Bricks have been used for making buildings since time immemorial. The predecessors used clay to make mud houses.
The manufacturing of bricks has developed from rudimentary manual methods to modern methods using crushers, extruding presses, drying ovens and state of art firing kilns.
Today bricks are among the most commonly used building materials.
Hollow bricks are light and have found their way to even the biggest of multi-storied building.
In countries like Iran bricks are used in all types of building, from low cost housing to palaces built for kings

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CAPABILIDIES OF HAMGAM SANAT

Hamgam sanat started the development of brick manufacturing factories more than 30 years ago. More than one hundred Hamgam designed, built and supported lines are in existence in and around IRAN.
Hamgam brick factory experts with their vast experience are available to any discerning Hamgam customer to give the right advice.
The Hamgam team will respond to any enquiry from past, existing and future customers.

Designing and establishing a ceramic factory:

Designing and establishing industrial sites (productive or service) requires basic theory recognition and benefiting from sufficient theory and practical prospect in order to achieve the best collaborations with economical and notional conditions and the existing technical knowledge in society.
determining the amount of investment, investigating the possibility of the establishing the site regarding the way of providing the raw materials, the technological conformation of that industry with the extent of actual and potential skills, harmonic and international studies are required too.
Technical studies are a set of researches on humidity of materials, products, recognition of different procedures of production and existing technologies, together with an investigation on systems, equipments and the machinery.
Investigating the different methods for producing the brick:
Generally, the process of producing the brick in either the most primary or the most technical method is summarized in three following steps: providing drying and kilning the clay.

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It is noticeable that nowadays in ceramic industry. Man is Just a controller for machines producing ceramic products, rather than a mere worker. This productive procedure requires following steps:

1) Extracting the materials
2) Preparing the mud
3) Molding
4) Drying
5) Kilning

1) Extracting the materials: There are different facilities for extraction. The most logical and economic way is to extract the soil from the mine using a bulldozer to be carried by a truck to the factory.

2) Preparing the mud: watering the soil, stones and other useless materials are expelled, then regarding the extent of solidity and aridity, soil is milled by means of different mills in order to have a size of about 10or1.5 mm. Having mixed with water, it's ready to be shaped. In this part, considering the different conditions. different equipments are needed.

3) Molding after the mud is prepared, the paste should be kneaded well, and it should be placed in a vacuum container. After expelling the air existing in it. the mud is extruded.
as it is not cut yet, the mud should be pressed and after that by means of cutting machine, it is cut in to needed sizes.

4) Drying: The clay produced in this method. Has a moistness of about 25% which should be removed. In a semi-mechanic method. Having the clay shaped, it is placed in a roofless place, under the direct sun light to be dried. In order to avoid cracking or buckling or controlling the rate of the evaporation, several methods, such as moistening the clay with oil are applied. This way the length of drying is 3to15days. In full automatic method, after molding and cutting the clay, it is carried in to drying containers, where they get dried under a control on temperature and moistness. The required time is about 20-36 hours.

5) Kilning: During the kilning, the molecules of soil get closer to each other because of chemical changes and as a result, the substance becomes hard. The duration and the temperature of kilning which is directly associated with the kind of soil, varies between 15-120 hours and a temperature of about $.C^0$400-1200

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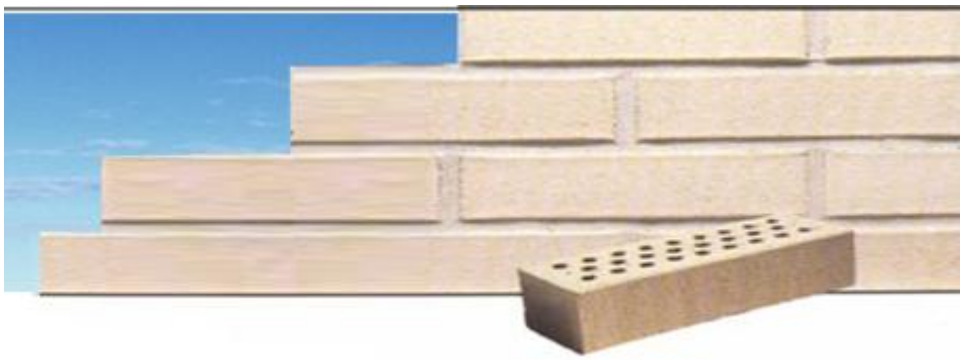
TUNNEL KILN

The tunnel kiln was developed by Hamgam . It is built with special refractory bricks. These bricks allow very little loss of energy.
The tunnel kiln also has a better heat distribution system. the uniform heat distribution reduces rejected brick. The brick out put is also higher then in Huffman kilns.
Hamgam offers both types of kilns. Hamgam offers both types of kilns .hamgam experts can advice customers about the most suitable kiln for their use.

