

TAKRAF 



SOLUTIONS FOR THE GLOBAL MINING, BULK MATERIAL HANDLING AND MINERALS INDUSTRIES

Innovation out of tradition – It pays to talk to a specialist!

PRODUCTS AND SERVICES

Mining Systems and Equipment

- Complete Mining Systems
- Bucket Wheel Excavators
- Bucket Chain Excavators
- Crushing Plants (incl. IPCC systems)
- Apron Feeders
- Belt Conveyors (incl. gearless drive)
- Belt Feeders
- Belt Wagons
- Mobile Conveyor Bridges
- Spreaders
- Transport Crawlers
- Cable Reel Cars
- Shifting Heads

Minerals Processing Equipment

- Roll Crushers
- Sizers
- High Pressure Grinding Rolls (HPGR)
- DELKOR Thickeners
- DELKOR Horizontal Vacuum Belt Filters
- DELKOR Filter Presses
- DELKOR BQR Flotation Cells
- DELKOR Belt Linear Screens
- DELKOR Apic Jigs

Bulk Material Handling

- Stockyard and Disposal Facilities
- Reclaimers
- Scrapers
- Stackers
- Combined Stacker/Reclaimers
- Wagon unloading
- Wagon/truck loading
- Belt Conveyors (incl. gearless drive)
- Tube Conveyors
- Ship Loaders
- Ship Unloaders

Services and Components

- Project Development Services
- Fabrication and Components
- Construction and Commissioning
- Technical Services and Spare Parts



TAKRAF Group, through its established and well-known brands, TAKRAF and DELKOR, provides innovative technological solutions to the mining and associated industries. We leverage our experience, acquired over more than a century, to provide equipment, systems and services that best satisfy our clients' mining, comminution, material handling, liquid/solid separation and beneficiation requirements. Owners and operators around the world trust our engineered solutions to lower the total cost of ownership and reduce environmental impact by improving efficiency with safe and reliable equipment. For sustainable solutions backed by expert service you can rely on TAKRAF Group. Visit us at www.takraf.com.

We at TAKRAF Group are committed to environmental and social sustainability in all our business interactions and have adopted a Zero Harm approach under our global safety promise.

Our continuously expanding reference list demonstrates that owners and operators around the world are confident that TAKRAF Group provides the most suitable solution to their unique project requirements. We assist our clients in overcoming the most complicated challenges in transforming the resource industry towards a sustainable future. We focus on specific areas that are critical for reliable and sustainable operations, as it is here where we best support our clients with innovative solutions that save energy, lower environmental impact and meet or exceed operational requirements.

We are recognized as the world's leading technology provider when it comes to run-of-mine and bulk material handling. Our TAKRAF brand portfolio ranges from overburden removal, to raw material extraction, comminution, conveying, loading/unloading, processing, homogenizing, blending, storage and final loading for onward shipment.



Our other focus area is liquid/solid separation, where we capitalize on our global DELKOR brand and its track record of thousands of successful installations. In line with our commitment to environmental sustainability, DELKOR dewatering equipment, such as our high-rate and high-density thickeners, are specifically designed for the needs of the mining industry.

TAKRAF Group is ideally positioned to support our clients towards the next significant step in the mining industry's move towards greater environmental sustainability - the transition from wet tailings deposits to dry tailings deposits. This is an area in which the combined strengths of our TAKRAF and DELKOR portfolio will provide for fully integrated solutions that make the difference.

We are convinced that intimate understanding and collaboration between owners, operators and original equipment providers is the best approach in building systems that exert real savings on energy and water consumption.

We leverage our global organization and aggregate our extensive expertise by offering a unique combination of both application experience and product based knowledge. Clients therefore benefit from direct technical discussions with our local specialists, who are able to draw upon this expertise and provide the most suitable local solution and service that enhances safety, improves sustainability, decreases costs and increases efficiency.

Our commitment is summarized by:

Safety | Reliability | Innovation | Sustainability



TAKRAF GROUP - WORLDWIDE PRESENCE

TAKRAF provides comprehensive client support services all over the world. Moreover we are able to propose customized maintenance solutions such as spare part supply and stock management and/or maintenance contracts.



BUSINESS

TAKRAF combines global engineering skills to offer its customers a full range of project services: from studies, engineering, fabrication, erection and commissioning of mines, ports and stockyards, to the operation and maintenance of supplied or existing plants, expansion and revamping of existing operations, equipment modernization, relocation or retrofitting of plants and systems.

