.

Advantages:

- ✳ A good and competitive quality with international products
- ✳ Packaging that is both diverse and attractive.
- ✳ Compared to equivalent overseas examples, the pricing is more affordable



➤ Food Grade Enzymes

Alpha-amylase, Transglutaminase, Glucoamylase and Lipase

◆ Bonda Faravar Co.

www.bondagroup.com



Product Introduction:

The enzyme alpha-amylase is heat-resistant and in the starch industry causes concentrated starch suspension to convert to solutions of short-chain dextrans; Therefore, heat-resistant alpha-amylase is also called a liquefaction enzyme.

Transglutaminase is an enzyme that is widely used in many branches of the food industry and accelerates the formation of isopeptide bonds between proteins. This enzyme is used in various processes such as yogurt, cheese and other dairy products, meat products and bakery products.

Glucoamylase enzyme is a combination of two enzymes, glucoamyase and pullulanase, which is used in the starch industry for saccharification with the aim of achieving glucose with the highest purity. The saccharification step, which begins after the liquefaction step, is done by hydrolyzing dextrans and oligosaccharides to glucose units.

The lipase enzyme produces fatty acids and glycerol by hydrolyzing lipids and ester bonds of triglycerides. This enzyme is used to supplement the enzymatic digestive capacity of poultry and the optimal use of feed energy at younger ages.

Main Export Destinations:

Arab countries and the Persian Gulf region, African countries, CIF countries

Exports History:

Up to 500,000 \$

Annual Production Capacity:

300

Founded:

2015

Application:

- ✱ **Heat Resistant Alpha Amylase:** Starch and Alcohol Industries
- ✱ **Transglutaminase:** Food industry (dairy, meat and meat products)
- ✱ **Glucoamylase:** Starch and alcohol industries
- ✱ **Lipase enzyme:** In the flour, bread, livestock and poultry industries

These products are final B2B consumer product.

Technical Specifications:

Enzyme type	Heat resistant alpha amylase	Transglutaminase	Glucoamylase	Lipase
Enzyme activity (u/g)	20000, 40000	120	120000	20000
Product appearance	Brown liquid with a normal fermenting odor	White powder, odorless	Brown liquid	White powder, odorless
pH profile	-	4.5-8 (optimal 7)	Efficient 4.0-6.5 (Optimal 4.5-5)	-
Temperature profile (°C)	80-110 (optimal 95-105)	40-55 (optimal 48)	Efficient 58-75 (Optimal 65-70)	25-50
Storage conditions	In a dry and cool environment, away from light with good ventilation	Dry and cold environment (2 to 5 °C)	Dry and cool environment, away from light	Dry and cool environment, away from sunlight (temperature below 25 °C)

Stability time during storage for all products: 12 months

Advantages:

- ✱ Competitive with similar foreign products
- ✱ Reasonable price compared to similar products



➤ Culture Starter of Yogurt and Butter

◆ Maya Zist Farayand Co.

www.pspaydar.ir



Product Introduction:

The microbe that starts the fermentation process is known as the starter culture. As a result, any bacterium capable of causing a favorable chemical reaction qualifies as a starter. Lactic acid bacteria are found in dairy starters and are responsible for converting lactose, a sugar found in milk, into lactic acid.

One of the most important aspects in this industry has been to pay attention to the texture and flavor of the final product. These starting cultures are phase resistant and rotate in multiple directions to prevent bacteriophage contamination of manufacturing lines.

Annual Production Capacity:

700,000 packet

Founded:

2012

Application:

- ✧ **YT:** A wide range of lyophilized starters for the manufacturing of yogurt and other fermented milk products in terms of flavor and texture
- ✧ **KT:** Dairy starter cultures for making fermented drinks like kefir and carbonated buttermilk.
- ✧ **PR:** Probiotic starter cultures (pure species) to generate a range of probiotic products
- ✧ **CM:** Cheese starter cultures for making a variety of cheeses with conditioned organoleptic features and the best texture and flavor.
- ✧ **ES:** EPS (Exopolysaccharide) producing species to enhance the texture of soft and fresh cheeses and yogurts

This product is final B2B consumer product.

Technical Specifications:

The final product is DVS culture starter yogurt & Doogh, which is marketed in the form of powder obtained from the process of freezing at low temperature and lyophilization in packages of 40-80 g (covered with three layers with aluminum).

Advantages:

- ✧ Low product price compared to foreign products
- ✧ Quality stability
- ✧ Experienced technical team to support products

International Standards or permission:

- ✧ IDF 27205/IDF14927205/IDF149
- ✧ ISO 1980
- ✧ ISO 9232
- ✧ ISIRI 14094
- ✧ Knowledge-based license
- ✧ high technology License
- ✧ Manufacturing license from the Food and Drug Administration of Iran



➤ Yogurt Starter with Anti-Allergenicity Characteristics

📍 Zist Aghazgar Sepahan Co.

