



HIGH CURRENT ENGINEERING...



OUR MAIN SECTORS...

The proof of FLOHE's ability, reliability and safety is found across the world in a whole range of industrial sectors.

STEEL

electric steel plants, induction furnaces, strip galvanisation

ELECTRO-TECHNOLOGY

power supply industry, transformer manufacturers, low and medium voltage technology, generator manufacturers

CHEMICAL INDUSTRIES

chlorine, copper and zinc electrolysis, non-ferrous reduction furnaces

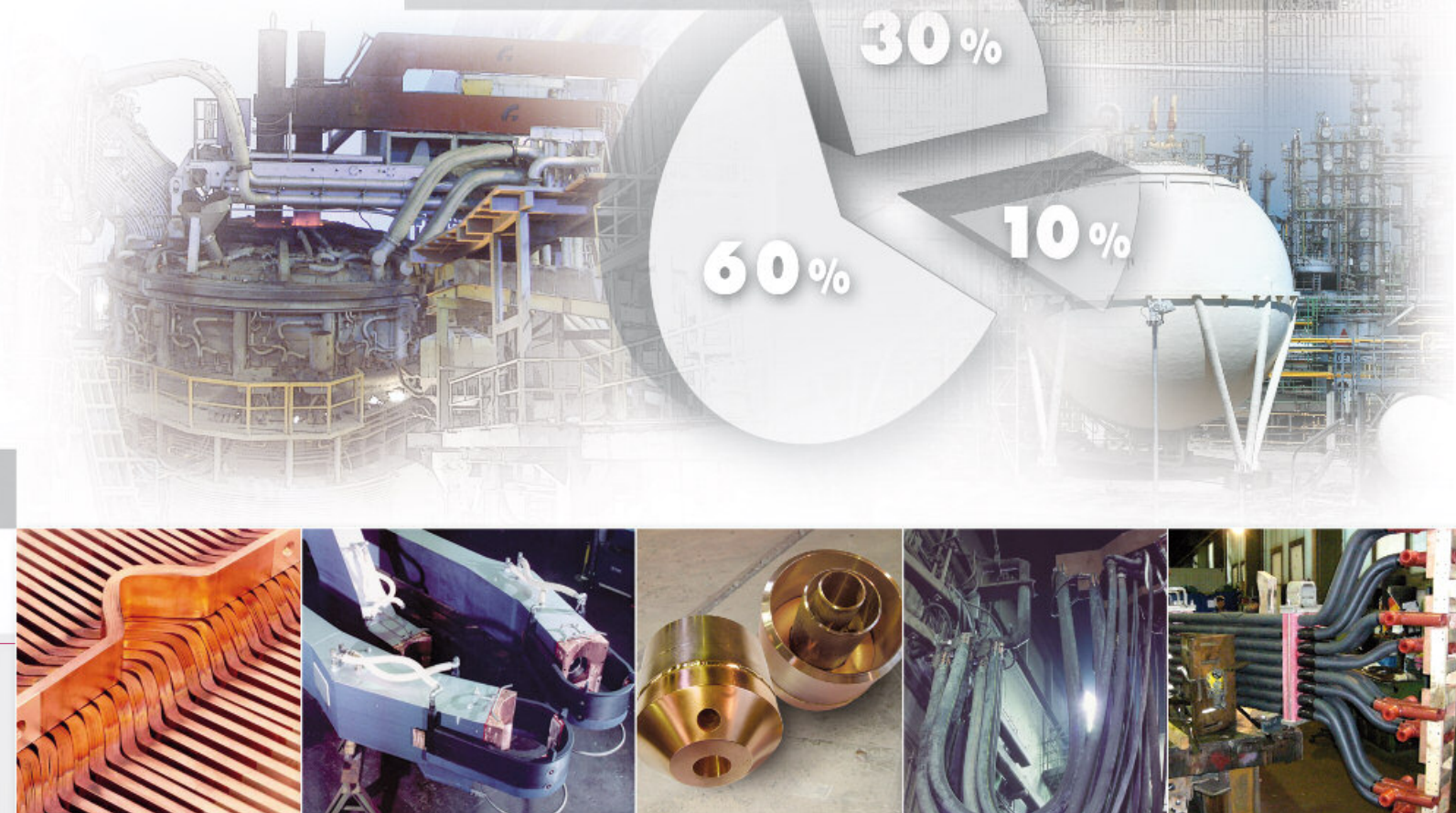
COMPETENCE IN ENGINEERING AND MANUFACTURING

from individual components to complex high current systems

For more than 60 years, brand FLOHE represents German quality products and a huge range of services in the field of high current technology. From basic to detail engineering combined with assembly, repair and revamping – in all sectors related to high current systems. The FLOHE team of specialists is ready to provide assistance to customers, wherever they are in the world.