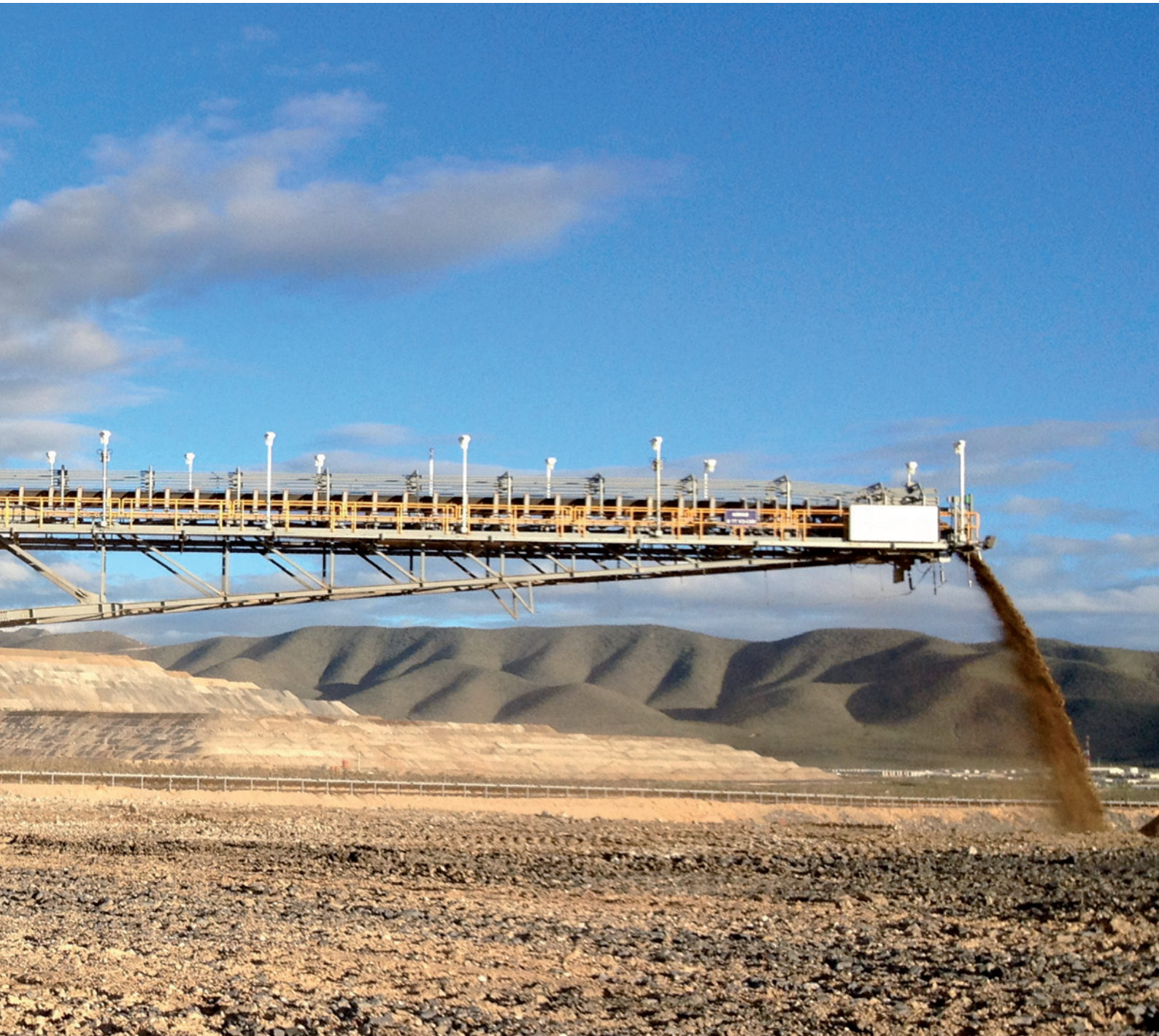
Equipment systems and plants developed by TAKRAF are utilized in mines, ports, power stations, steel mills, cement plants and many other operations. Customers all over the world rely on TAKRAF equipment as the backbone of their operations.



TAKRAF is able to provide equipment, systems and plants across a broad material spectrum.

By leveraging its significant know-how and experience and the use of cutting-edge technologies, TAKRAF is able to guarantee that its customers' needs are fully served.

Iron ore, copper, gold, nickel, coal, ash, petroleum coke, lignite, bauxite, potash or manganese; whatever the material, TAKRAF provides a solution.



