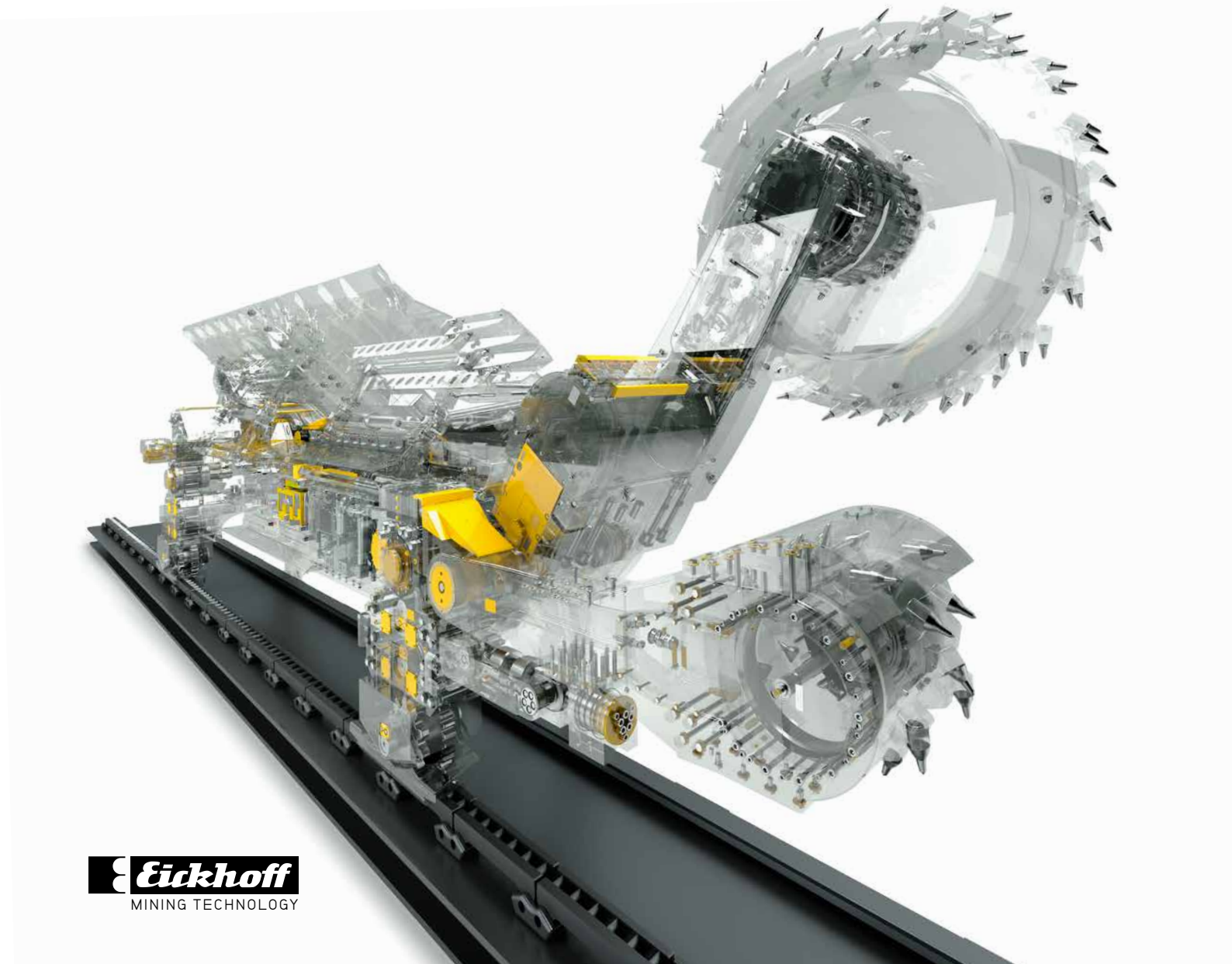
EXPERIENCE HAS NO SUBSTITUTE



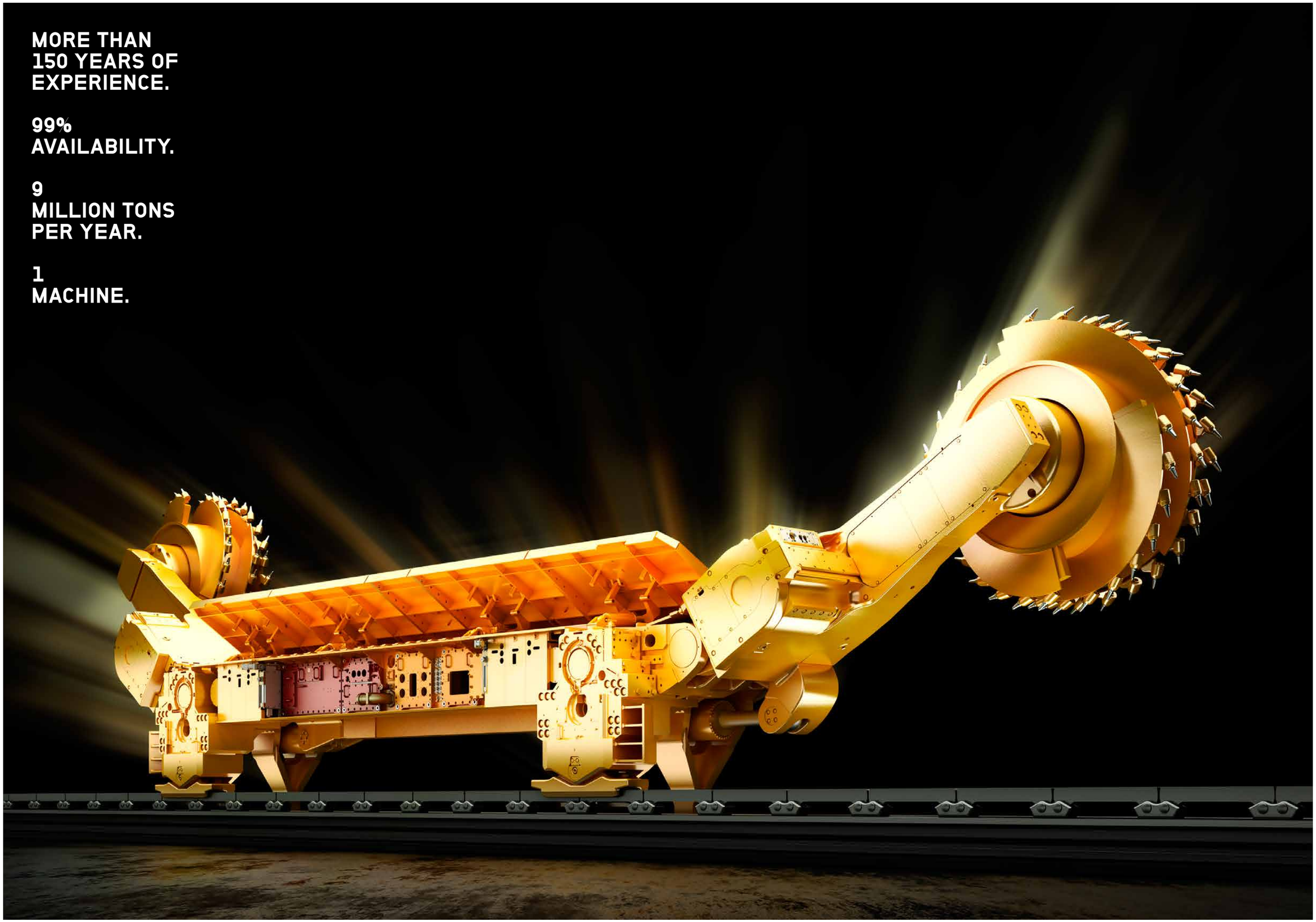
Eickhoff
MINING TECHNOLOGY

**MORE THAN
150 YEARS OF
EXPERIENCE.**

**99%
AVAILABILITY.**

**9
MILLION TONS
PER YEAR.**

**1
MACHINE.**



HIGHER PRO–DUCTIVITY WITH EICKHOFF MACHINES

Whether at one of the world‘s most productive mines in Australia, whether in the cold winters in the Russian region of Workuta or whether with the world‘s biggest shearer loader in Inner Mongolia – Eickhoff mining machines are at the forefront. Eickhoff shearer loaders and continuous miners steadily set new standards with regards to quality and innovation.

Extremely reliable: Eickhoff shearer loaders deliver production records thanks to their low downtimes.

