

TAKRAF[®]

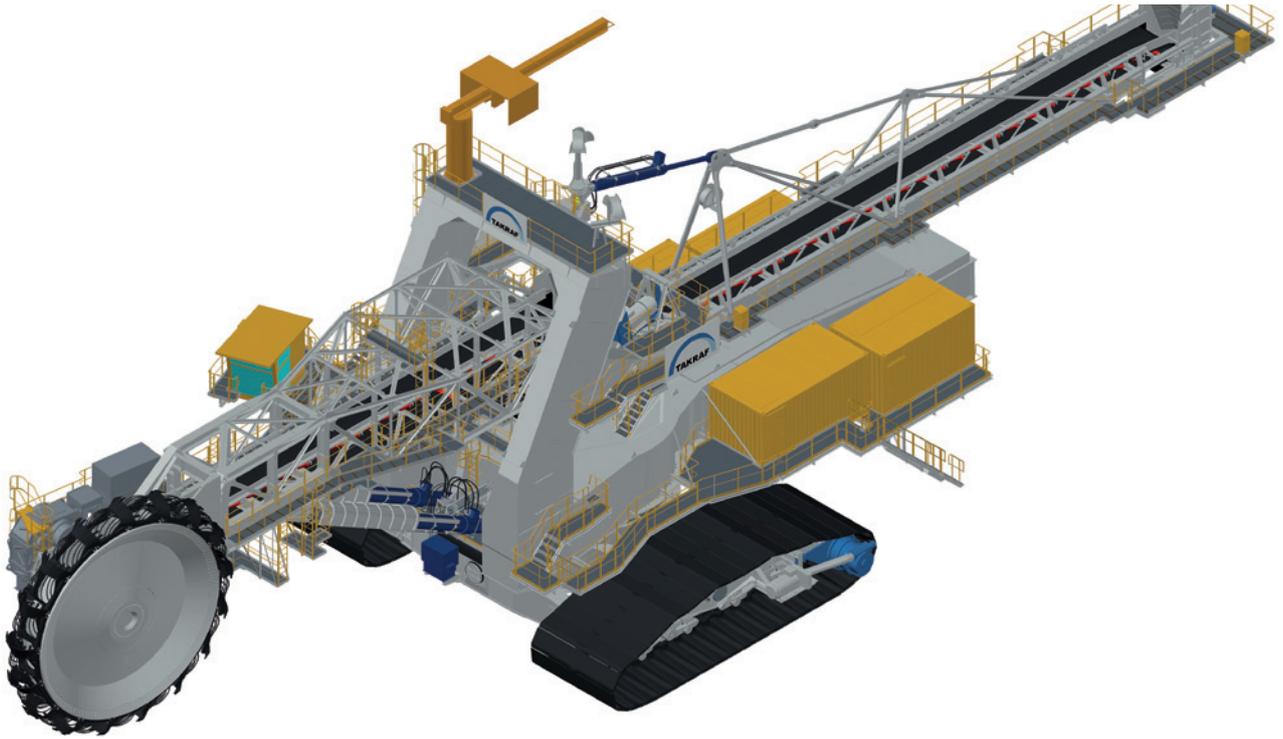


COMPACT BUCKET WHEEL EXCAVATOR

SRs(H) 1050.23/2.0

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