Using trend-setting and multi-patented engineering, the latest CAD applications and high-grade material specifications, FLOHE creates built-to-order, customised solutions which incorporate both individual components to high current systems. The FLOHE team is ready to serve the customer – fast, reliable and competent.

COMPANY PROFILE



FLOHE'S RANGE OF PRODUCTS...

- Electrode arms
- High current systems
- Water-cooled high current cables
- DC bottom electrodes
- Flexible connections
- Copper products (contact shoes, copper panels, lance tips)

PUNCTUAL ASSEMBLY DELIVERY

- for electric arc furnaces
- for switchgear and generators
- for mechanical and electrolysis

FOR ALL ELECTRICALLY POWERED FURNACES OF ALL SIZES...



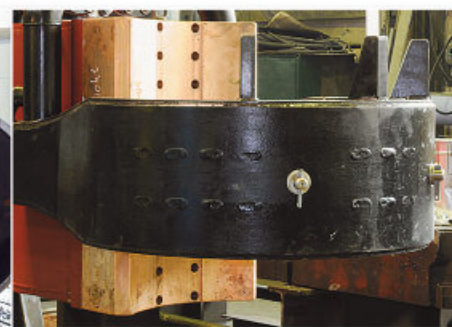
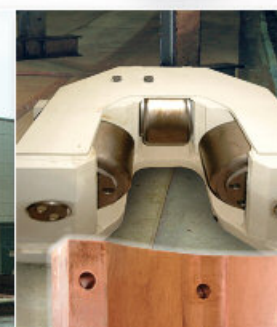
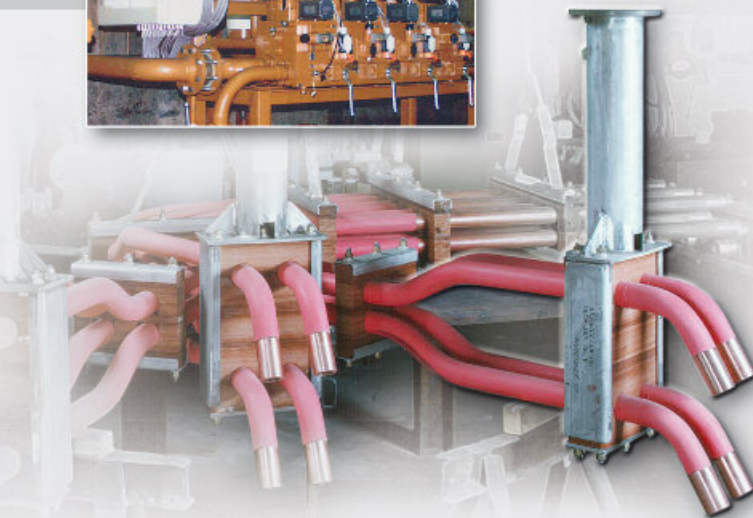
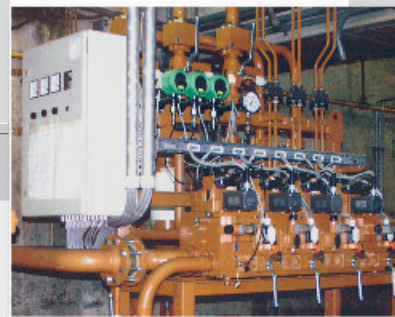
EAF / LF

from the conception to the expert manufacturing of long lasting and powerful high current systems.

Electric arc furnace performance has come a long way in recent years.

In connection with this, FLOHE offers furnace components which fulfil these requirements without any compromises. Current conducting arms, water-cooled cables, delta closures, low-loss columns and roller boxes. These components are characterised by longevity, a high degree of availability, optimised current transfer and low maintenance.

Simultaneously, we are able to fall back on years of experience which has been gained by our resources and development team who have successfully completed over 200 new installations and revampings across the world.