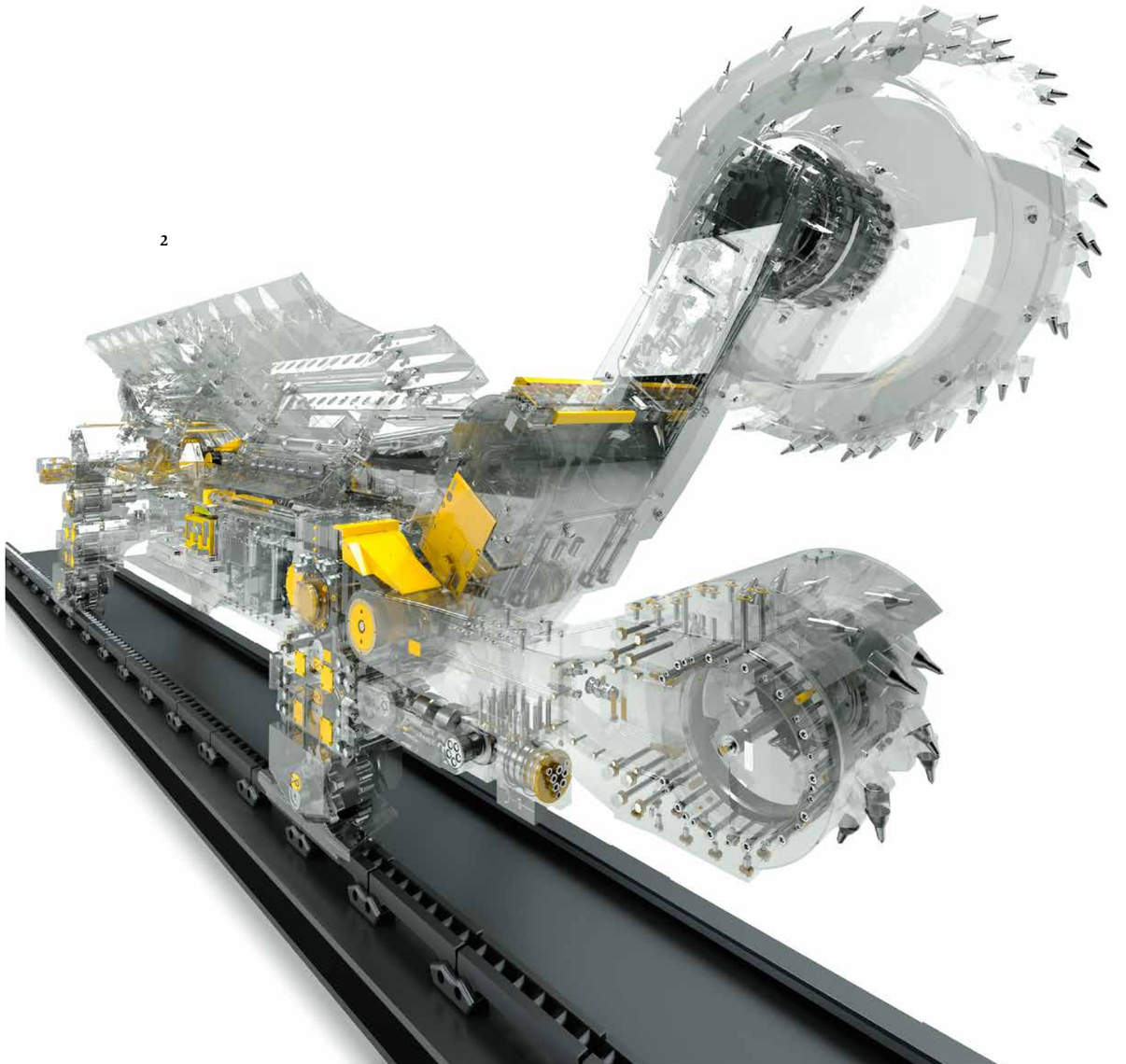
WELL AHEAD IN UNDERGROUND MINING

Eickhoff and the mining industry are inextricably linked. Components for underground use were among the first products of the company – and when Europe‘s first bar coal cutter was put into operation as a complete Eickhoff system as early as in 1914, a virtually unique success story started in underground mining. So it did not take long until Eickhoff coal mining machines were exported to all parts of the world, with an initial bulk order coming in from Russia in 1926. And it was in the middle of the 70’s that Eickhoff was the first Western supplier to be approved for mining equipment in China.

From the very beginning, the Eickhoff engineers have dedicated their extensive experience and great passion to the development of better and better machines with ever-increasing efficiency and reliability. By doing so, the limits of feasibility are often being redefined as is the case with the maximum cutting height of the shearer loaders: In 2001, the commissioning in South Africa and China of two shearer loaders designed for a cutting height of 18 ft, was a world record. The year 2007 saw the initial operation of the Eickhoff SL 1000 – with a cutting height of as much as 19.7 ft. Meanwhile, a shearer loader for 23.6 ft is operating at Bulianta Colliery in China which is, of course, another world premiere. And very soon the Eickhoff SL 1000 for a cutting height of 28.2 ft will be put into operation – yet another world record!

Eickhoff underground mining machines are known for their robust and reliable design and excel by their quality in day-to-day operation. They are more powerful, offer higher availability rates and have a significantly longer life than competing products. All that translates into production records. Shangwan Colliery in China, for instance, recorded a monthly production rate of over one million tons of coal as early as in 2003. An Eickhoff machine is also a record holder in Australia: Here again, an SL 750 shearer loader produced an output rate of more than one million tons of coal at Oaky North Colliery.

Along with high reliability it is the continuous innovations which contribute to the non-stop setting of new production records and make the Eickhoff shearer loaders more and more efficient. The EiComatik system, for example, originally controlled the shearer loader speed in relation to the cutter motor load. EiControl initiated the start of automated cutting. And EiCotrack, by the way, is an Eickhoff-invented chainless haulage system for shearer loaders which became an international standard and comes in multiple versions and designs. These further developments have been, and are, regular award winners.