PRODUCTS

TAKRAF has the financial and technical resources to support any form of product supply in the categories of:

- Mining Systems and Equipment
- Bulk Material Handling & Port Equipment
- Minerals Processing Equipment
- Services and Components



MINING SYSTEMS AND EQUIPMENT

TAKRAF supplies equipment for continuous mining, conveying, crushing and spreading operations, including:

- Complete Mining Systems
- Bucket Wheel Excavators
- Bucket Chain Excavators
- Crushing Plants (incl. IPCC systems)
- Apron Feeders
- Belt Conveyors (incl. gearless drives)
- Belt Feeders
- Belt Wagons
- Mobile Conveyor Bridges
- Spreaders
- Auxiliary Equipment

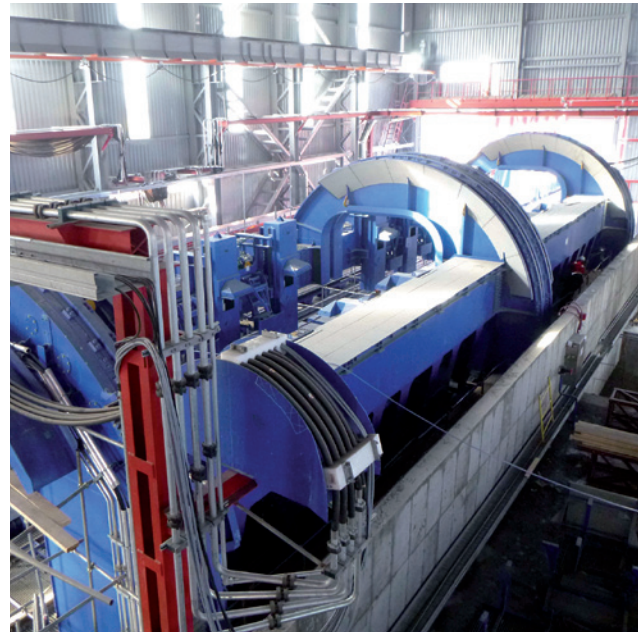


BULK MATERIAL HANDLING EQUIPMENT

STOCKYARD EQUIPMENT

Stockyard equipment provided by TAKRAF includes:

- Complete Stockyard and Disposal Facilities
- Stackers
- Bucket Wheel Reclaimers
- Bucket Wheel Bridge Reclaimers
- Drum Reclaimers
- Combined Stacker/Reclaimers
- Scraper Reclaimers
- Circular Stockyard Systems
- Wagon Tippers
- Truck and Wagon Loading Systems
- Belt Conveyors (incl. gearless drives)
- Tube Conveyors



PORT FACILITIES

For this market segment, TAKRAF offers a variety of loading and unloading machines, including:

- Grab Type Ship Unloaders
- Ship Loaders

SYSTEMS

- Integrated Port and Stockyard Handling Systems
- Heap-Leach Systems
- Dry Stack Tailings (DST) Systems



MINERALS PROCESSING EQUIPMENT

With the integration of the well-known DELKOR brand of products into TAKRAF, the offered portfolio for the mineral beneficiation and processing sectors has been considerably enhanced by products for sizing to screening, gravity separation, flotation, sedimentation (thickening) and filtration:

- Thickeners
- Horizontal Vacuum Belt Filters
- Filter Presses
- BQR Flotation Cells
- Belt Linear Systems
- Apic Jigs

TAKRAF Comminution Technology includes:

- High Pressure Grinding Rolls
- Primary and Secondary Sizers
- Double Roll Crushers



FULL SERVICE PROVIDER

TAKRAF offers a time-effective service leveraging a valued experience-based approach.

Operational readiness for an immediate response to customer needs, reliability and a proactive style are integral elements of our business.

Skilled teams of technicians and engineers guarantee rapid on-site response in any emergency; providing customers with the security of engineering added value.

TAKRAF provides a wide range of services:

- Supervision & Commissioning
- Spare Parts & After Market Support
- Maintenance and Wear Part Management
- Inspection
- Debottlenecking
- Refurbishment
- Relocation



MANUFACTURING FACILITIES IN GERMANY AND INDIA

The TAKRAF workshop in Lauchhammer (Germany) is located in Lusatia, the cradle of the European surface mining equipment manufacturing industry.

With a covered production area of approximately 18.000 m² and a crane capacity of up to 120 tons, the workshop is well-equipped to machine, assemble and test heavy and outsized core components for the TAKRAF product range; as well as to reliably provide spare and wear parts for various pieces of equipment.

A variety of different products and equipment pieces are engineered and manufactured in the Lauchhammer works, ranging from heavy-duty components such as engineered pulleys, tailor-made gearboxes, crawler chains, slew bearings and gear rims, to large machines such as double roll crushers, sizers, jib cranes, apron feeders and transport crawlers. Various on-site testing facilities also allow for pre-commissioning to be conducted in a workshop environment thereby saving valuable time on site.