Product Introduction:

Yogurt is the product of a series of fermentation processes in milk that are produced by lactic acid bacteria such as *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. The main function of starters is to produce lactic acid to acidify milk. Besides they create a high taste, texture and nutritional value of yogurt. Therefore, the purpose of producing starters is to achieve a high density of active cells, so that fermentation begins at a high rate. Providing proper nutrition, pH control and inoculation temperature are essential to achieve these goals. Therefore, studies are done to produce and increase the productivity of starters. Also, considering that about 8% of the world's population are allergic to cow's milk, there is a need to produce less allergic dairy products. The proteolytic properties of some bacteria can reduce allergies to milk allergen proteins. Therefore, if some bacteria can be used in the production of starters that have proteolytic properties against cow's milk allergen, dairy products can be produced with reduced allergenicity.

Annual Production Capacity:

2 tons

Founded:

2018

Application:

This product is used to produce milk in the food and dairy industries.

This product is final B2B consumer product.

Technical Specifications:

These starters are made using Iranian natural bacteria and conventional dairy products obtained from various sections of the country.

Advantages:

These starters have high proteolytic activity against milk protein allergens and subsequently reduce milk protein allergenicity.



➤ Yogurt, Cheese and Kefir Starters

🏠 Javan Zist Fidar Co.

Product Introduction:

Starters are bacteria that, if added to milk in dairy factories, enhance the creation of acid in these products, resulting in the manufacturing of yogurt and kefir, and they are known as starters because they are the primary component in initiating the fermentation process.

Such bacteria acidify the environment and reduce the pH of the milk by creating lactic acid. Exopolysaccharides, which are particularly efficient in yogurt texture, are also produced by several of these strains. Bacteria are classified as mesophiles (or moderate; in the temperature range of 25-37 °C) or thermophiles (or thermophilic; in the temperature range of 39-46 °C) depending on their growth temperature.

Main Export Destinations:

Russia, Syria, Iraq, Armenia, Uzbekistan, Afghanistan

Annual Production Capacity:

100 tons powder

Founded:

2017

Application:

Dairy industry

This product is final B2B consumer product.

Advantages:

- * There are no common additives required.
- * A lower cost
- * When compared to rivals, the quality is equivalent.
- * There will be no non-organic materials used in the manufacturing process.
- * Accessibility

International Standards or permission:

Standard No.	Subject
14094	Fermented milk products - Bacterial starter cultures - Identification
10154	Milk and its products - Counting the constituent units of mold or yeast colony - Counting the colony in the plate at 25 °C
9615	Milk and its products - Mesophilic starter culture -Enumeration of lactic acid bacteria fermenting citrate - colony counting method at 25 °C

**Application:**

Food industries

➤ Vegetable Rennet Extracted From The Plant Vitania

🏠 Zist Boom Zahedan Co.

**Product Introduction:**

Cheese is a dairy product made from the coagulation of milk protein and the removal of whey. One of the most important and crucial phases in the production of various varieties of cheese is the coagulation of milk proteins and their conversion into a jelly network. Unlike typical cheese obtained from microbial rennet, vegetable cheese derived from Vitania is made from an extract collected from the Vitania plant's fruit that contains 89 percent salt and has been partially purified.

This rennet is made entirely of natural ingredients and does not contain any synthetic or imported coagulants, which might cause injury.

Founded:

2016

This product is a final B2B consumer product.

Technical Specifications:

- * With a 200 microliter extract volume, cheese manufacturing power is 271.86 units.
- * More than 95% efficiency in the production of cheese

Advantages:

- * Cheese manufacturing efficiency and productivity are high.
- * High quality for a reasonable price.
- * Food that is both healthy and plant-based



➤ Withania Plantlets and Plant Rennet

◆ Hezareh Zireh Mahan Co.



Product Introduction:

Cynaracardunculus, *Silybummarianum*, and *Centureacalcitrapa* are being employed in the cheese production in various regions of the world. Vegan cheeses made from these plants have a bitter flavor due to the high proteolytic activity and occasionally non-specific action of the milk protein fraction (casein), which reduces clot strength when compared to chymosin. Vegetable rennet protease, which lacks the aforementioned unfavorable qualities, has long been used to make cheese in Iran's Baluchistan area, as well as Pakistan and Afghanistan. The tissue culture system is utilized to create and generate the plant at larger scales, and appropriate microsamples from the plants are obtained.

This everlasting plant is good for minimizing soil erosion and may cover up to 10 m² of ground throughout the year. Vegetable rennet is made by a series of biochemical stages from the processing of plant organs and tissues, and it is utilized in the dairy business in three forms: sachets, liquid, and powder.

Annual Production Capacity:

10,000 plant rennet
3000 Liquid rennet
1000 gr rennet powder per year

Founded:

2014

Application:

It is a material that is utilized in the dairy industry to make cheese.

This product is a final B2B consumer product.