BUSINESS OF BRICK MAKING

Manufacture of bricks is generally a good business. a successful brick manufacturing business has three main items:
1. the correct type of clay soil should be available in quantities required .
2. a good production factory consisting of good quality robust machinery and an energy efficient drying and firing process.
3- a good market for the products. Besides the above sound technical and managerial ability to manage the production process is essential.
after sales support for the machinery is another asset .
hamgam provides full support and back up to all its customers and HAMGAM SANAT experts will assist a discerning
Customer in ensuring that he selects the right place for his/her factory.
They will also assist in the initial management of the unit.
Training of personal in running the factory and maintaining the machinery is another factor that a customer can depend on. the Hamgam sanat team will respond to initial enquiries and after sale requests with equal zeal.
HAMGAM SANAT machinery is manufactured in an atmosphere of total quality control. This means a HAMGAM CUSTOMER is assured of good machinery and spare parts from HAMGAM.

QUALITY IS A TRADITION AT HAMGAM SANAT



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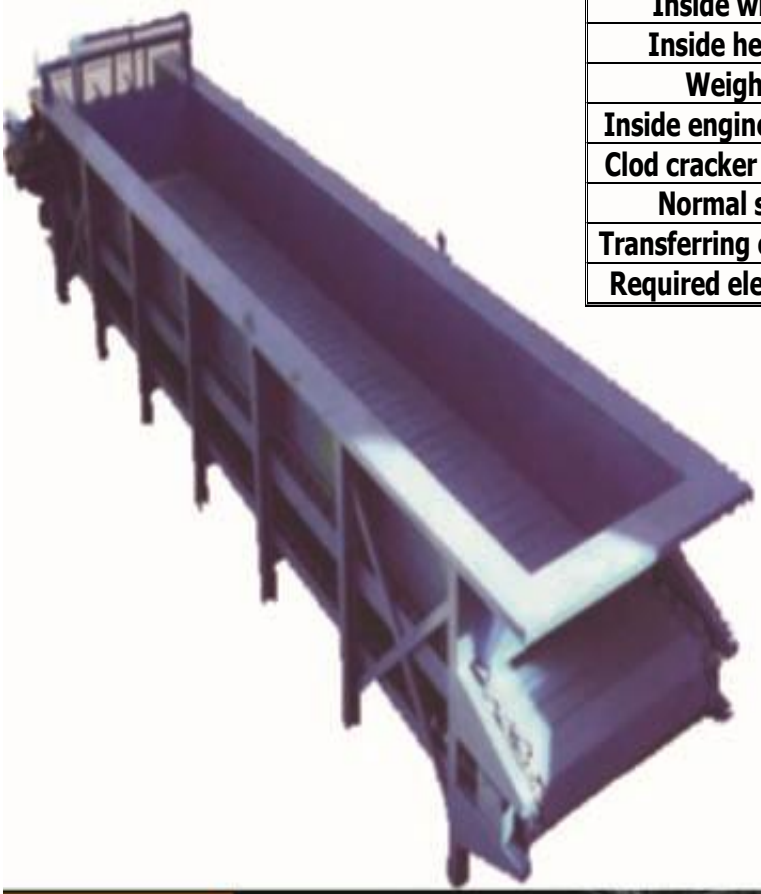
BOX FEEDER

It is used in order to support the assembly line, consistently by allocating a certain amount of soil to be placed at the beginning of the assembly line to avoid any pause in then process of sending raw materials to the assembly line.