COMPACT BUCKET WHEEL EXCAVATOR SRs(H)1050

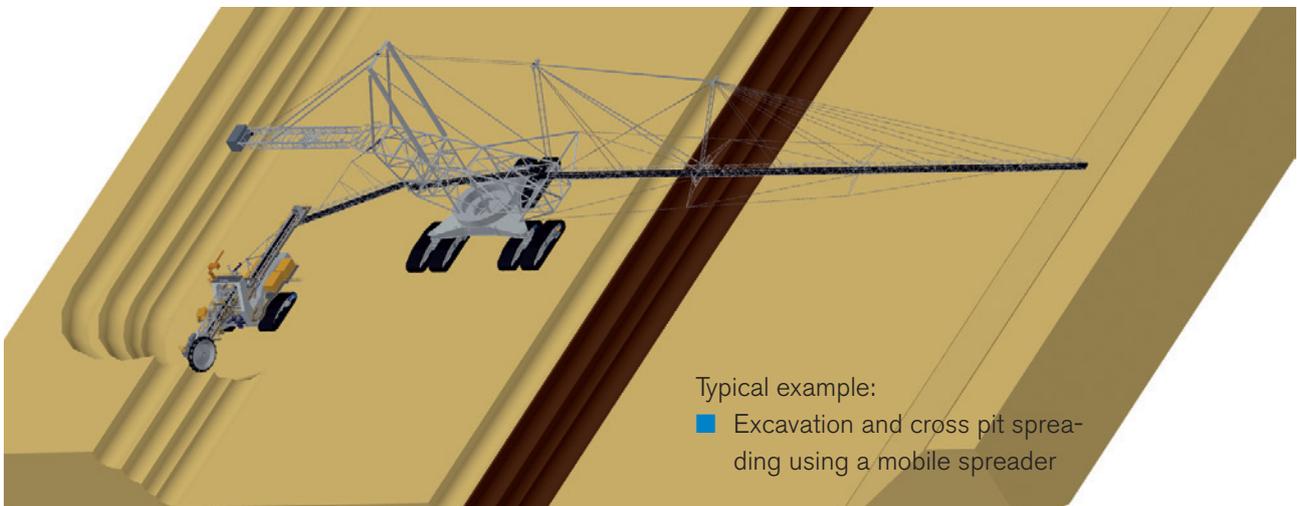
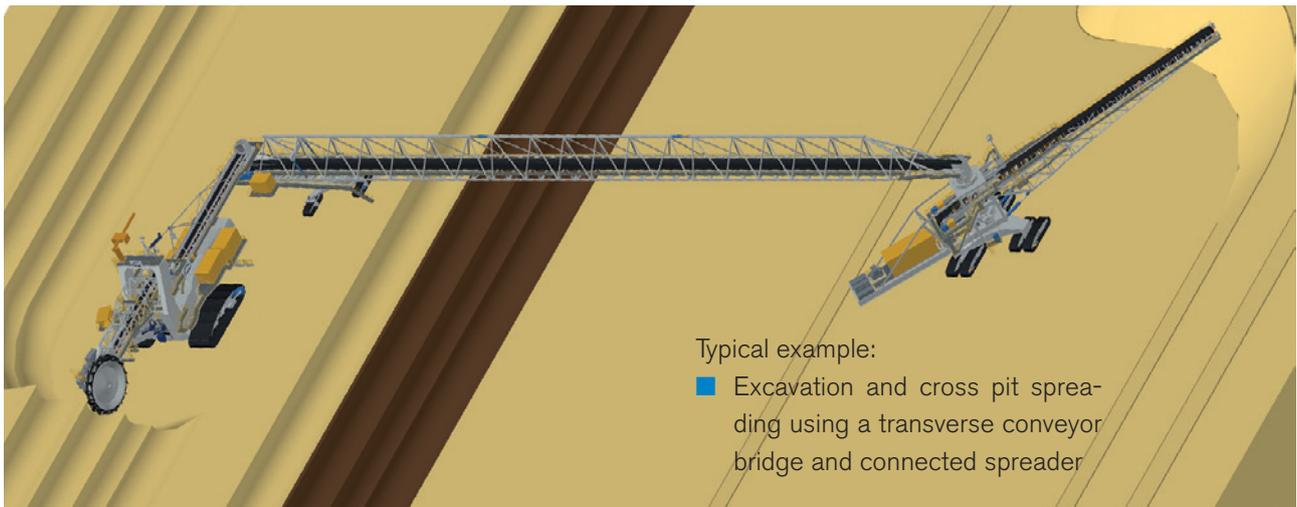
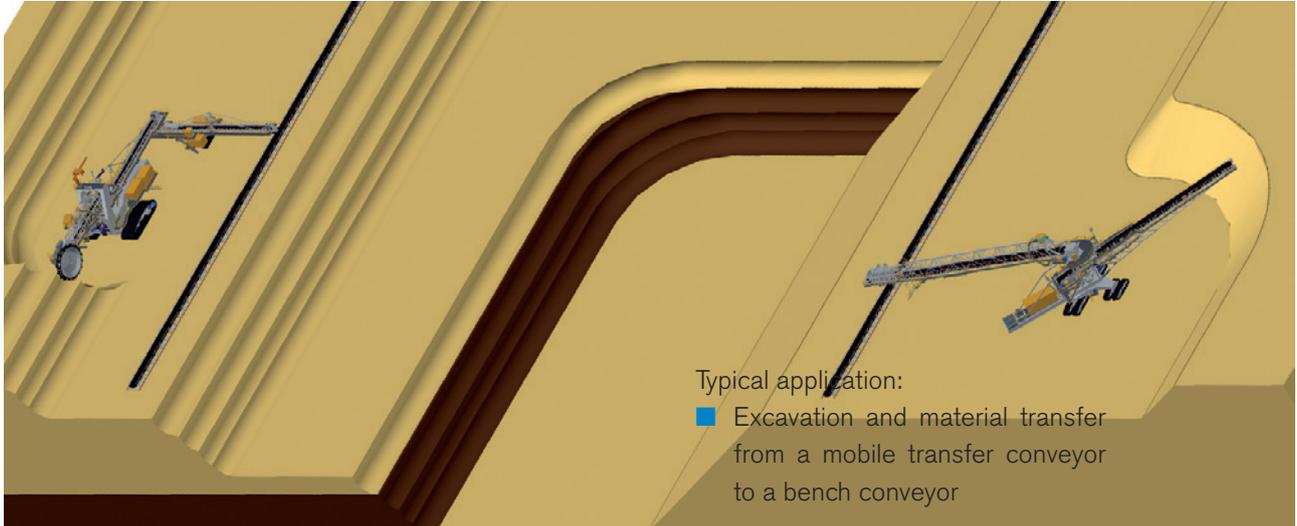