1 Slim, compact and extremely powerful: The Eickhoff SL 750

2 The world‘s biggest shearer loader: The Eickhoff SL 1000

CUSTOMER PROXIMITY OUT OF PASSION

Uncompromisingly, promptly and directly – we maintain a service network of more than 200 specialists to ensure optimal service for your shearer loader or continuous miner. This highly qualified and globally active team provides you, among other things, with the following services:

If you require service support, our engineering service staff is ready to consult you directly, extensively and competently. They furthermore devise service concepts for optimizing the availability of your machines using means such as production data reporting or condition monitoring systems for preventive maintenance and early damage detection. This obviously also encompasses life cycle management and consideration of the spare parts inventories.

We are there for you on site, from commissioning through to training and troubleshooting. And also when it comes to repairs on the surface of the mine, you can count on our experienced service staff to support you with their high-grade repair services in order to achieve optimal availability even for used and overhauled machines.

We perform repairs to your component parts and/or complete machines at our service workshop in Bochum and at several sites of our subsidiaries.

A wide variety of additional services, including the periodic major overhauling of your machines, round off our portfolio.

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2

1 Worldwide on site:
Eickhoff team providing customer service

2 Well distributed:
Eickhoff on five continents

THE EICKHOFF MODULAR PRINCIPLE OF DESIGN: TAILORED PRODUCTS FOR EVERY SEAM THICKNESS

Eickhoff shearer loader SL 1000
The „most gigantic one“

Eickhoff shearer loader SL 900
Eickhoff‘s „most versatile one“

Eickhoff shearer loader SL 750
Eickhoff‘s „fastest one“

Eickhoff shearer loader SL 300
The compact „bundle of power“

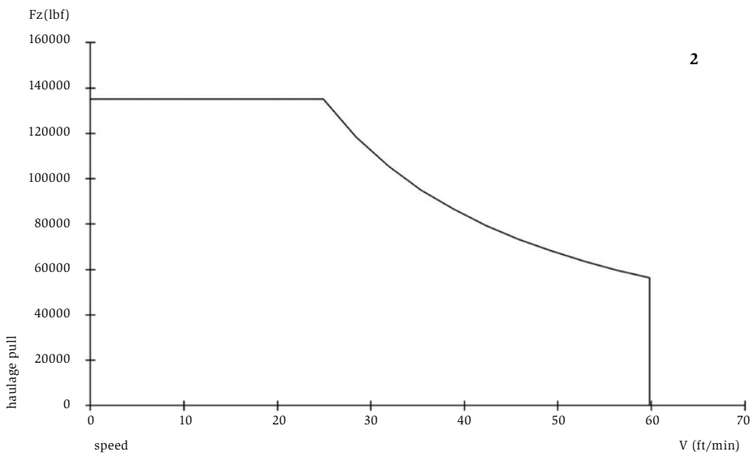
EICKHOFF SL 300 L

The new specialist: This new machine concept, representing the latest addition to the shearer loader portfolio, is based on the proven principle of high power density combined with reliability and user-friendliness in control and maintenance that has been inherent to Eickhoff products for many decades and enables today's miners to extract even the thinnest seam thicknesses in a cost-effective manner.