Two machines can be used to mix the materials in a fixed ideal proportion, when necessary.
Technical features of soil silos:

Features	Size
Length	6000 mm
Inside width	900 mm
Inside height	620 mm
Weight	5300 kg
Inside engine power	5.5 kw
Clod cracker eng.pw	3 kw
Normal size	5 M^3
Transferring capacity	55-65 Ton/hr
Required electricity	8.5 kw



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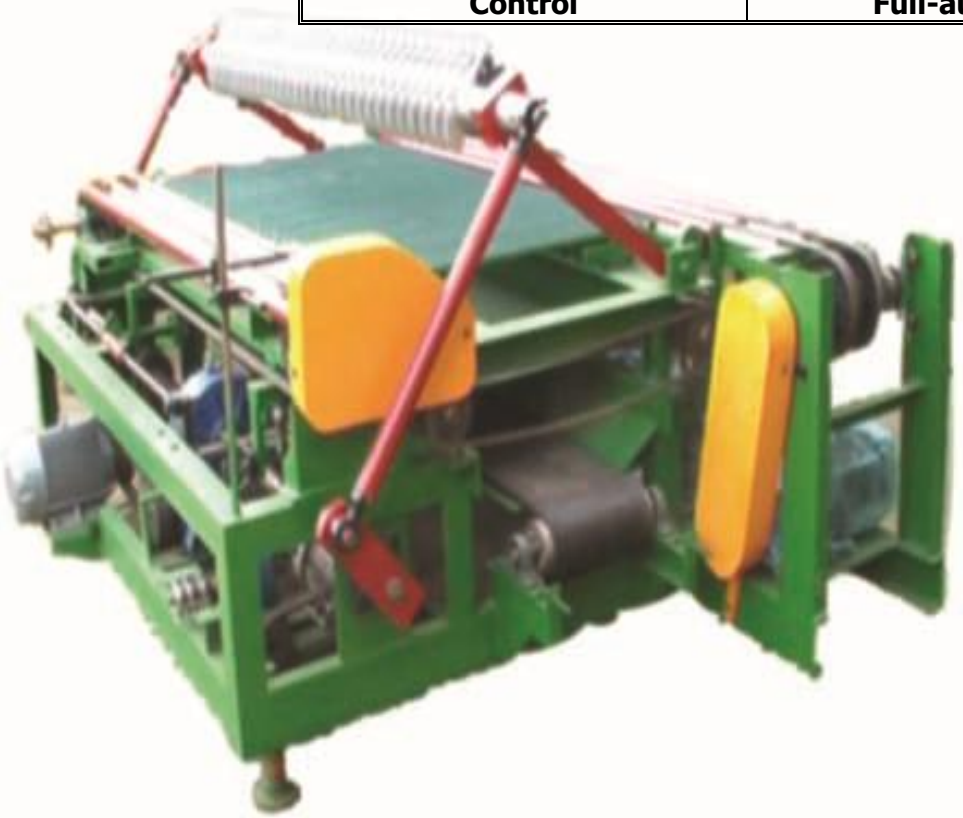
CUTTING TABLE

The bar is cut automatically during two steps, (individually and collectively) after which in semi-automatic method. It is carried to the outside carrying tape and in full-automatic method; it is carried toward the drying machines.

Technical features of cutting machine:

Features	Size
Length of individual cut	2500 mm
Individual cut electro motor	Electric break
Ruling system	Electric eye micro or switch
Collective cut	Moving cable
Number of cut	Moving cable
Turning direction system	Diver
Control	Full-automatic



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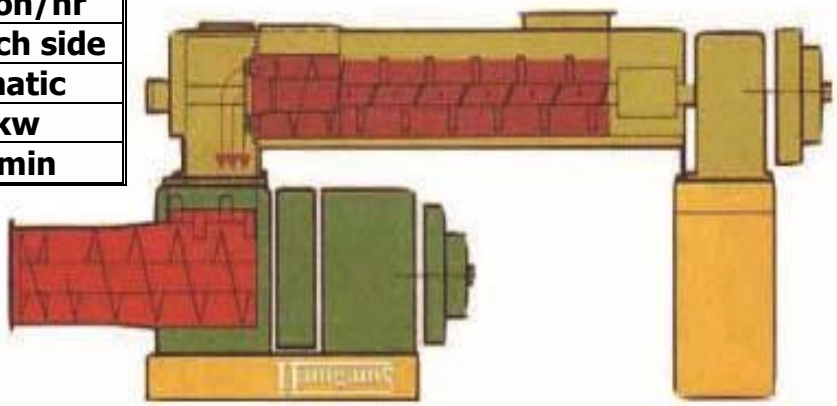
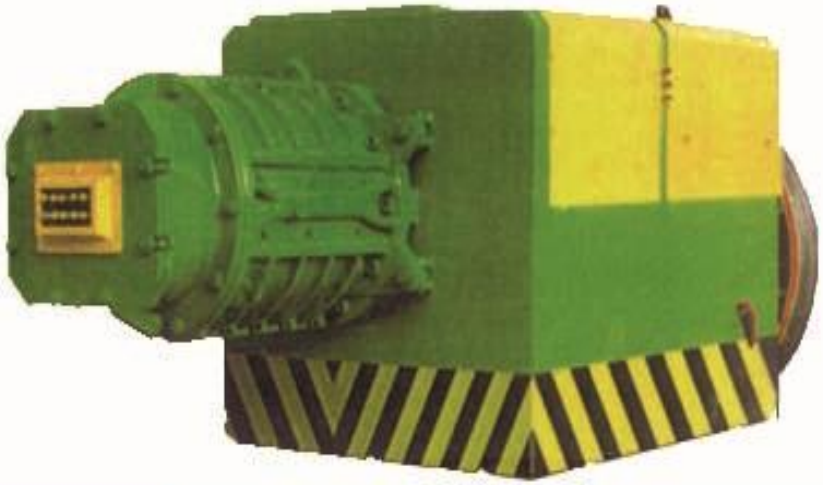
EXTRUDER OR PRESS MACHINE

