

... Meeting all the demands for your vacuum furnaces hot zones ...

# Professional and experienced partners for supplying:

- Graphite components
- Graphite insulations
- CFC Products
- Ceramic and molybdenum
- Service and reparations

# About the company



ROTANEO is a general supplier of spare parts for vacuum furnace hot zones. Our portfolio includes graphite elements, graphite insulations, CFC parts, molybdenum and ceramic parts. Besides serving the customers in heat treatment industry, comprehensive production program of ROTANEO Ltd. includes also production of technical ceramics, special silicium carbide products and spare parts production for mechanical seals.

For vacuum furnaces we provide following services:

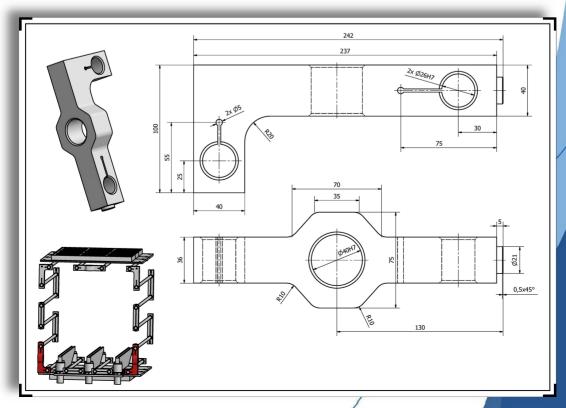
- Production of graphite parts (in cooperation with our sister company KOMPOZITUM): heating rods, bridges, transitions, tables, holders, heating elements in form of a basket etc. If the customer does not have the drawings, we draw the individual parts of the furnace upon his request.
- Deliveries of graphite insulating materials and of CFC elements: insulating plates, soft insulating felt, graphite foil, CFC elements (plates, screws, nuts)
- Ceramic and molybdenum elements for vacuum furnaces: alumina (electric insulator), molybdenum wires, rods, holder, plates
- Service and repairs of vacuum furnaces (in cooperation)

In every individual project, we can offer flexible approach to our customers – starting with inspection of the vacuum furnace, through preparing of the price offer, to complete drawings, production and delivery of spare parts up to the technical support. In cooperation we offer also installation of the spare parts and maintenance of the furnaces.

# **Graphite components**

- Production according to drawing or sample
- Heating rods produced with uniform electrical resistivity
- The dimensions of graphite heating elements are custom trimmed to achieve the required electrical resistance within the tolerance. This is indispensable for the achievement of a homogeneous thermal field in high temperature equipment
- Consultations right graphite material for your application (fine grain, medium grain)
- Delivery terms 3 weeks, in urgent cases after agreement production possible even in few days





## **Insulations**

## **Graphite boards**

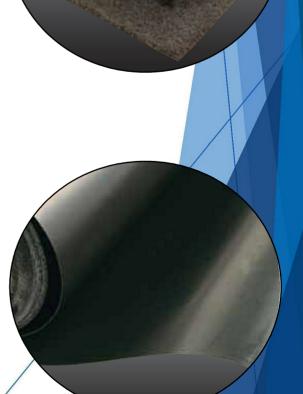
- Standard dimension of rigid boards
  1500x1000x40mm always on stock, other dimensions available upon request
- Types one/both sides graphite foil, one/both sides CFC
- Serve as insulations in vacuum furnaces: mountedon the inside of heating chamber
- Supplied in form of boards, cylinders and segments

# **Graphite soft felts**

- Standard dimension of soft felts 5 and 10 mm thick (1000mm or 1200mm wide) always on stock, other dimensions upon request
- Used as insulation in furnaces with round profile, used mostly in combination with graphite foil or plates

# **Graphite foils**

- Standard dimensions of foil 1mm thick (1000mm wide) always on stock, other dimensions available upon request
- Serve as heat shield, sometimes used as penetratedfor good gas permeability



# **Ceramic parts**

Ceramic parts in vacuum furnace serve as:

- Electrical insulation of heating elements
- Support elements
- Ceramic coatings to prevent contact with graphite







# Molybdenum parts

Types of molybdenum elements:

- Wire
- Rods
- Plates
- Nuts
- Screws

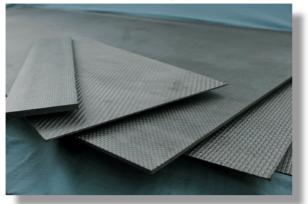
Molybdenum wire Dia 1mm, 1,5mm, 2mm and 3mm-always on stock Molybdenum rods Dia 6mm, 8mm, 10mm and 12mm-always on stock

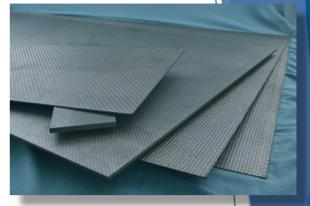




## **CFC** elements

 CFC plates – protection of insulations against mechanical damage inside furnace





 CFC U,L profiles - protection of insulation edges against mechanical damage





 CFC threaded rods and nuts – fastening of rigid boards, graphite holders, CFC components etc.



- CFC grids lighter than steel, do not blend. After agreement with costumer is it possible to supply CFC racks with ceramic coating on CFC topplate (aluminum oxide or zirconium oxide) or with system of ceramic tubes/trapezoids to prevent carbonization of heat treated items
- Other CFC elements CFC fans, holders, support plates, structural elements etc.
- Standard CFC plates, U and L profiles, threaded

## Service for vacuum furnances

Short delivery terms – quick replacement of damaged part

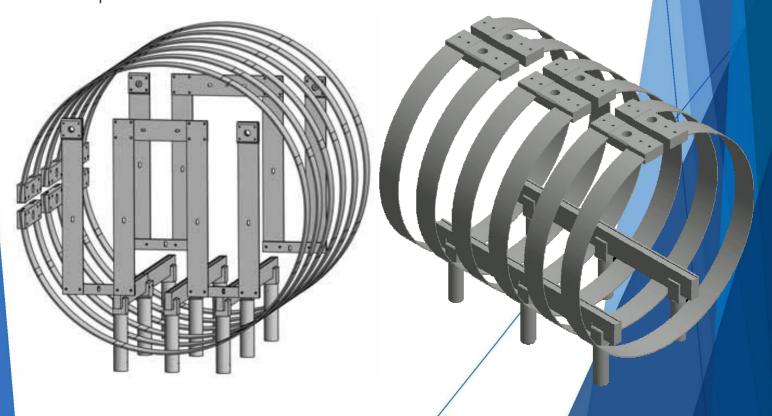
 Standard parts on stock for diff erent types of furnaces, we refill our stock according to actual needs of our costumers

 After agreement we can keep agreed quantity of parts for our costumer on stock - payment only after dispatch

 Making drawings of all spare parts, giving our costumers production drawing for these parts free of charge, making drawings in our costumer company or in our company (after resending parts), consultations about change in design



 Measuring of vacuum, reparations of cooling systems, vacuum pumps, electrical installations, control systems, setting mechanical parts of furnaces.





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