Technical Specifications:

- * **Rennet Bag:** include 30 gr for production of 2 kg cheese from 10 liters of milk
- * **Rennet liquid:** include 30 ml for production of 8 kg cheese from 40 liters of milk
- * **Rennet powder:** include 100 gr for production of 20 kg cheese from 100 liters of milk

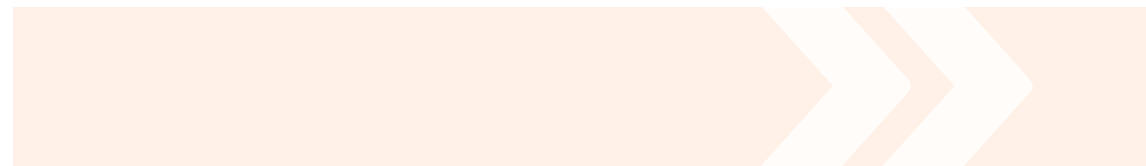
Advantages:

- * It is entirely made up of plants.
- * The therapeutic characteristics of the plant are preserved in the resultant cheese due to the polypeptide chain's length, which are more than 100 features, leading to the restriction of the plant's medicinal components.



Iranian House of Innovation and Technology (iHiT)

Iranian house of Innovation and Technology (iHiT) is one of the types of export intermediaries that launched under the auspices of the Vice President for Science and Technology in Kenya, China, Russia, Turkey, Syria and Iraq. In addition to accessing the export instructions, these houses provide variety of services for companies to enter the interactional service markets such as: private and shared workspace, permanent exhibition of products, finding business partners and investing in the target countries of export, company registration, product registration, medicine, medical equipment and trademarks registration, dispatch and admission of business delegations, hiring local specialists to present products and service.





TEHRAN iHiT

Manager: Mohammad Karami

Field of Activity: Permanent International Exhibition | Export of products and services of knowledge-based, creative and technology companies in Tehran

Country: Islamic Republic of Iran – Tehran

Services:

- Holding permanent exhibition of knowledge-based products and services
- Holding specialized events and meetings
- Providing dedicated and shared workspace in Tehran
- Identifying export opportunities
- Identifying opportunities for scientific, technological and industrial cooperation

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NAIROBI iHiT

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Country: Republic of Kenya – Nairobi

Services:

- Holding Permanent exhibition of products and services
- Providing dedicated and co-working space
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Export development of knowledge-based products
- Identifying opportunities for scientific, technological and industrial cooperation
- Providing export instructions of the Center for International Science and Technology Cooperation

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- Holding Permanent exhibition of products and services
- Export development of knowledge-based products
- Providing dedicated and co-working space
- Identifying opportunities for scientific, technological and industrial cooperation
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Providing export instructions of the Center for International Science and Technology Cooperation

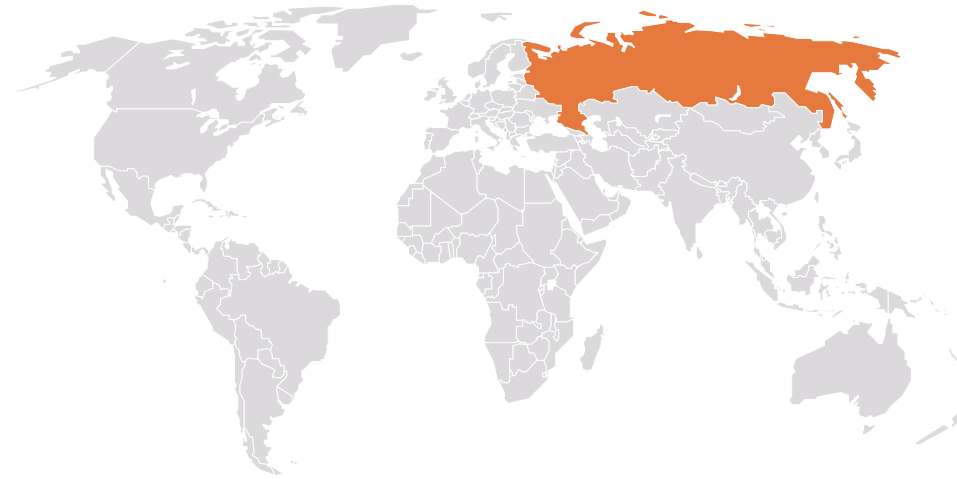
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MOSCOW iHiT

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Field of Activity: Export of products and services of knowledge-based, creative and technology companies

Country: Russian Federation – Moscow

Services:

- Holding Permanent exhibition of products and services
- Providing dedicated and co-working space
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Export development of knowledge-based products
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Services:

- Holding Permanent exhibition of products and services
- Providing dedicated and co-working space
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Export development of knowledge-based products
- Identifying opportunities for scientific, technological and industrial cooperation
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Country: Syrian Arab Republic – Damascus

Services:

- Holding Permanent exhibition of products and services
- Providing dedicated and co-working space
- Export development of knowledge-based products
- Identifying opportunities for scientific, technological and industrial cooperation
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Providing export instructions of the Center for International Science and Technology Cooperation

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Services:

- Holding Permanent exhibition of products and services
- Providing dedicated and co-working space
- Holding the National Pavilion of the Islamic Republic of Iran in international exhibitions
- Export development of knowledge-based products
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