Extruder or press machine: Having received the substance from the blender, the substance is guided toward the gate of the press through a spiral way.
At the end of this way a mold is installed. The pressure causes the evacuated mud to pass through the mouth of the press.
The result is a bar of mud with the shape of the mould.

Features	Size
Cylinders diameter	500 mm
Number of spirals	9 pieces
Cylinders length	1700 mm
Weight	9600 kg
Machines width	1470 mm
Out put	45-65 ton/hr
Number of presses	10 on each side
Clutch system	Pneumatic
Required electricity	145 kw
Shafts speed	26 R/min

The technical features of super p 500s press:





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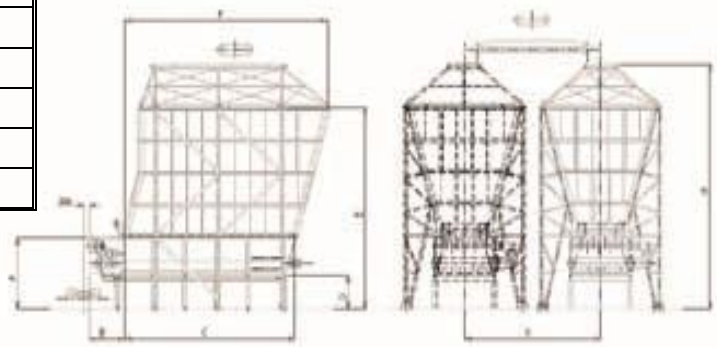
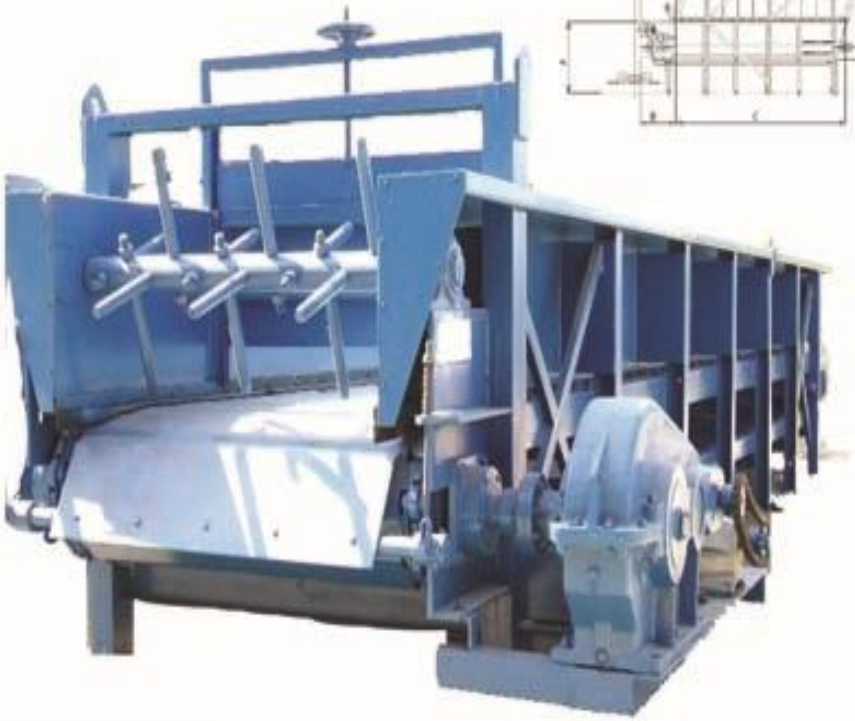
MIDDLE BOX FEEDER

This machine is used to press store the prepared mud in order to feed the blender.
It can also homogenize the materials by storing the prepared mud.
The more the mud is stored there, the more kneaded and prepared it will be and this will contribute to a better quality for the product.
Therefore to produce the ceramic productions with a high quality.
The executors attempt to build high-capacity silos in order to achieve the best homogenization.