The Eickhoff SL 300 L, coming with innovative control and automation technology in combination with two powerful 402 hp cutter motors which are housed in a machine body of just 29.5" in height, is unique in high-performance thin seam mining for seam thicknesses starting from as low as 47.2".

A high degree of user and maintenance friendliness plays an important role in this market segment. Prepared with cutting edge automation concepts for remotely controlled operation alongside a sophisticated construction concept, the Eickhoff SL 300 L offers the highest availability rates while requiring only very short periods of maintenance.

- **The slim specialist from Eickhoff**
- **For thinnest seam thicknesses starting from as low as 47.2"**
- **Prepared with cutting edge automation concepts**



2

Technical details

Cutting range
3.9 - 6.56 ft

Total weight
38.5 - 44 tn

Voltage/frequency
4160 V / 60 Hz

Length
35.9 - 36.6 ft

Total installed power
925 hp

Width
105.7 - 122 in

Cutter drum speed
45 - 62 rpm

Height
29.5 - 37.4 in

Max. haulage speed
82 ft/min

1 The Eickhoff SL 300 L

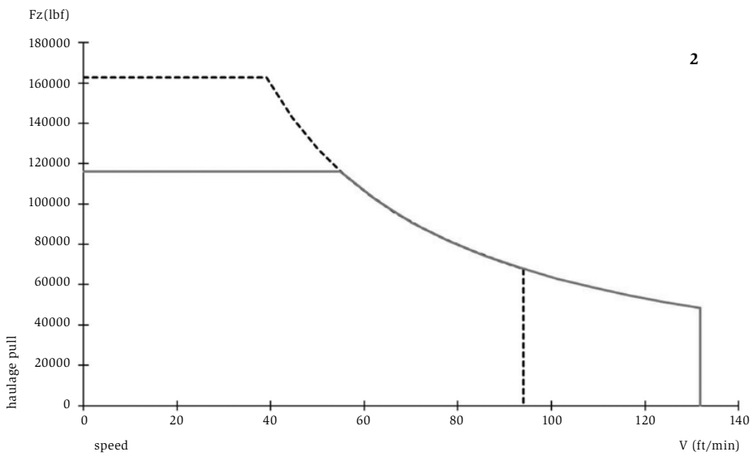
2 Haulage pull/speed diagram:
Power combined with speed

EICKHOFF SHEARER LOADER SL 300

Highest power density in the smallest of space: The Eickhoff SL 300 has been firmly established in the international market for over 20 years now. Designed as a mining machine for thin to medium-thick seams, it was upgraded time and time again with the latest innovations over the years. Its original cutter motor power was 2x295 hp, combined with 2x47 hp DC haulages. Thanks to its consistent further development, its power could meanwhile be increased to 2x643 hp for the cutter motors and to 2x120 hp for the AC haulage motors.

The great thing here is that even though the total installed power has been more than doubled since its early days, the original machine concept providing for compactness in size has been maintained. This was made possible by implementing state-of-the-art production techniques into the Eickhoff gearboxes and by using the meanwhile available, more efficient, smaller electrical components specifically designed for underground use. The Eickhoff SL 300 is in operation worldwide and consistently achieves production rates of 600,000 sht tons a month.

- **The compact ‚bundle of power' from Eickhoff**
- **For thin to medium-thick seam mining**
- **With a slim machine body and high cutting power**



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1 The Eickhoff SL 300

2 Haulage pull/speed diagram: Power combined with speed

1

Technical details

Cutting range
5.2 - 13.1 ft

Total weight
44 - 61 tn

Voltage/frequency
4160 V / 60 Hz

Length
39.7 - 43 ft

Total installed power
1553 hp

Width
98.4 - 130 in

Cutter drum speed
48 - 65 rpm

Height
43.3 - 79.8 in

Max. haulage speed
131 ft/min

EICKHOFF SHEARER LOADER SL 500

One of the outstanding examples of German engineering: The Eickhoff SL 500 has been a steady peak performer in the international hard coal mining industry for nearly two decades. Introduced to the mining world in 1994, the SL 500 was originally designed with a total installed power of 1515 hp. Nowadays, it comes with an impressive 2700 hp and is thus ideally suited also for today‘s most demanding underground conditions. Owing to its constantly high availability, the Eickhoff SL 500 has earned a worldwide reputation as a ‚real workhorse‘.

Monthly production rates of one million tons of coal are nothing unusual for this shearer loader. Its remarkably high reliability continues to make it the number one choice for energy giants in China and Russia. Operators value the characteristic Eickhoff underframe concept while investors appreciate its high profitability. In this way the Eickhoff SL 500 has set the standards for modern high-performance mining for 20 years already.

