Technical consulting and marketing services

GERMAN CONNEX CONSULT Sarl.

Engineering GERMAN CONNEX CONSULT

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Engineering GERMAN CONNEX CONSULT

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GCC-German Connex Consult connects the experience in Technology with Marketing.

For decades of activity with commitment to provide satisfactory work in engineering services in the areas of Chemical, Petrochemical and Construction Industry for internationally known companies, such as:

- Bayer AG, Leverkusen, Dormagen, Germany
- INEOS GmbH, Köln-Vorringen, Germany
- Shell Deutschland Oil GmbH, Wesseling, Germany
- Basell Polyolefine GmbH, Wesseling, Germany
- Dynamit Nobell, Leverkusen, Germany
- KHD Humboldt Wedag GmbH, Köln, Germany
- Martinswerk, Bergheim, Germany

To expanding our activities, we see the Marketing Service in the industry sector, as one of the main tasks of our company.
We are specialized in marketing of machines and complete production lines of construction product.
For decades, GCC-German Connex Consult is working closely with partners and internationally known manufacturers in construction industry with high technological know-how and each is an expert in his field.
GCC-German Connex Consult is a leading distributor of machinery and production lines in the building materials industry. Our activities cover the region of Europe, Africa and the Middle East.
With the second seat of our company GCC-German Connex Consult Sarl in Tunisia, we are in direct contact with customers.
With our professional network that is established for years in Arab and African countries, we have the best chance to promote our high quality products in the best conditions.

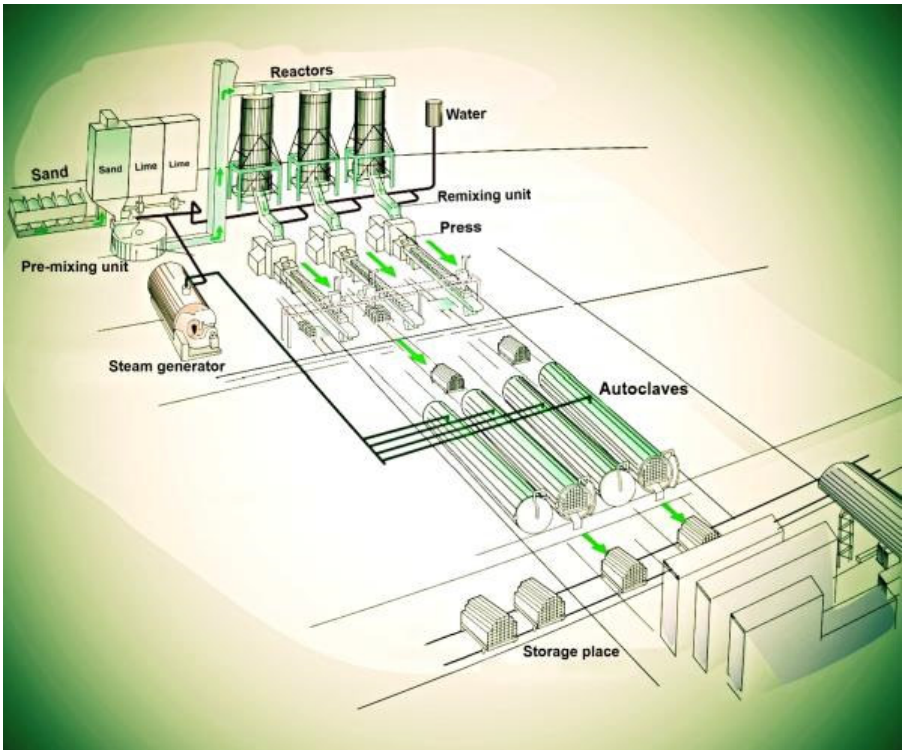
We offer machines and complete production lines in various sectors such as:

- ✓ **Autoclaved aerated concrete plant - AAC-plant.**
- ✓ **Sand-lime brick plant.**
- ✓ **Block machines plant for solid and hollow blocks, pavers, and curbstones.**
- ✓ **Concrete Batching Plant.**
- ✓ **Nano panel plant (Prefabrication of the walls for social housing).**

- ✓ **Cement plant.**
- ✓ **Mining, quarry and gypsum industry.**
- ✓ **Handling and Storage technology.**
- ✓ **Packaging technology.**
- ✓ **Automation technology**.

Sand-lime brick production

Better quality of the final product, high productivity and economic efficiency can be only achieved, if all components involved in the process are perfectly adapted to the highest technical standards.



List of components of sand lime brick plant

1- Raw material supply and storage
2- Pre mixing unit
3- Reactors
4- Remixing unit
5- Press unit
6- Spillage return
7- Hardening wagon circulation
8- Steam generation plant
9- Autoclave section
10- Steam distribution
11- Packaging
12- Loading auxiliary cranes
13- Electric control system

The main stations of the procedure for the production of sand-lime bricks are the following:

1 - Preparation and mixing of the raw material

2 - Transformation of the quicklime

3 - Pressing of stones

4 - Hardening of green blocks

5 - Packing

1 - Preparation and mixing of the raw material

Quicklime (Calcium oxide (CaO)) and natural sand with high content of quartz from local quarries will be stored in silos in the factory.