Technical features of mud silos:

Features	Size
Length	9000 mm
Inside width	1450 mm
Inside height	620 mm
Weight	8600 kg
transmission engine pwr	5.5 kw
Crampon engine pwr	4 kw
Number of moving rolls	4 rows
Transferring capacity	55-80 Ton/hr
Required electricity	9.5 kw





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MIXER

Double-axles blender: In order to mix, watering identically and homogenizing the materials and to create a mood of plasticity in them, with the following characteristics.

Features	Size
Length	3150 mm
Inside width	970 mm
Shafts length	4000 mm
Weight	4200 kg
Clutch system	panmatic
Shafts diameter	150 R/min
Shafts speed	30 R/min
Transferring capacity	55-65 Ton/hr
Required electricity	45 kw

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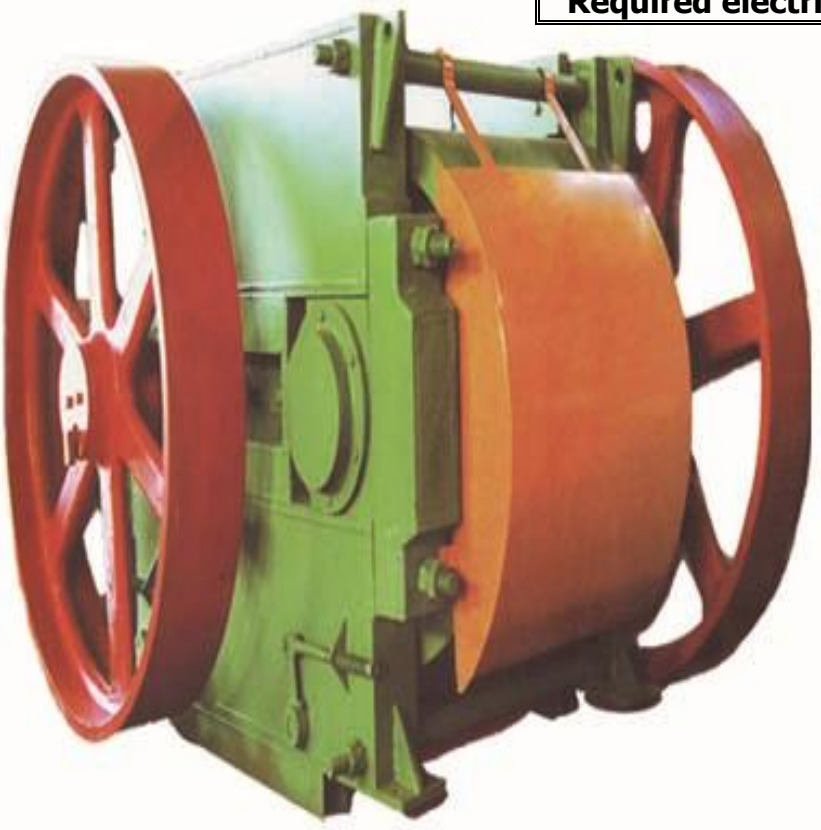
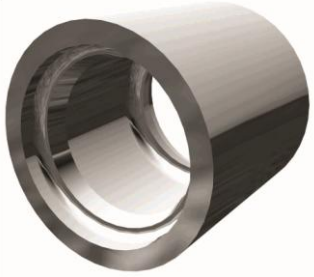
ROLLER MILLS

This plant plays an important role in preparation of primary dry and wet soil and also in increasing the quality of mud. The body material of this plant is steel and roller material is alloy cast iron.

This plant is used in different dimensions and it can be usable in two systems, mechanical and hydraulically fuses. The distances of rollers are adjustable for different applications.