CURRENT CONDUCTING ARMS MANUFACTURED

...FROM COPPER / STEEL

...FROM ALUMINIUM

CONVENTIONAL ARMS

ELECTRODE ARMS...

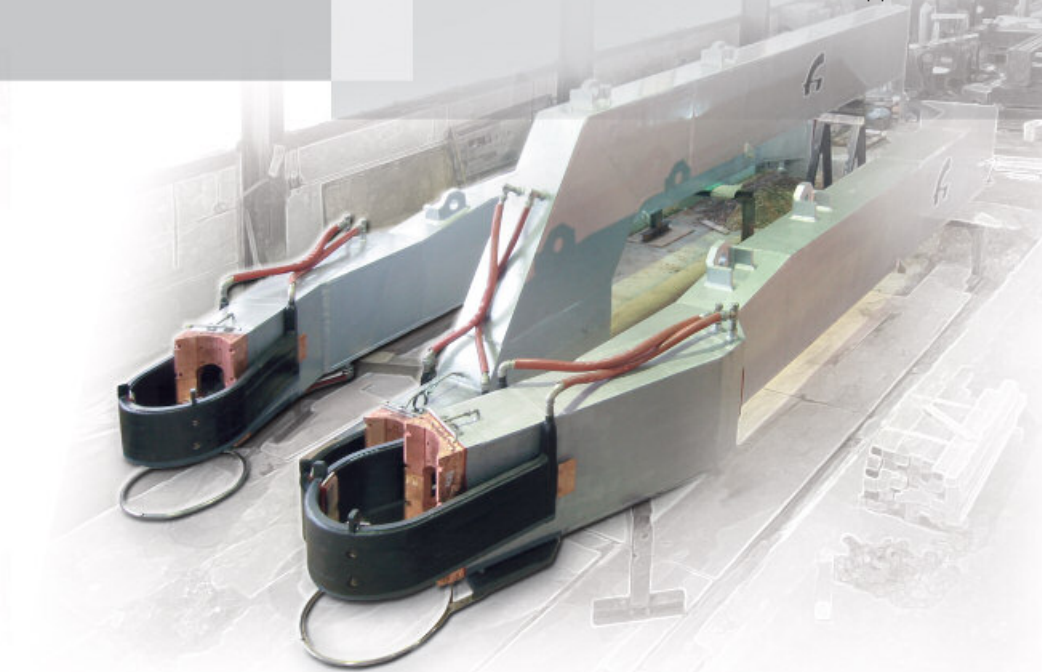
A one stop shop for engineering, design, manufacturing and commissioning

...for AC-EAF, DC-EAF and LF

For \varnothing 100-800 mm sized electrodes · low operating costs · minimal Shutdown times · easy handling · optimum symmetry · highest efficiency level

For \varnothing 100-800 mm sized electrodes · weight saving of 30% · low electrical resistance · better control dynamics · simpler maintenance