Automatic dosing of raw materials.

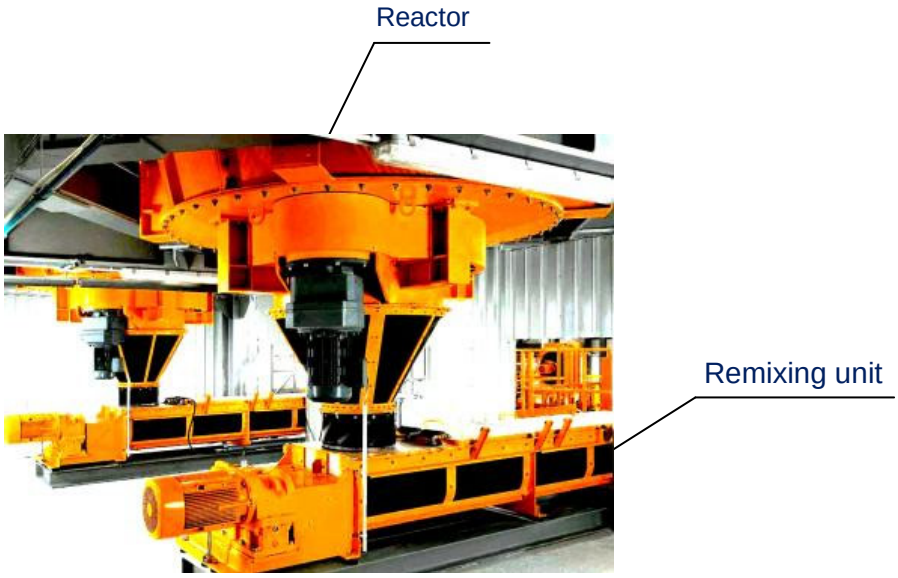
Silo of sand and quicklime of the water with agitator and measure of density.

These raw materials will be dosed according to the weight, with a mixing ratio quicklime / sand = 1:12), mixed vigorously.

A mixing station automatically controlled by computer which controls the dosing of the raw materials; quicklime, sand and water according to an intended recipe.

The mixing begins first with the sand from different particle size, the quicklime and the water will be added and intensively mixed with the sand, and then by means of a conveyor this humid mixture will be supplied to the reactors.

2 - Transformation of the quicklime



Extinction of the quicklime in reactors, by adding some water the quicklime will be transformed in the hydrated lime (Ca(OH) 2) this reaction increases the temperature of the quicklime. Through a remixing, arrives the mixture of sand and the hot hydrated lime to the automatic press.

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3 - Pressing of stones

Automatic press.

Fully automated presses working in three cycles; 1- Fill moulds with the mixture, 2- Compacter the mixture, 3- Unload the green blocks. Thanks to the process of pressing, the green blocks receive their final form and dimensions but they do not yet have the necessary stability, for this, they will be hardened in autoclaves.

Placing the green cake on the hardening car
and drive it in the autoclave.

The green blocks will be loaded on a transfer car to transport them in the autoclaves.

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4 - Hardening of green blocks

The importation of the green blocks
in the autoclave

After 8 hours of curing time, the cured cake
leaves the autoclave.

The green blocks called calcium silicate bricks will be introduced into the autoclave. They will be steamed during 8 hours under a pressure of 16 bar and a temperature of 200°C

Steam generator.

The hot steam solves some silicic acid on the surface of the sand grains.

They form together with the ingredients of mixture a new crystal structure, said crystal phase CSH. In this way, the sand grains are firmly linked. The sand-lime brick is hardened.

Heat recovery

The hardening of material in the autoclave is the main stage of process consuming of the steam. Habitually several autoclaves will be exploited at different times and an accumulator of steam used for the recovery of partial heat.

The heat recovery is for the use of condensate and also for the optimum reuse of the steam which is produced for the autoclaving.

Upon closing of the autoclave, the steam will be temporarily stored on one hand to use it in the autoclaving and on the other hand for the building heating system and the preheating of the feed water.

Through a heat exchanger, heat can be regained from the condensate to use it in the preheating of the feed water or to preheating the fermentation rooms or to heat buildings.

4 - Packing

Strapping of sand-lime brick.

Packing station.

For the conservation of the quality of product, a security package for the transport is important. Most packets of sand-lime bricks will be loaded on palettes and strapped vertically and horizontally.

After curing and cooling, sand-lime bricks are ready to use. The factory storage is not necessary.

We offer a sand-lime bricks plant with a turnkey service; from technical advice, supply, Construction Management until after service.

Upon request, we will be pleased to send you our best offers.