Features	Size
Rollers Length	800 mm
Rollers diameter	1000 mm
Rollers speed	170-220 mm
Weight	10600 kg
1 st engine s power	37 kw
2 nd engine power	45 kw
Output with a moist of about 20-25%	55-65 ton/hr
Transferring capacity	55-65 Ton/hr
Required electricity	82 kw





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VACUUMMIXER

Press blender machine: It is used to blend and press the mud as much as possible in a way that there exists no kind of vent and removing the water of preparing step.
This machine is installed on extruder press and by means of evacuation pomp, the air existed in the mud is sucked.

The technical features of double axel vacuumed blender.

Features	Size
length	1260 mm
Vacuum containers length	1530 mm
shafts Length	3720 mm
Weight	4650 kg
width	970mm
Shafts thickness	150mm
Required electricity	75kw
Clutch system	Pneumatic
Out put	55-65 ton/h

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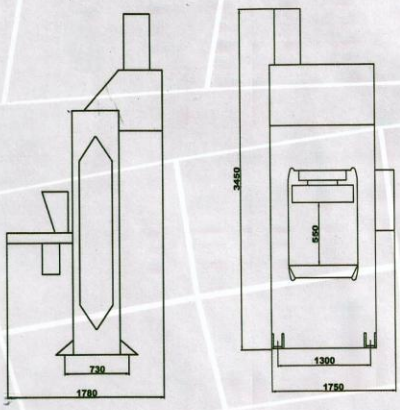
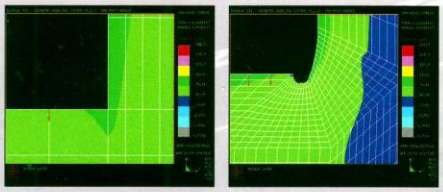
PRESS TYPE : C211P

پرس مدل C211P

مخصوص تولید خشت پلاک یا ال (کارتنی)
قدرت پرس : ۲۵۰۰ کیلو نیوتن
قالب مورد نیاز : قالب پلاک ۱۰ حفره ای ۴۰ X۲۰۰میلیمتر یا قالب ال ۸ حفره ای
برق مورد نیاز : ۱۵ کیلو وات
تولید اسمی : ۵۰۰۰ قالب پلاک یا ۳۰۰۰ قالب ال در ساعت
وزن تقریبی : ۶۰۰۰ کیلو گرم

Press type : C211P
For the production of L-shape or face brick
Press power : 250 tonnes
Required mould : 200X40 mm 10-cavity mould
or 8-cavity L-shaped mould
Electric requirement : 15 kw
Nominal production : 5000 face bricks/h or 3000 L-bricks/h
Approx. weight : 6000 kg