- **The legendary ‚workhorse‘ from Eickhoff**
- **For medium-thick to thick seam mining**
- **With the characteristic underframe concept and high profitability**

Technical details

Cutting range
8.2 - 19.7 ft

Total weight
88 - 132 tn

Voltage/frequency
4160 V / 60 Hz

Length
39 - 45.9 ft

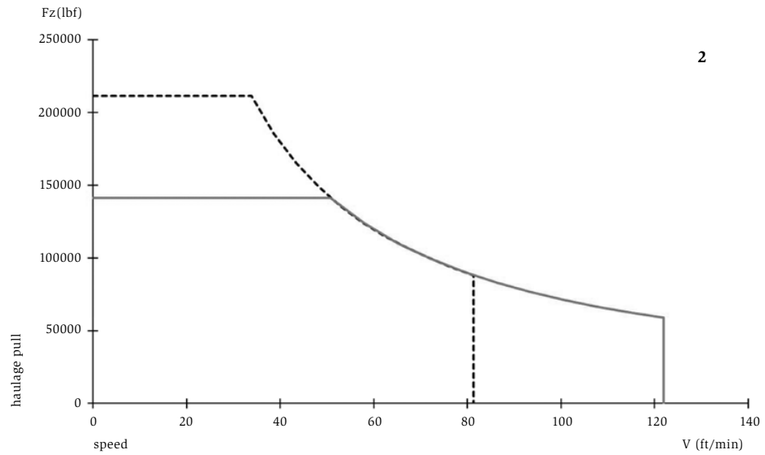
Total installed power
2700 hp

Width
118.8 - 137.8 in

Cutter drum speed
28 - 38 rpm

Height
78.7 - 106.3 in

Max. haulage speed
121 ft/min



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1 The Eickhoff SL 500

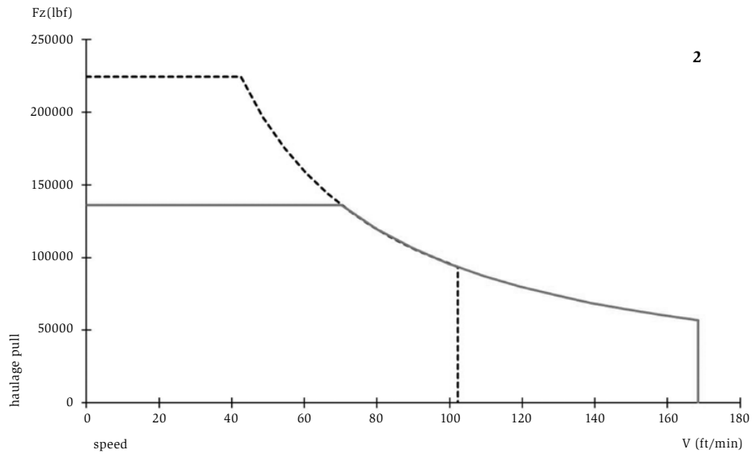
2 Haulage pull/speed diagram:
Power combined with speed

EICKHOFF SHEARER LOADER SL 750

‚Breeding refinement', made by Eickhoff: Here, the power of the SL 500 and the compactness of the SL 300 are united in one machine. This is how the Eickhoff SL 750 was born – a machine with a body just slightly larger than that known from the SL 300 and with an installed power which could formerly only be realized on bigger shearer loaders.

The Eickhoff SL 750, having been put into operation in US high-performance longwall systems for the first time in 2006, received a throughout positive feedback on its use. And also the subsequent worldwide installation of further machines of this type fulfilled all expectations by far. According to the unanimous opinion of the customers, higher production rates are achieved more economically when using the Eickhoff SL 750 shearer loader.

- **The ‚fastest' one from Eickhoff**
- **For thin to medium-thick seam mining**



2

Technical details

Cutting range
5.9 - 15.8 ft

Total weight
77 - 88 tn

Voltage/frequency
4160 V / 60 Hz

Length
45.6 - 48.9 ft

Total installed power
2540 hp

Width
106.3 - 133.9 in

Cutter drum speed
38 - 60 rpm

Height
49.2 - 80.7 in

Max. haulage speed
167 ft/min

1 The Eickhoff SL 750

2 Haulage pull/speed diagram:
Power combined with speed

EICKHOFF SHEARER LOADER SL 900

The next leap in evolution:
With the new SL 900 shearer loader, Eickhoff increases the production rates up to the absolute maximum. This high-performance mining machine combines the compact dimensions of the SL 750 with the staggering power of the SL 1000. Thanks to the implementation of state-of-the-art design and production techniques, a machine with impressive properties could be developed and constructed. As a result, the Eickhoff SL 900 excels by high flexibility in varying seam thicknesses ranging from 7.9 to 19.7 ft – and all that along with an installed total power of more than 3350 hp.

The Eickhoff SL 900 thus covers a wide spectrum of cutting ranges while the excellent power reserves provide enormous potential for increased production rates.

- **The ‚most versatile one' from Eickhoff**
- **For a wide range of seam thicknesses**