Steel arm fabrication with insulated copper bus tubes



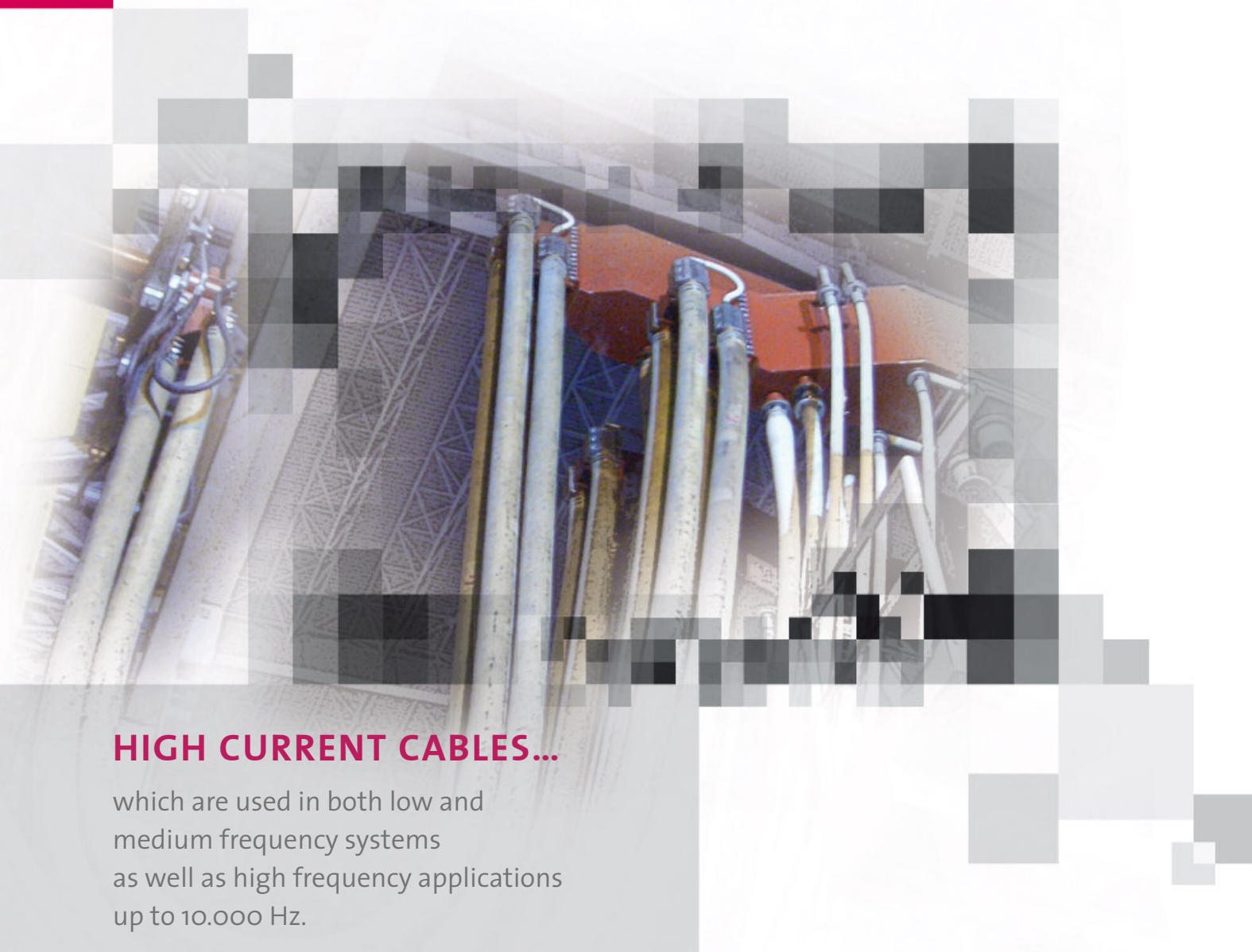
- Contact shoe
- Clamping devices
- Clamping clip
- Cable sword
- Spray box
- Adapter assembly
- Electronic clamping force measuring device

EXPERTISE IN COPPER

When it comes to quality, we make no compromises: Copper processed by us guarantees a high level of lasting reliability and trouble-free operations. Customer needs are implemented quickly and flexibly with valued expertise. Manufacturing takes place in-house, and as such all stages are optimally coordinated.



HIGH CURRENT CABLES OF ALL SIZES AND FLEXIBLE CONNECTIONS...



HIGH CURRENT CABLES...

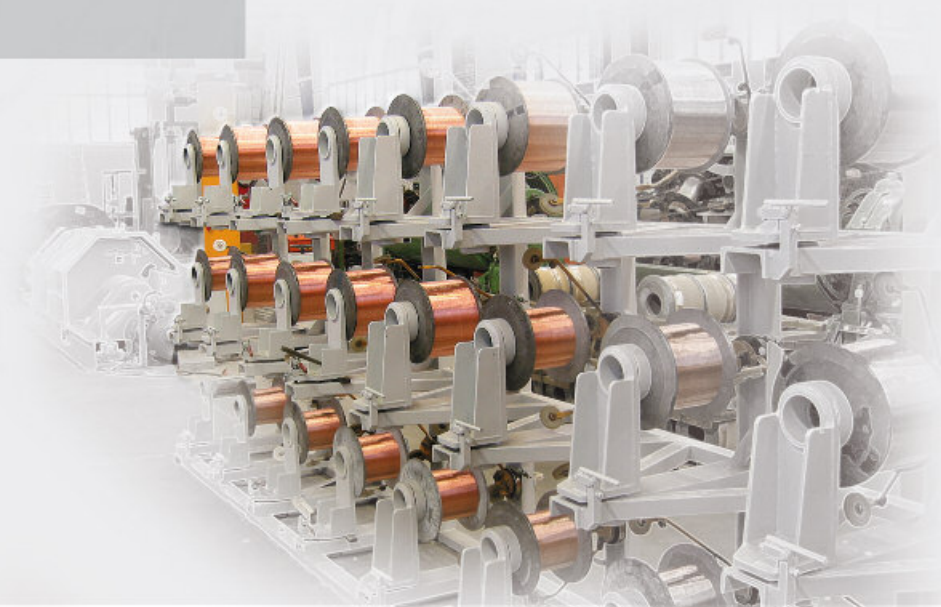
which are used in both low and medium frequency systems as well as high frequency applications up to 10.000 Hz.

