

INNOVATIVE GRAPHITE SOLUTIONS



■ GRAPHITE IS OUR BUSINESS

FIRST CLASS GRAPHITE PRODUCTS



FRICOMATEC – GRAPHITE PROCESSING EQUIPMENT FROM A SINGLE SOURCE

The Graphite Experts

As specialists for corrosion-resistant material technology in the field of graphite plants and plant constructions, FRICOMATEC supplies different industrial branches with convincing solutions.

A number of customers from the fields of chemistry, fine chemicals and petrochemicals, PVC production, as well as steel and pharmaceutical industries are counting on FRICOMATEC's reliable solutions!

We do not only deliver finished graphite components, but also a wide range of spare parts and specific repair work.

FRICOMATEC provides all services related to graphite heat exchangers from a single source!

Graphite heat exchanger: repair and service-center

In addition to the relevant standards, guidelines and regulations FRICOMATEC is keenly focused on individual customer requirements.

Thus, not only will modifications of the existing equipment be carried out in the future, but also innovative products from different sectors will be modified alongside our customers and consistently be further developed and implemented.

The internal FRICOMATEC service-centre performs qualified maintenance and repair work on graphite heat exchangers and manufactures all steel parts required for its own or third-party products in outstanding quality.



Design and construction of graphite heat exchangers

The thermal analysis and design of graphite heat exchangers takes place at our company with the support of well-known international software vendors and their accompanying know-how.

By that means it is ensured that due to customer-specific needs and applications a long-term economic and sustainable solution that is guaranteed in the graphite heat exchangers is offered by us.

No matter which application

- Heating / cooling
- Absorbing
- Condensating
- Quench absorber

The latest 3D software is used for design and drawings at our company. International country-specific regulations such as AD 2000 or ASME are taken into account.

The essential of the graphite plant construction lies in the base material which is selected and obtained exclusively from reputable suppliers. This ensures our high quality standards.

In order to produce excellent products, every client's offer has its own specific requirements which presupposes a high level of premium graphite.

Various corrosion-resistant refinement materials are an essential part of the graphite base material.

FRICOMATEC SPIRAL HEAT EXCHANGER

FRICOMATEC – Spiraler

The spiral graphite heat exchanger from FRICOMATEC is a completely new development that complies with all future-oriented, economic and environmental requirements.

At the beginning of the development a simple cost-effective solution was our primary scope, in which our engineers were able to question everything with the exception of one thing - the graphite material, to keep up the high corrosion resistance against most aggressive products. This was the basis for creating one of the most effective and innovative developments in the graphite plant construction sector.

The new heat exchanger fulfils various specific requirements concerning quality and economy. Our Product could be described by the following sentence:

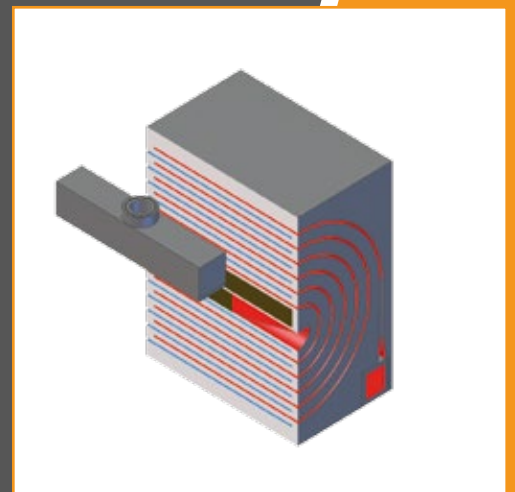
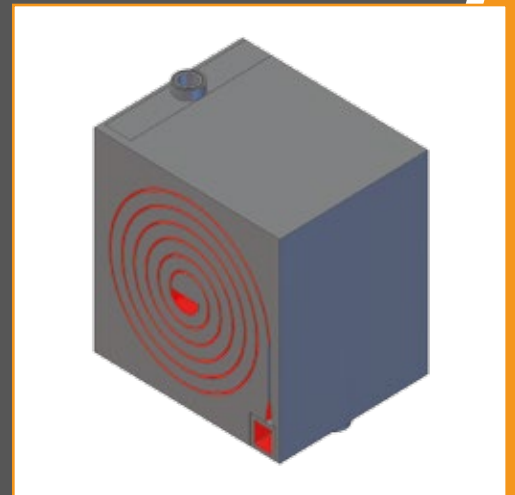
Pure efficiency in graphite apparatus construction.

The spiral heat exchanger offers very large exchange surfaces in the smallest space with a huge efficiency - and extremely compact design. Thus, we achieve reduction in materials, reduction in maintenance and storage costs, as well as a self-cleaning effect in operation.

Advantages at a glance:

- Lower cost
- Smaller construction with large exchange surface and efficiency
- Minimizing inventory costs of spare parts by the customer
- Customer-friendly maintenance
- Self-cleaning effect
- Low pressure loss
- Impregnations in phenolic resin and PTFE
- Coatings made of SiC (silicon carbide)

At the end of the development one thing was clear. The FRICOMATEC graphite spiraler will revolutionize the heat exchanger market in future.



CYLINDRICAL POLY-BLOCK HEAT EXCHANGER

Horizontal and vertical poly-block heat exchangers

Cylindrical block heat exchangers are the most common type of graphite heat exchangers.