Nisa Software

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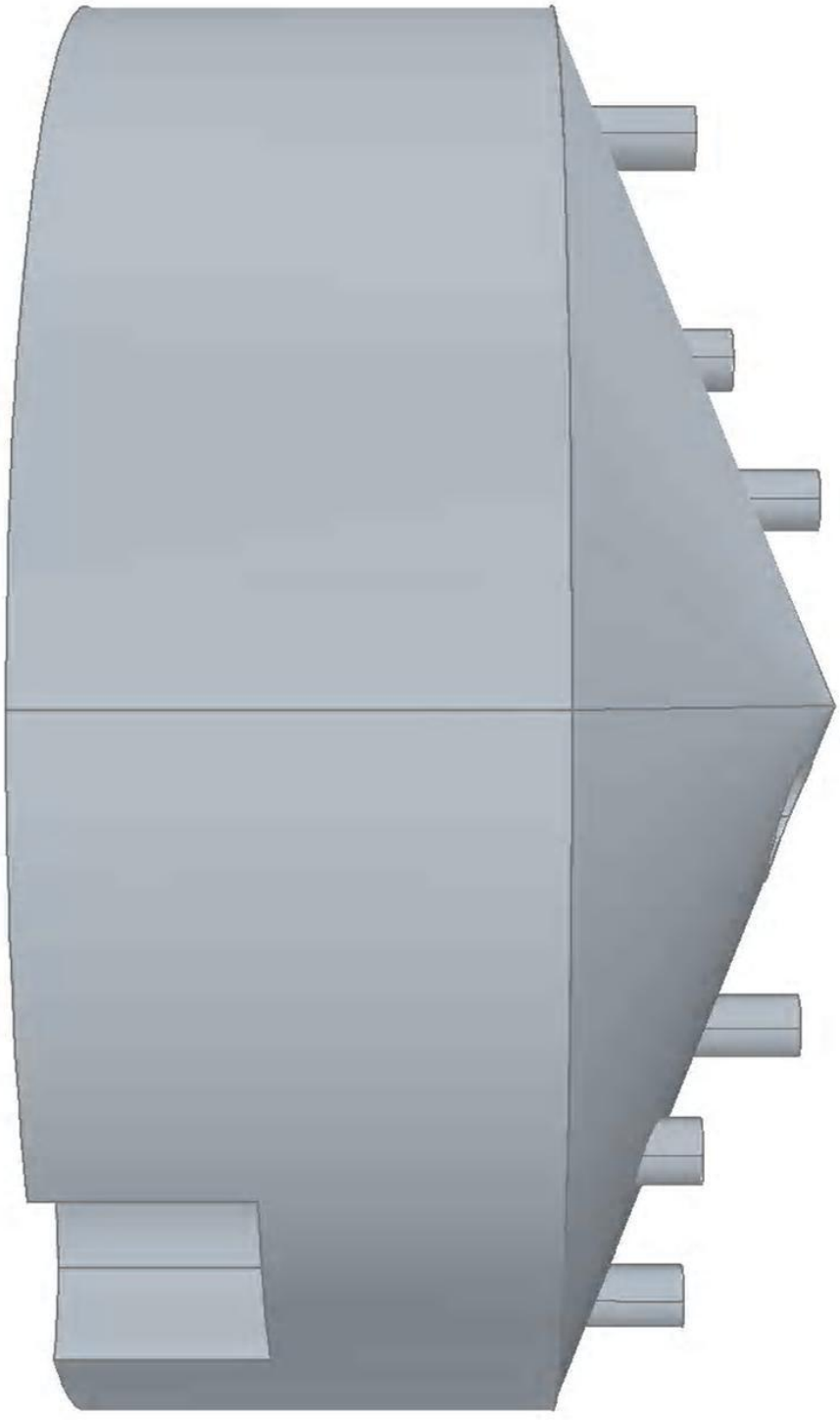
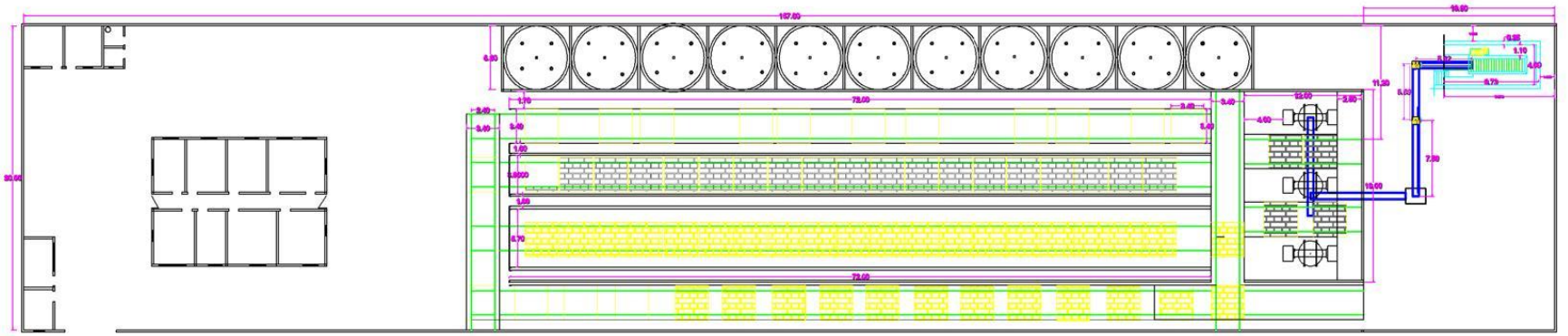
Website:
www.bricks-machine.com

Tel: 00983112364984
00983114414224





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DESIGNED BY: A.GHANEIAN		DESCRIPTION	DATE	SCALE 1/100
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	DESIGNED BY	A.Ghaneian	99/12/25	
	DRAWN BY	M.Ghaneian	99/1/12	
	APPROVED BY	Hoseiny	99/1/12	