Technical details

Cutting range
7.9 - 19.7 ft

Total weight
99 - 143 tn

Voltage/frequency
4160 V / 60 Hz

Length
49.9 - 52.2 ft

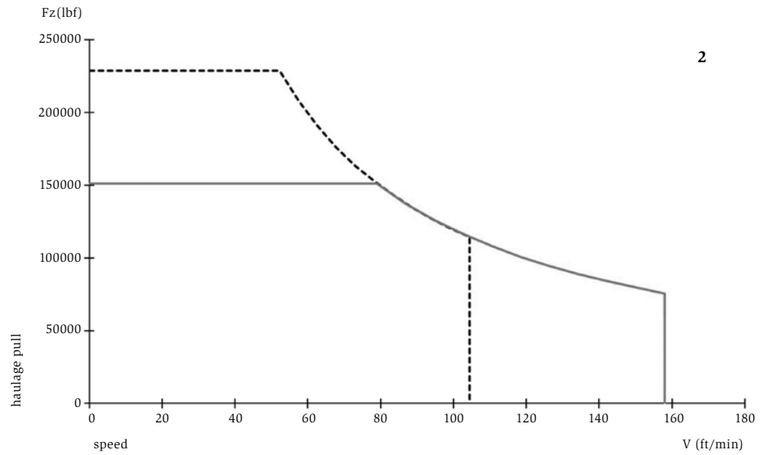
Total installed power
3424 hp

Width
122 - 141.7 in

Cutter drum speed
35 - 49 rpm

Height
72.8 - 106.3 in

Max. haulage speed
157 ft/min



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1 The Eickhoff SL 900

2 Haulage pull/speed diagram:
Power combined with speed

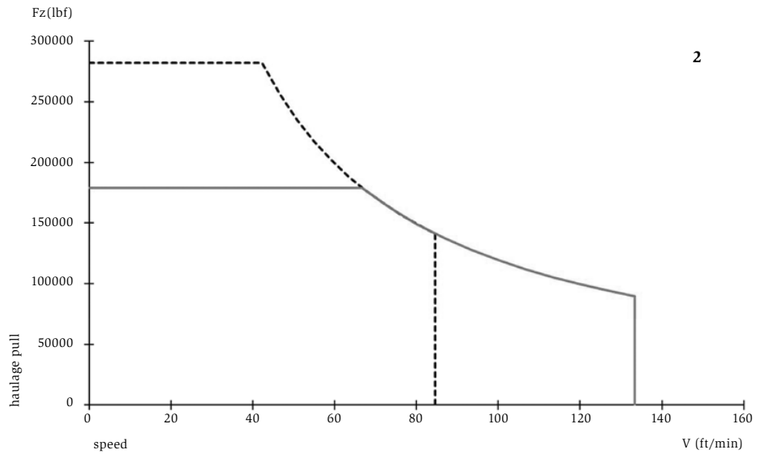
EICKHOFF SHEARER LOADER SL 1000

A class of its own: Equipped with a total installed power of 3754 hp, the Eickhoff SL 1000 is specifically designed to achieve peak production rates at seam thicknesses of up to 28.2 ft. But also customers with seams as thin as 9.8 ft can profit from the modular design of the SL 1000 given that the machine with its exceptional cutting power can be installed in thinner seams as well by just changing a few minor components. Furthermore, the maximum tunnel clearance underneath the machine body leaves enough space for even the biggest coal lumps to pass smoothly.

The Eickhoff SL 1000 was presented to the world market early in 2007 and put into initial operation by Shenhua Energy, a Chinese coal company.

The customer‘s many years of experience with the Eickhoff SL 500 operating under harsh cutting conditions were implemented into the development of the SL 1000 for ultra-thick seam mining. The result: The most powerful shearer loader in the world!

- **The ‚most gigantic one‘ from Eickhoff**
- **The world‘s most powerful shearer**
- **For mining seam thicknesses of up to 28.2 ft**



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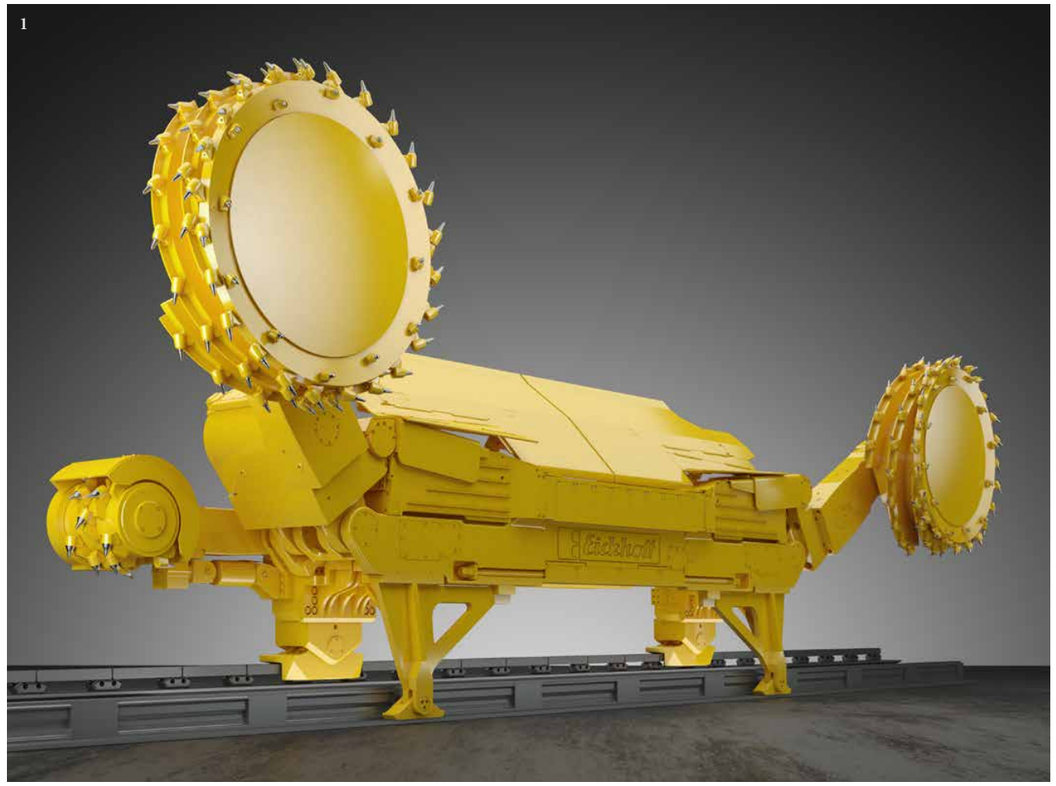


