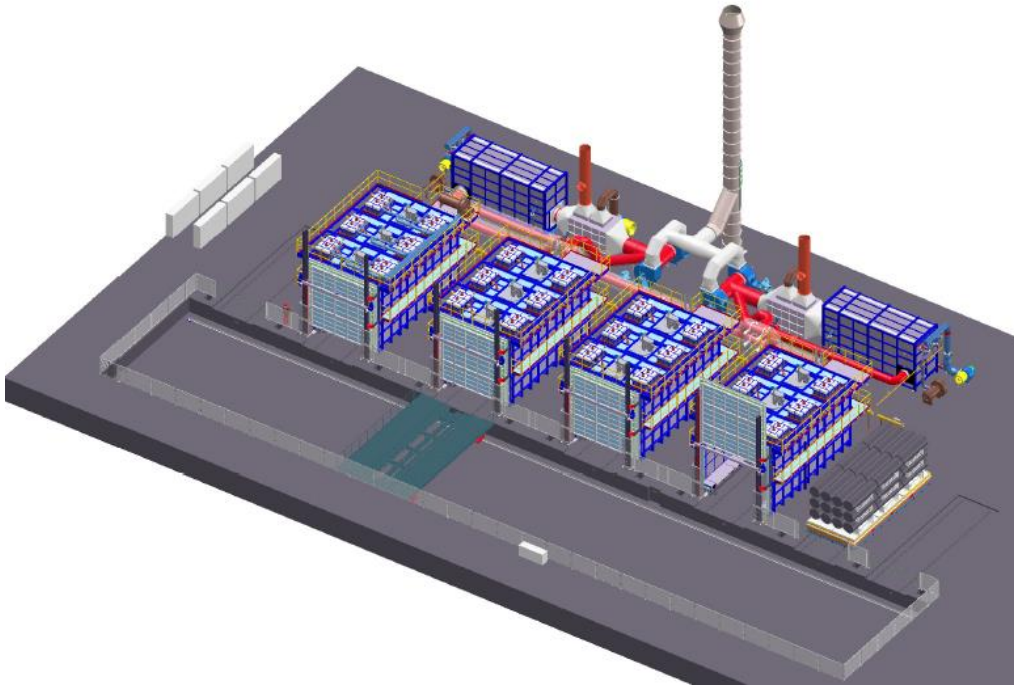

CARBON BAKING TECHNOLOGY



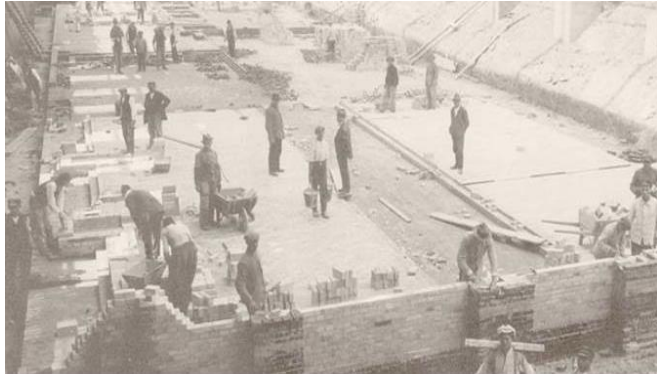
**CBF – CAR BOTTOM FURNACE
FOR BAKING OF**



RIEDHAMMER
CARBON BAKING TECHNOLOGY

COMPANY PROFILE

In 1924 Ludwig Riedhammer decided to start his own company for the development and construction of industrial furnaces for manufactured carbon. Very soon the furnaces were accepted throughout the world, and paved the way for the company's success.



First Riedhammer Baking Furnace

Nowadays Riedhammer GmbH (RH), located in Nuremberg Germany, is the leading manufacturer of industrial kiln plants worldwide and offers innovative technologies for Advanced Materials, besides its traditional business areas like ceramics and sanitary ware.

For the Carbon Industry, Riedhammer is presently the only independent supplier worldwide being able to deliver complete solutions with its proven furnace technologies for baking anodes, cathodes and electrodes, supplemented with specifically tailored solutions for the production of special carbon products.

More than 90 years of experience and know-how guarantee a high economic efficiency and reliability of the plants.

Riedhammer provides various solutions from revamping up to new turnkey plants based on the most advanced technology and proven reliability, combining tradition and experience with state of the art development, engineering, construction and commissioning to a new generation of furnaces including all required auxiliary equipment.



Riedhammer main office in Nuremberg

A worldwide net of representatives guarantees a highly efficient customer service and professional support whenever and wherever required.

The engineers and technicians of the Riedhammer team are trained to optimize project progress for the customers' benefit, resulting in shorter project run-times, minimized costs and maximized return on investment.