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Pars Iran

A.GHANEIAN

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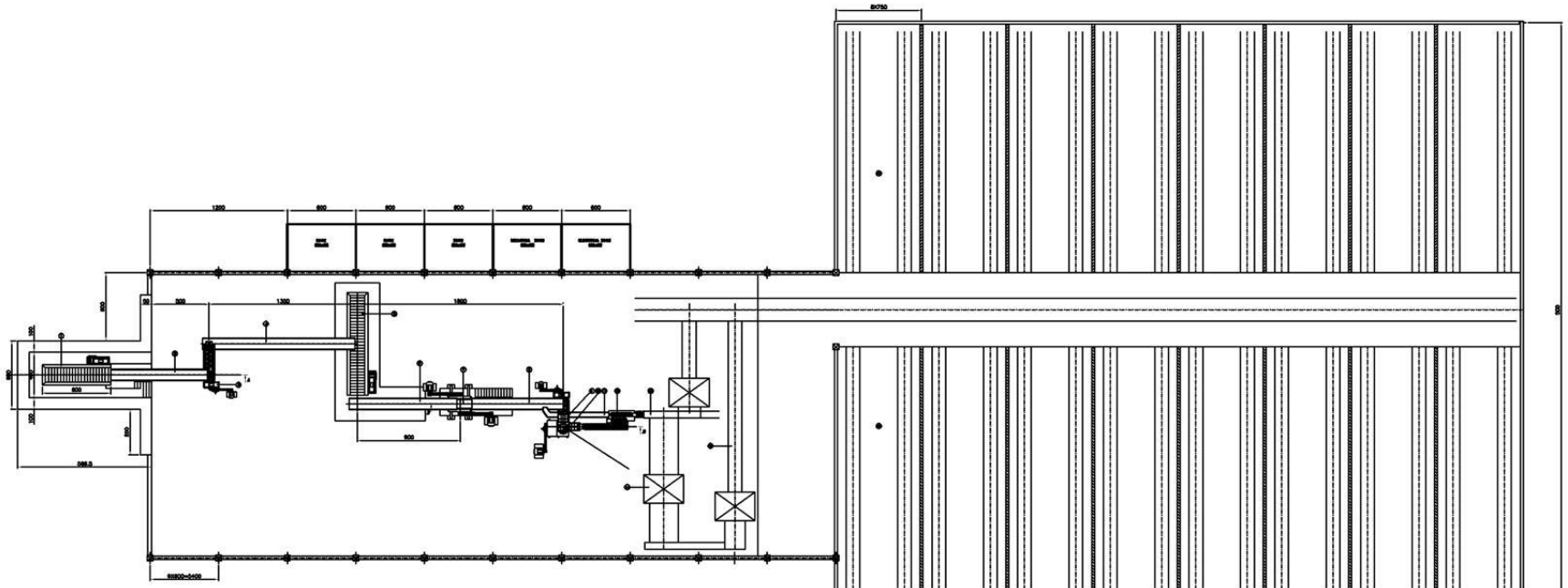

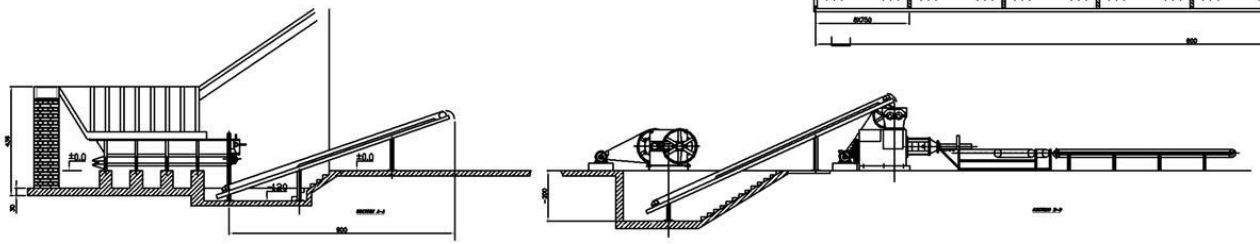

13	CONVEYOR BELT
12	CUTTING TABLE
11	CONVEYOR BELT
10	PRESS
9	VACCUM ROLLER
8	CONVEYOR BELT
7	ROLLER MILLS
6	CONVEYOR BELT
5	RAW-FEEDER
4	CONVEYOR BELT
3	MIXER
2	CONVEYOR BELT
1	RAW-FEEDER

Hamgam Sanat Co.		ORDER BY: VAEL–AZIZ		
DRAW NAME:		SIGNATURE	DATE	SCALE:
	MANAGER	–		1/100
DWG No: P.S–01–01	DESIGNED BY			
	DRAWN BY	P.M.S.CO.		SIZE
ASSEMBLY No: P.S–01–00	APPROVED BY			A1