Capacity (heaped)	4.800 m ³ /h	Bucket wheel diameter	10.5 m
Specific digging force	1000 N/cm	Nominal power of bucket wheel drive	900 kW
Maximum cutting height	23.0 m	Number of buckets	17
Maximum cutting depth	-2.0 m	Bucket volume including annular cells	1.05 m ³
Wheel boom length (centre – bucket wheel to centre of excavator)	27 m	Number of discharges at 85% of bucket wheel speed	77/min
Discharge boom length (centre – excavator to centre of discharge chute)	32.5 m	Belt width	1.8 m
		Service weight (depending on accessories)	1.200 t
Maximum allowed longitudinal equipment gradient	11%	Maximum longitudinal leveling of superstructure	8%



EQUIPMENT COMBINATIONS

The TAKRAF SRs(H)1050 compact bucket wheel excavator can be matched with a variety of complimentary equipment and systems. These are chosen together with the client to suit specific mining conditions and mining methodologies for individual applications.



OPTIMAL EQUIPMENT DESIGN



Wheel boom

The innovative wheel boom design features a combination of full-web and framework structures. This design enhances the torsional stiffness of the structure and minimizes its susceptibility to oscillation.

The bucket wheel head with the powerful 900 kW TAKRAF bucket wheel gearbox was developed especially for the mining of soft to medium hard materials. Equipping the bucket wheel drive with a 6 kV medium voltage motor and frequency converter has reduced transformer power loss and cable cross sections.



Bucket design

By use of FEM calculation the buckets are designed to withstand major digging forces.

The bucket design also lends itself for use in sticky material.

Larger internal radii and a special cutting tool carrier height/width aspect ratio of the buckets reduce material adhesion inside the buckets.

An extended bucket body minimizes the contact of the excavated material with the annular space of the bucket wheel.

The chain buckets facilitate the material discharge.



Wheel boom hoisting gear

The wheel boom is supported by two hoisting cylinders which are hydraulically coupled using specially designed circuits.

This ensures low-vibration of the SRs(H)1050, even where continuously changing material hardness in the block occurs and eases the mining of thin material layers.

Each of the hoisting cylinders is equipped with a mobile piston protection system to protect them against damage.