Water-cooled cables for electric arc and induction furnaces...

- optimum transfer of current
- reduced losses
- long lifetime
- optimum flow of cooling water
- long service life of the outer hose
- pressed cable heads

Auxiliary hoses

- Non-conducting auxiliary hoses for current conducting components



HIGH CURRENT CABLES

FLEXIBLE CONNECTIONS...

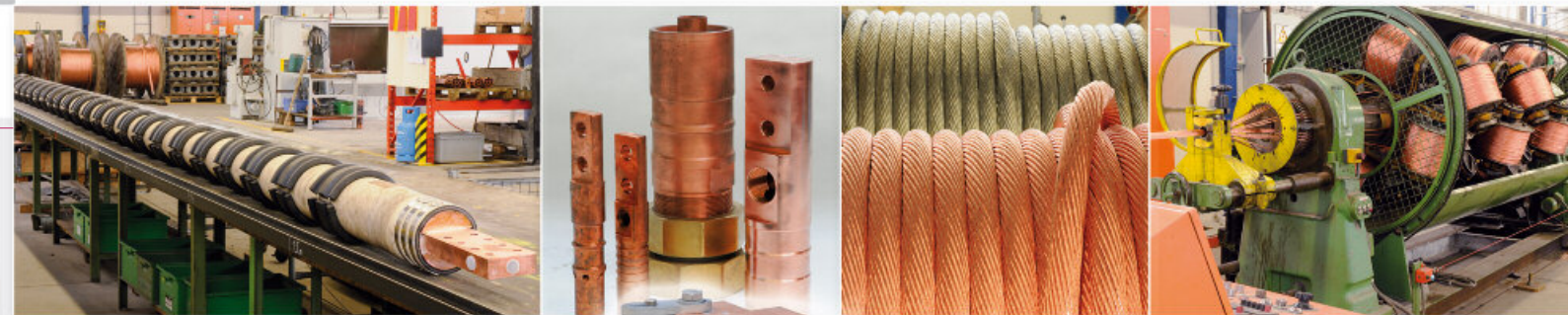
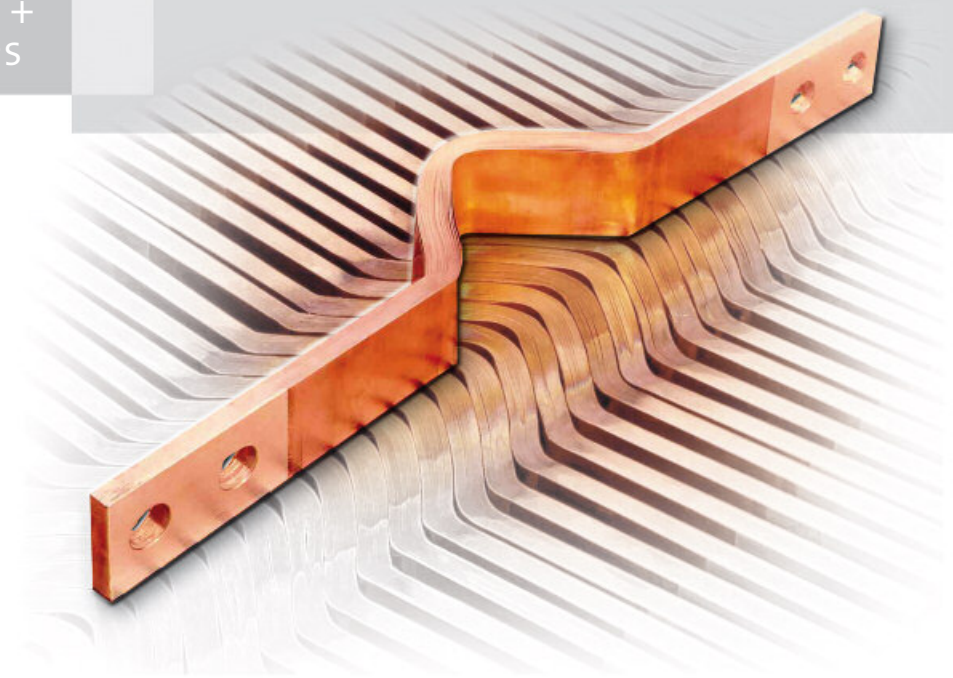
manufactured from copper or aluminium