Courtesy of PJSC Energoprom Novocherkassk Electrode Plant

FURNACE DESCRIPTION

The Riedhammer CBF – Car Bottom Furnace for baking and rebaking of electrodes and special carbon blocks is a periodic baking furnace with directed flow of the kiln atmosphere ensured by roof fans and energy-efficient internal combustion of the pitch vapours produced during the process by using the RIEDHAMMER Low-O₂-Technology

In combination with a transfer system for furnace cars the CBF allows short charge exchange times.

The furnace is designed as a convective circulation system with directed flow control of the furnace atmosphere ensured by roof fans. The furnace is heated by vertical high-velocity burners.

The burner system burns a reasonable part of the pitch vapors released from the products inside the furnace by means of Low-O₂-Technology.

The remaining volatile-loaded exhaust gases are completely oxidized in a post-combustion chamber.

CBF for first baking

For first baking the furnace cars are usually loaded with steel containers (saggers) in which the products are positioned vertically and covered with packing powder.

CBF for rebaking

For rebaking the products are stacked horizontally on the furnace car. The individual products are separated from each other by means of so-called stacking aids.

PROJECT EXECUTION

From the supply of engineering packages up to the execution of "turnkey" projects worldwide:

- Design & Engineering
- Procurement & supply
- Quality control (QA/QC)
- Project administration
- HSE management
- Construction services and job site management
- Start-up & commissioning

ENGINEERING & SERVICES

Our team of specialists provides you with the most suitable technical and economical solutions for specific requirements such as:

- Customized solutions for the industry worldwide
- Conceptual analysis and feasibility studies
- Retrofit and modernization of existing plants
- Design and engineering of baking furnaces and baking facilities
- Supply of complete baking facilities including equipment
- CFD Modelling

TECHNICAL SERVICE & SUPPORT

Our after sales service network provides support for existing equipment and processes, and keeps customers informed about recent developments and improvements.

- After-sales service and customer support
- Optimization of baking processes
- Plant audits
- Furnace inspections
- Maintenance strategies
- Operation & maintenance training

FURNACE CHARACTERISTICS

TYPE

WCG 105

PROCESS

First and Rebake

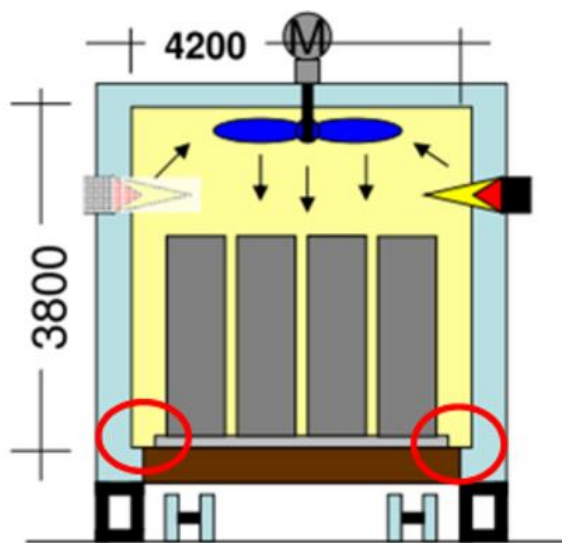
Useful volume
Max. load weight per car
Cars in furnace
Max. design temperature
Baking Temperature
Heating media
Usual baking cycle
Atmosphere

105 m³
100 mt*
1 car
900 °C
870 °C
gas
65-75 or to be defined
neutral

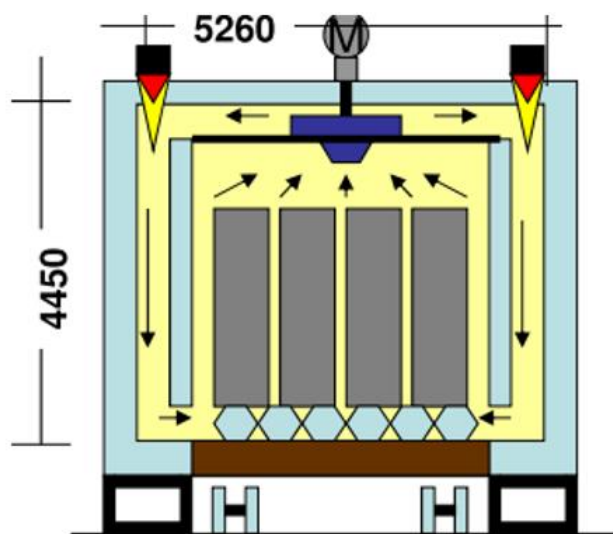
ADVANTAGES

Our advanced furnace design offers the following benefits:

- Open firing in oxygen-free atmosphere (Low-O₂-Technology)
- Reduced tar condensation and thus minimized buildup of soot and tar deposits by using forced Low-O₂-Technology
- Roof-mounted burners operating in vertical pulse firing mode
- Guided atmosphere circulation system
- Low energy consumption
- Maximum load density on the car
- Best-in-class temperature uniformity inside the load stack.



Common today's design



New RIEDHAMMER design

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