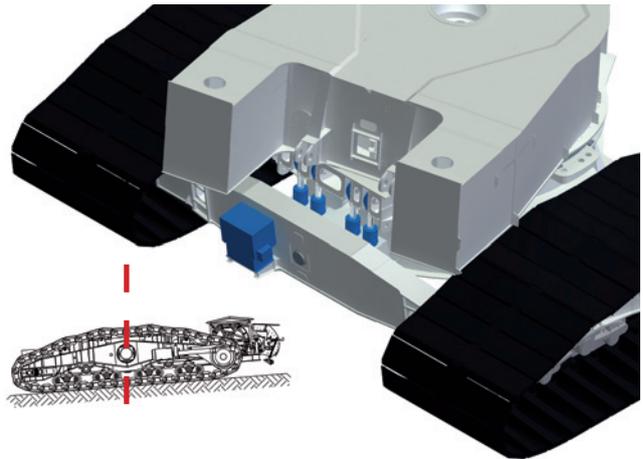
HIGHLY EFFICIENT EXCAVATION DUE TO TECHNICAL INNOVATIONS

Horizontal leveling of the superstructure

The SRs (H)1050 can be levelled horizontally thus providing the ability to effectively excavate sloped seams.

The hydraulic horizontal leveling system installed in the undercarriage enables longitudinal leveling of the entire superstructure by 8% in the horizontal plane.

This facilitates mining of large block widths, even where the bench slopes longitudinally.



Crawler track

The optimized design of the crawlers with 8 track rollers enables more efficient production, maintenance and repair of all crawler track components and a more efficient rate of advance of the SRs(H)1050 compact bucket wheel excavator.

The shorter and more compact crawlers facilitate extremely economical block excavation.

The latest generation of crawler girders and equalizers are integrated in an open crawler girder design which facilitates maintenance and repair of wear components (equalizers can be removed without lifting equipment). In addition to this, rockers and track rollers are constructed according to the reliable TAKRAF lifetime design.



Cable routing

Cables are routed between the undercarriage and superstructure via a unique cable saddle that is seated in two independent pivots in the enclosed machine room of the SRs(H)1050.

There they are protected against dust and dirt.

This method of cable routing achieves an operational superstructure slewing range of 360° relative to the undercarriage via a simple, troublefree design.



OPERATION, MAINTENANCE & DURABILITY



User-friendliness

The SRs(H)1050 compact bucket wheel excavator is fitted with an air conditioned and shock absorbing operator's cabin which incorporates an ergonomically designed operator's console.

Optimum operation is realized with a powerful excavation program control adapted to suit customer requirements with process visualization of all technical parameters.

All material transfer points are monitored by video to ensure trouble free operation.



Maintenance-friendliness

One advantage of the TAKRAF SRs(H)1050 compact bucket wheel excavator compared to other designs lies in its maintenance-friendliness, thanks to enhanced accessibility for the installation and removal of individual components and entire modules, the reduction of wear parts and extensive use of maintenance-free bearings in the reliable TAKRAF lifetime design.

The wheel boom can be supported with one of the two cylinders to ease and make safe the maintenance and repair work on the hoisting cylinders.

The installation of an on-board crane (5t/7.5m) on the portal further facilitates maintenance and repair work.



Durability

The hardened and tempered design of relevant main and individual components such as crawler links, bogies, open slewing bearing and gear rim increases their service life verifiably.

The gear rims and drives for the superstructure slewing gear and loading boom slewing gear are located in the enclosed machine room of the platform and undercarriage ring support where they are protected against dust and dirt.

TAKRAF – SERVICE & ENVIRONMENT

Production and assembly

- TAKRAF production facilities in Lauchhammer is certified in compliance with ISO 9001:2015
- Maximum possible preassembly of modules in own production facilities to reduce on-site assembly
- Certified quality assurance system for all stages of development, design, manufacture and assembly (quality documentation consisting of material tests, test certificates and measurement data sheets)
- Conducting of test runs with measurement recording and evaluation involved (e.g. TAKRAF bucket wheel gearboxes)



Service

- Support of the mining operators with regard to the optimum application technology of the delivered equipment and systems
- After-sales service for delivered equipment and systems, set-up of a service base by TAKRAF
- Spare parts supply with original spare parts in consistent quality
- Equipment and system reconstruction after intensive analysis of operating results following many years of operation
- Advanced training of specialists from equipment and system operators in professional operation, maintenance and preventive service



Environmental friendliness

Noise emissions have been reduced to a considerable degree through continuous further development and improvement of TAKRAF bucket wheel gearboxes.

Use of the latest materials for bearings and lifetime lubricated components reduces the consumption of mineral and synthetic lubricants by 25%.

TAKRAF's objective is the achievement of a balance of economic design, longevity of the equipment and the least environment impact.



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