FLEXIBLE CONNECTORS

FLEXIBLE CURRENT CONNECTORS, EXPANSION EARTHING STRAPS + LAMINATED STRAPS

These are links between switches, transformers, high current components and their solid bus bar. The heat expansion of high current bus bars is compensated through their elasticity. At the same time, these units prevent connections from being damaged by vibrations.

We design and produce with an experienced team and the latest in manufacturing equipment.



- Type FHWI high current cable
- Type FHWNT boltless cable
- Single-core cable
- Type FMH hollow conductor cable
- Swivelling device
- Type FKV tube screwed connection
- Customised solution
- Cable repair

QUICK COUPLINGS

By means of an adapter, quick couplings are connected with the contact surfaces of the current conducting arms and delta closure which are already available at the high current conductors. This way, assembly times are reduced considerably.



A ONE-STOP SHOP FOR ENGINEERING, MANUFACTURING AND SERVICE...

SERVICE...

A team of experts offers you the following services:

ERECTION

Assembly and dismantling work · Supervisory work · Welding of copper, aluminium and copper/steel · Repair and replacement of water supply to the furnace · Replacement of lifting columns and regulation cylinders · Replacement of high current cables · Repair of all electrode arm systems · Optimisation of the furnace regulating device · for electric current-intensive industries

REPAIR OF FURNACE COILS

Assembly, dismantling, inspection and maintenance of coils coils for all furnace types

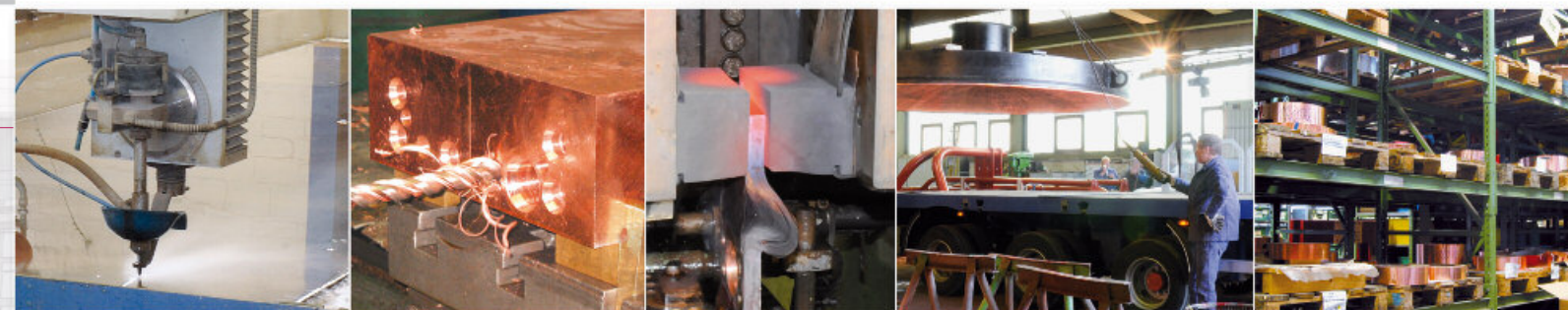
STANDBY SERVICES

On call 24 hrs: ☎ + 49 - 700 - 700 300 10

MANUFACTURING...

We design, fabricate and produce by using the latest equipment.