1 The Eickhoff SL 1000

2 Haulage pull/speed diagram: Power combined with speed

Technical details

Cutting range
9.8 - 28.2 ft

Total weight
121 - 237 tn

Voltage/frequency
4160 V / 60 Hz

Length
49.9 - 56.8 ft

Total installed power
3754 hp

Width
133.9 - 161.4 in

Cutter drum speed
35 - 49 rpm

Height
98.4 - 163.4 in

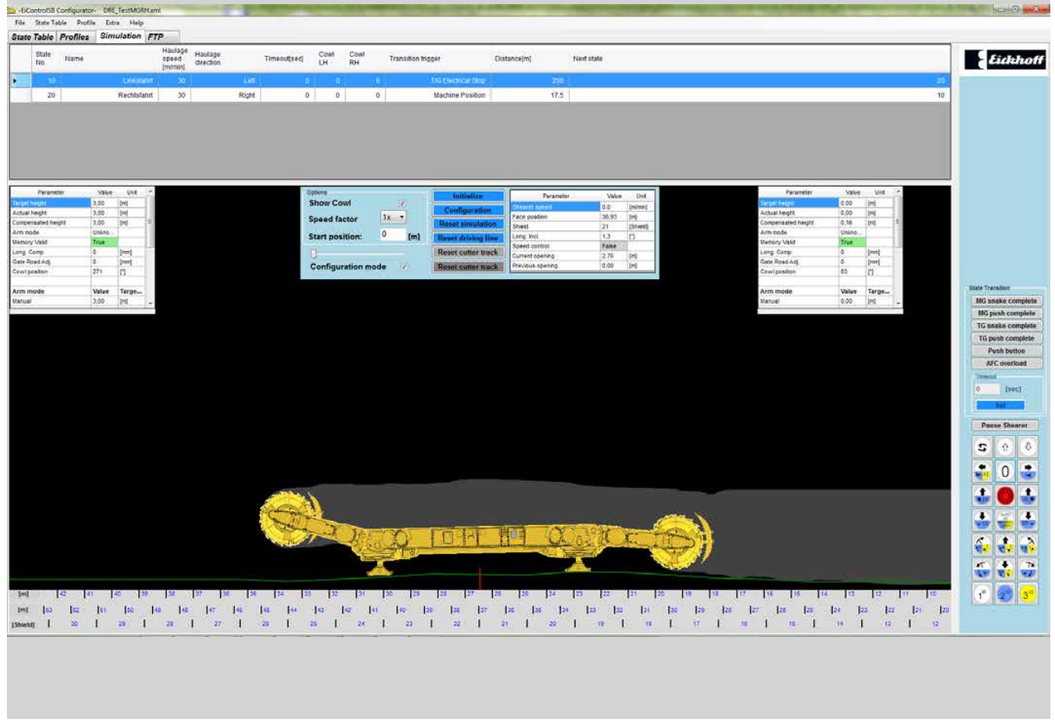
Max. haulage speed
135 ft/min

INNOVATIVE TECHNOLOGY WITH SMART SENSORS

Power meets safety: The newly developed Eickhoff EiControlPlus shearer loader automation concept is the first system to make the idea of automated longwall operation come true. The human operator can completely focus on the monitoring functions in a safe and unencumbered environment. To this end the machine is equipped with sensors that simulate „seeing“, „hearing“, and „feeling“ operating conditions – a genuine revolution. The Eickhoff EiControlPlus system is considered as the ‚smartest‘ shearer loader automation concept worldwide.

One essential feature of the system is the powerful and transparent communication structure between the machine and the mine control center via which all relevant information is transferred online through redundant and compatible communication paths. This unique holistic approach to shearer loader automation delivers the user considerable advantages in terms of sustainable extraction of raw material, and of hard coal in particular.

The Eickhoff EiControlPlus system is therefore at the forefront of a development which will enable fully autonomous mining systems in the future. The operators will then be relieved from the active control tasks in the highly stressful surroundings of the machine and can focus, from the mine control center, on monitoring and optimization of the system.



1 Power meets safety: The Eickhoff shearer loader automation system EiControlPlus

2 Screenshot of the EiControl SB configurator

THE PERFECT SOLUTION FOR DIFFICULT MINING CONDITIONS

Eickhoff continuous miners are not only used for the extraction of hard coal but also show their superiority in potash and rock salt mining operations under extreme conditions. Hydraulic or electrical heavy-duty drives and the legendary Eickhoff robustness help make this possible.

Continuous miner in operation: Cutting efficiency and high production rates even under difficult conditions

CONTINUOUS MINERS

Also the Eickhoff continuous miner portfolio sets itself high standards: Customers from the mining industry expect a functioning technology without compromise – and Eickhoff Mining Technology supplies the appropriate mining machines for the most demanding coal and potash mining applications all around the globe.

The name of Eickhoff is synonymous with reliability cast in steel – designed, tested and manufactured in Bochum. From the software, castings and weldments via the heavy-duty gearboxes through to the characteristic honey-yellow paint – the proportion of in-house manufacturing of our continuous miners is worldwide second to none in this product segment.

The benefits for the mine operators and users are obvious – utmost control over manufacturing processes, shortest routes to decision-making and individual machines perfectly tailored to the specific customer requirements. The many years of experience of the Eickhoff Group in the manufacture of high-performance machines for the underground mining industry were fully implemented into the development of the continuous miners. This results in products which consistently give utmost performance – cut by cut.

In order to ensure all-time reliable and cost-effective underground production, roof bolters and drillers, hydraulic and electrical traction systems as well as leading-edge control concepts are among the many advantages of the Eickhoff continuous miners – convincing machines with unstoppable power.