The graphite blocks are drilled horizontally and vertically and set one by one to a pillar. A seal is used between the blocks consisting of different highly reliable materials, depending on the substances treated and operating conditions.

The horizontal and vertical bore design leads to a process and service side. The steel housing is offered as a standard in carbon steel, but can also be offered as a coated version and in other materials.

One great advantage is the rapid assembly and disassembly at the plants. Furthermore, this design is very maintenance- and service-friendly. Poly-block heat exchangers can be applied both horizontally and vertically.

FRICOMATEC currently offers up to 200 different block models. Thus, not only functionality is optimized, but also the long-term profitability is the primary scope.



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TUBE HEAT EXCHANGERS



Graphite shell-and-tube heat exchangers

Shell-and-tube heat exchangers are manufactured by using high quality extruded graphite tubes. The tubes are inserted into a tube sheet by applying a proven process.

A guidance with baffles at the service side provides the tube bundle with an appropriate stabilization. At the same time, this guidance also serves as a deflection. The primary scope of application for shell & tube heat exchangers is the large heat exchange surface and the low internal pressure drop.

The graphite shell-and-tube heat exchangers are convincing through the use of high quality materials, long lifetime and a throughout robust construction. Due to the smart design of the heat exchanger, service and maintenance can be carried out at any time.

There is a wide range of different graphite tubes with respect to diameter and wall thickness, that enables a variety of designs with regard to the outer dimensions. The heat exchanger housing steel parts are offered as standard in carbon steel design. If requested by the customer, these are available in coated versions or even made of other materials.

The assembly can be carried out both horizontally and vertically.

FRICOMATEC SPAREPARTS

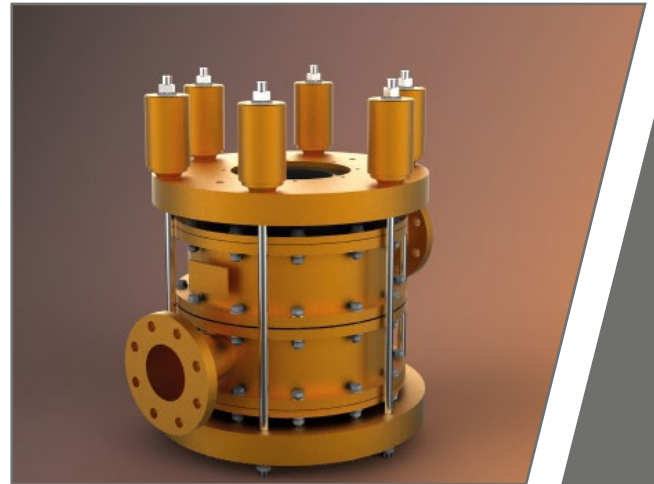


FRICOMATEC spare parts

Of course, FRICOMATEC provides spare parts for all supplied components and guarantees you a long-standing spare part service.

Through our extensive know-how, our flexibility and our wide range of manufacturing options, we are able to accomplish customer-specific requirements, as well as meeting customer's wishes – comprising short time reaction.

The internal FRICOMATEC service-center not only performs the qualified maintenance and repair work on graphite heat exchangers, but also manufactures all steel parts required for its own or third-party products in outstanding quality.



■ FRICOMATEC - FRICOMATEC – PERFECT SERVICE IS OUR GOAL

Build-up welding

Build-up welding enables the repair of steel components. For example, corroded parts are cut out and fitted with appropriate new parts. This is a very inexpensive but attractive alternative when compared to a new purchase.

Of course, any repair to be made is in accordance with current standards, guidelines and regulations.

For all repair and service work you will receive a detailed FRICOMATEC presentation of the work to be performed and the materials required. We will offer alternative options for a new acquisition versus the repair.

Regular maintenance leads to a sustainable higher economic efficiency of your equipment. This saves our clients' money and sustainably increases long-term profitability.



Globally active from the center of Europe

FRICOMATEC's headquarters and modern production facilities are located in the center of Europe. This ideal location, with direct access to the highway and close to the international airport of Frankfurt am Main, enables quick responses for global supplies and support with service-staff.





FRICOMATEC GRAPHITE-EXPERTS

FRICOMATEC – Graphite service from a single source

All employees of FRICOMATEC have long-standing experience in the area of maintenance and repair of graphite plants and apparatus engineering.

This makes FRICOMATEC your reliable contact for the repair and maintenance service of all graphite heat exchangers, either on-site or at our internal service centre.

FRICOMATEC employs a self-developed quality system which includes all appropriate standards, guidelines and regulations. The damage patterns will be analyzed in detail, all parts thoroughly inspected and repaired if needed.

Usually all parts can be reused and do not have to be replaced by expensive new components. This applies to both graphite and steel parts.

The extensive expertise of FRICOMATEC is reflected in the excellent quality of our products.

Our philosophy is that every project is as unique as our customers' requirements, and this is more than just a slogan at FRICOMATEC. Therefore, we focus on individual customer requirements, as well as innovative new developments in various sectors which are manufactured in cooperation and in accordance with the requirements of our clients.





FRICOMATEC GmbH
An der Sportanlage 14
D-63584 Gruendau

Tel.: +49 6051 88 380-00
Fax: +49 6051 88 380-29

E-Mail: info@fricomatec.com
Web: www.fricomatec.com