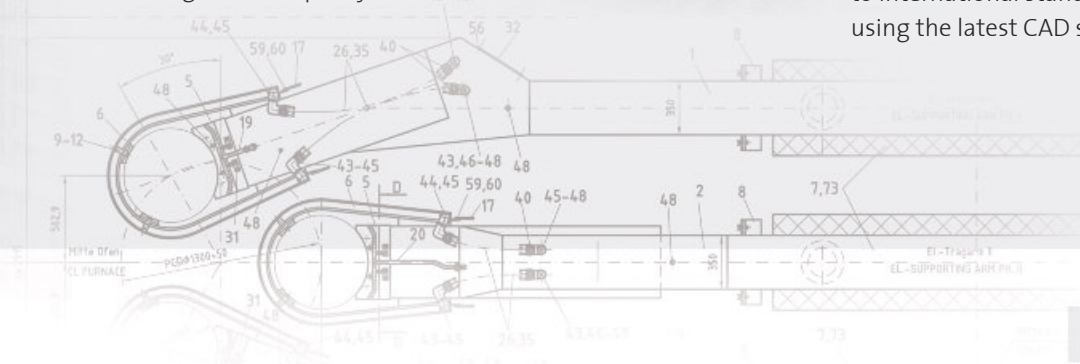
- CNC based mechanics
- Water jet cutting system for all the different types of material
- Stranding
- Diffusion welding
- Copper, aluminium, steel and stainless steel welding
- Final assembly of individual equipment
- Final assembly of serial products



Throughout the service life of the equipment, FLOHE offers all the necessary spare parts – true to the original, with quality that is tried and tested

ENGINEERING

Development and design takes place according to international standards and is carried out using the latest CAD systems.



AREA OF APPLICATION: CHEMICAL INDUSTRY

GALVANISATION...

FLOHE's high-end products are used in the chemical industry, too.

Our high current bus bars are used for chlorine, zinc, copper and aluminium electrolysis and galvanisation equipment, companies whose services include functional galvanisation discover components which last.

In the sector related to chemical industry, FLOHE offers customers a professional, all-inclusive service for setting up the corresponding equipment.

- Engineering
- Delivery of all the parts
- Assembly
- Commissioning

GALVANISATION & ELECTROLYSIS

REFERENCE LIST...

The proof of FLOHE's ability, reliability and safety is found across the world.

- | | |
|-------------------------|--------------------------------------|
| ABB | Makstil |
| Al Ezz Group | Marienhütte |
| ALD | Megasa |
| Arcelor Mittal Group | Metallurg Vanadium |
| Areva | Moldova |
| Arvedi | MSC |
| Aubert & Duval | Nanjing |
| Aurubis | NKMZ |
| Badische Stahlwerke | NAS |
| Baosteel | Nucor Group |
| Benxi Steel | OEMK |
| BGH Edelstahl | One Steel |
| BMZ | Outokumpu |
| Böhler | Pohang Iron and Steel |
| Breitenfeld | Qatar Steel |
| Celsa | Riva Group |
| CERN | Saarstahl |
| Cogne | Sabic |
| Columbus Steel | SAIL |
| Danieli Group | Salzgitter |
| Deutsche Edelstahlwerke | Scaw Metals |
| Diehl | SeAH Besteel |
| Dongkuk | Seversky |
| Doosan | SGL Carbon |
| Dow Chemical | Siam Steel Group |
| Duferco | Sidenor Group |
| Essar Steel | Sidor |
| Evrax Group | Siemens Krauss Maffei |
| Exxaro | Siemens KWU |
| Feng Hsin | Siemens VAI |
| Feralpi Group | SIMEC |
| Fushun Steel | SMS Concast |
| G - Steel | SMS Siemag |
| Georgsmarienhütte | Southern Steel |
| Guangzhou | Stahlwerk Bous |
| Halyvourgia | Stahlwerk Thüringen |
| Halyvourgiki | Steel Dynamics |
| Hormozgan | STG Group |
| Huta Batory | Suez Steel |
| Huta Labedy | Swiss Steel |
| Huta Stalowa Wola | TATA Steel Group |
| Hwangyoung | Tenaris Group |
| Hyundai Steel | Thyssen Krupp |
| Icdas | Treibacher Schleifmittel |
| Inteco | Trierer Stahlwerk |
| Ispat Industries | VPP |
| Jakarta Cakratunggal | Voestalpine Stahl |
| Jiangsu Shagang Group | Wacker Chemie |
| Jindal Steel | Walsin Cartech Specialty Steel Corp. |
| Kaptan | WSW |
| Khorasan | Yesilyurt |
| Krakatau | Yieh United |
| Kroman | |
| Lechstahlwerke | |
| Lion Group | |
| LISCO | |



www.FLOHE.com

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HABINGHORST

WARTBURGSTR.

FECKLINGHAUSER STR.

RÖMERSTR.

RHEINSTR.

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WE ARE ON-CALL
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