We are also proud of our state-of-the-art workshop in Bengaluru, India, which predominantly focuses on manufacturing requirements for our DELKOR liquid/solid separation product line.

This specialized workshop offers 10,131 m² of covered space comprising five bays for fabrication and a buy out store. The bays are fully equipped with cranes ranging from 2 t to 25 t, and facilities also include a grit blasting booth and a painting booth each 144 m² in size. Three open areas for large assemblies and storage comprise a total of 29,127 m². The workshop is also fully equipped with a comprehensive suite of advanced machinery for precision, high quality manufacturing.

Being ideally located close to the major international transport routes, fabricated components and equipment are dispatched timeously to TAKRAF Group projects worldwide, meaning that the right parts arrive on time and on budget.



PERFORMANCE AND RELIABILITY

TAKRAF is committed to offering solutions that are tailored to meet our customer's specific requirements and targets.

By focusing our attention across all functional elements rather than solely focusing on the most important, in essence adopting a „zero base“ approach, we are able to design and develop systems and/or equipment that is fit for purpose and ensure the best product in terms of value, functionality, quality and schedule.

We understand that every project is a new challenge. By leveraging our centuries of experience and know how, together with the latest global technologies and our own proprietary innovation and R&D, we are able to best mitigate and overcome complex engineering solutions and ensure that we are able to offer our clients a solution that best meets their requirements.

Therefore TAKRAF offers project development services including equipment selection, project studies, assistance services & support as well as material testing & simulation.



COMMITMENT TO INNOVATION

Technological innovation is the foundation of competitiveness.

We pride ourselves upon our engineering competence and understand that developing flexible, individual and effective design concepts is the key to finding the ideal solution for our customers and their diverse project requirements – even appreciating that in some instances this might entail diverging from prevailing design concepts.

By embracing innovation, TAKRAF is able to offer its customers the cutting-edge solutions they expect and deserve, as well as maintain a leading position at the forefront of industry developments.

QUALITY

To meet and even exceed customer expectations, quality and continuous improvement of services in line with the best industry practices and standards are priorities at TAKRAF.

The TAKRAF integrated management system is certified for compliance with ISO 9001, ISO 14001, ISO 45001, SCC^P and EN 1090 latest standards and is reviewed on a regular basis to enhance effectiveness and ensure alignment with the best quality standards.



SUSTAINABILITY

TAKRAF has an overriding commitment to conduct itself, in all its operations and entities and across all stakeholder groups, according to sustainable business practices that respect the people and world in which we live in.

We are governed by an overall Code of Conduct that defines the general principles of conduct that all employees and parties, directly or indirectly involved in the activities of the company, are required to comply with.

Our various company policies also address certain specific aspects of sustainability that start from health & safety to anti-bribery, risk management, procurement and the prudent use of the Earth's limited resources.

We invest in a number of Corporate Social Investment (CSI) programs in the countries in which we operate with a view to uplifting and supporting the local communities in which we engage and interact with.

Environmental Responsibility

TAKRAF has an overriding commitment to environmental responsibility and actively pursues a balance between

economic results, development of industrial capability and sustainability.

In its operations TAKRAF aims to:

- Reduce energy consumption and wear effect
- Reduce emissions into air and water
- Reduce noise
- Provide open cast mining systems offering alternative technologies to mineral blasting
- Provide conveying systems as alternative to truck transport
- Resource conservation by supporting predictive maintenance and providing wear part management

Safety

Safety First is the safety promise of the TAKRAF Group.

Safety is at the core of our culture and our way of living and doing things, at the office and at home.

We are committed to ensuring that all our global offices and job sites are clean, safe and healthy environments at all times for all stakeholders.



FOCUS ON PEOPLE

We understand that our employees are vital to the success and growth of our company.

TAKRAF employees are characterized by possessing outstanding technical and management expertise in the discipline in which they operate, a strong focus on the customer, a passion for innovation and an ability to be flexible and adapt to change. By leveraging our employees' different nationalities, expertise and varied global operating experiences, we are able to successfully

execute projects the world over. Furthermore, by supervising every stage of professional growth and providing on-going knowledge and skills training, TAKRAF guarantees the expertise and competence of its people and safeguards the highest quality standards.

TAKRAF aims to provide an inspiring and enriching work and career environment that provides diverse opportunities for personal growth and development in a global, multi-cultural and multi-disciplined organization.







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