- **For coal, potash and rock salt mining**
- **For a wide range of varying seam thicknesses**
- **Available with electrical or hydraulic traction systems**
- **Offers great flexibility with a compact and modular design**

1

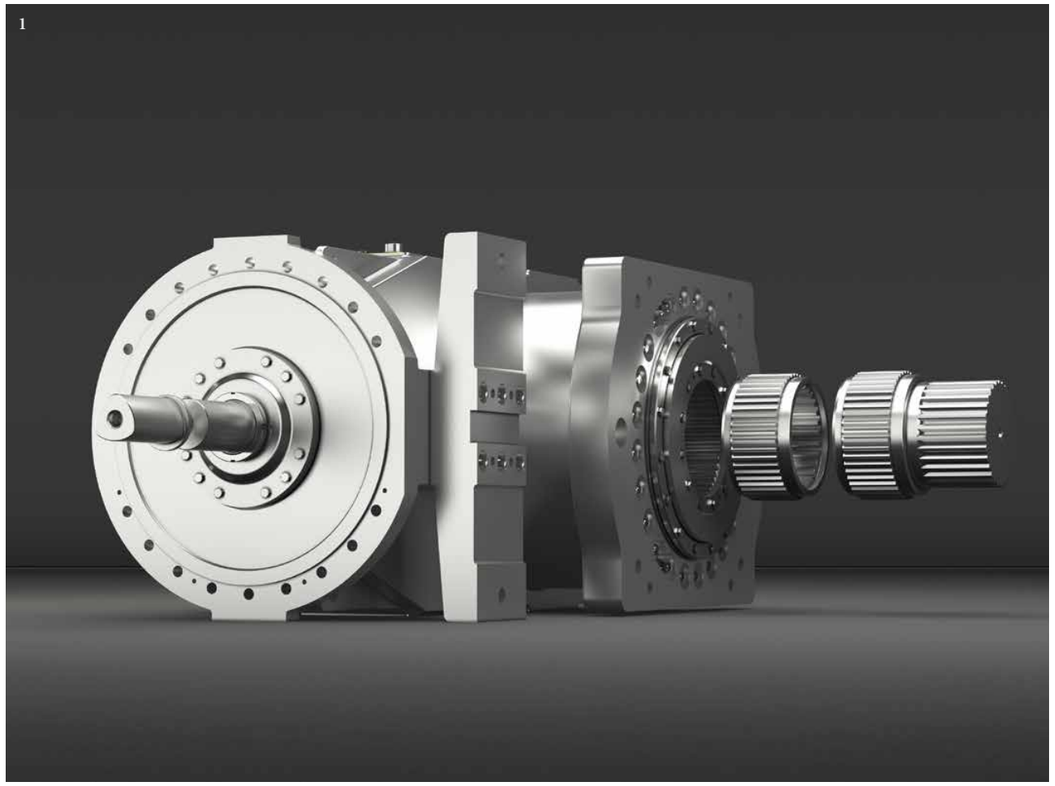
2

1 Eickhoff CM2H-30P – for potash mining

2 Eickhoff CM2H-37 – for coal mining

Technical details

	Cutting height	Machine weight	Machine body, W x H	Cutting width	Drum diameter	Ground pressure
CM2H-30	4.6 - 9.8 ft	81 tn	10 x 3.9 ft	11.5 - 12 ft	3.9 ft	29 PSI
CM2H-37	5.2 - 12.1 ft	81 tn	10 x 3.9 ft	11.5 - 12 ft	3.9 ft	29 PSI
CM2H-38	5.9 - 12.5 ft	90 tn	10 x 4.3 - 4.9 ft	11.5 - 12 ft	3.9 ft	29 PSI
CM2H-45	7.2 - 14.8 ft	90 tn	10 x 4.3 - 4.9 ft	11.5 - 12 ft	3.9 ft	29 PSI



CHAIN CONVEYOR GEARBOXES

Building gearboxes has always been one of Eickhoff's core competencies. Whether in the icy heights of the numerous offshore wind turbines or under the tropical conditions in 1000 m deep underground mines - Eickhoff gearboxes steadily operate with high precision and are capable of withstanding extreme loads.

This is also true for the Eickhoff armoured flexible chain conveyor gearboxes of the EP and EKP series. They meet all the requirements with their double-stage planetary gearboxes or three-stage combinations of bevel wheel, spur wheel and single-stage planetary gearbox.

Eickhoff manufactures chain conveyor gearboxes up to the 65 series size for a maximum output torque of 650 kNm. Self-aligning sun gears ensure a uniform load distribution on the three planet wheels. A total of five different reduction ratios can be achieved by exchange of the first planetary gear stage of the EP series or a spur gear stage of the EKP series.

The gearboxes are extraordinarily compact. Planetary gearboxes manufactured by Eickhoff are up to 50% smaller, 15% lighter and 37% shorter than conventional gearboxes. The resultant cost benefits are directly passed on to the customers. Another special advantage of the Eickhoff gearboxes is the integrated oil cooler which ensures an optimal heat exchange within the entire housing. All gearboxes are supplied as standard with integrated cooling water chambers for cooling the high-speed components.

The output end connection flange of the gearboxes is made of high quality nodular cast iron from Eickhoff's in-house foundry and specifically designed for the extreme and alternating loads on the chain conveyor. A taper bush connects the planet carrier of the gearbox to the drive shaft of the conveyor. If necessary, the bush can be replaced with little effort, without having to dismantle the gearbox.

Exchangeable input and output shafts ensure smooth compatibility with the most diverse technical environments. Optimal lubrication is ensured even in high inclined applications by a splash lubrication system. A broad range of accessories for monitoring the cooling and lubrication systems is also available and rounds off the product portfolio..

Key Points

EKP -15 / -25 / -35 / -45 / -65:

- **Integrated cooling system with optional flow rate and temperature monitoring devices**
- **Variable reduction ratios by exchange of a spur gear stage**
- **Heavy-load bevel wheel gearboxes (cyclo-palloid toothing)**
- **Output end hollow shaft with exchangeable wear bush, identical to the EP series**
- **Output end flange and torque arm adaptable to the conveyor system**

EP -15 / -25 / -35 / -45 / -65:

- **Integrated cooling system with optional flow rate and temperature monitoring devices**
- **Variable reduction ratios by exchange of the first planetary gear stage**
- **Output end hollow shaft with exchangeable wear bush, identical to the EKP series**
- **Output end flange adaptable to the conveyor system**

1 Mining industry gearbox EKP

2 Mining industry gearbox EP

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