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Eickh experience has no substitute

# Gearboxes for the Mining Industry



## Background and History

The successful history of the Eickhoff Group started over 150 years ago with the set-up of a foundry with mechanical machining workshops which have been serving customers of the hard coal mining industry in the German Ruhr Region from that time on. Despite all its global activities and as a medium-sized family company with tradition, the Eickhoff Group still feels strongly attached to its local roots.

The Group is comprised of a number of subsidiaries. One of these is the Eickhoff Bergbautechnik GmbH which offers a wide variety of mining machines for underground mining operations and is represented with its products as the market leader in all major mining areas of the world. Among these products are armoured flexible chain (afc) conveyor gearboxes which Eickhoff successfully started manufacturing in 1987. Since that time,

the company has gained extensive experience in the design and manufacture of highly stressed gearboxes of this type. In close cooperation with our customers, we design long-term durable and service-friendly gearboxes with a low cost of ownership. Sound expertise, untiring zest for innovation and a passion for technology are our driving force and have always been our trademark.

## Technical Information

Eickhoff, as the market leader in the field of mining machinery for underground coal and potash mining, is an established manufacturer of gearboxes for applications under the most challenging conditions. Chain conveyor gearboxes of the EP and EKP series meet all the requirements with their double-stage planetary gearboxes or three-stage combinations of bevel wheel, spur wheel and single-stage planetary gearbox.

## Gearbox Manufacture within the Group of Companies

Each subsidiary within the Eickhoff Group of Companies benefits from the high level of in-house integration for the manufactured components and the broad overall expertise of its staff. This knowledge and experience are implemented into each and every product of the Group. Our design engineers, backed by their long-standing experience in the construction of heavy-duty machinery, are specialists in the development and manufacture of highly stressed gearboxes and the machining of our foundry castings.

## Benefits of using Eickhoff Gearboxes:

- Long-term durability thanks to the high quality standard
- Robustness through the incorporation of application-oriented safety factors
- Service-friendliness through operational experience and understanding in the design stage
- Smooth running characteristics through optimal design of the tooth meshing
- Good lubrication properties through a corresponding design of the housings



Eickhoff manufactures chain conveyor gearboxes up to size 65 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 exchanging the first planet stage of the EP series or a spur 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.

A 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 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. Both the connections for flow switches and oil temperature sensors and the connections for electrical cooling water flow rate measurements and oil pressure sensors are provided.

### Essential properties:

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

- Integrated cooling system with flow rate and temperature monitoring devices (optional)
- Variable reduction ratios by exchanging a spur 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 flow rate and temperature monitoring devices (optional)
- Variable reduction ratios by exchanging the first planet stage
- Output end hollow shaft with exchangeable wear bush, identical to the EKP series
- Output end flange adaptable to the conveyor system

EICKHOFF Face Conveyor Drive Gearboxes				Reduction Ratio (other ratios on request)				
				21 : 1	28 : 1	33 : 1	40 : 1	50 : 1
				input speed: 1450 rpm				
Model	Size	Short Time Torque 3 sec/hr	Weight	max. installable motor power				
EP EKP	15	150,000 Nm	1100 kg 1760 kg	300 kW	285 kW	245 kW	210 kW	165 kW
EP EKP	25	250,000 Nm	1780 kg 2800 kg	470 kW	470 kW	470 kW	400 kW	315 kW
EP EKP	35	350,000 Nm	2780 kg 4320 kg	650 kW	650 kW	615 kW	525 kW	420 kW
EP EKP	45	450,000 Nm	3480 kg 5890 kg	900 kW	900 kW	840 kW	715 kW	570 kW
EP EKP	65	650,000 Nm	5110 kg 9170 kg	1400 kW	1400 kW	1250 kW	1100 kW	--



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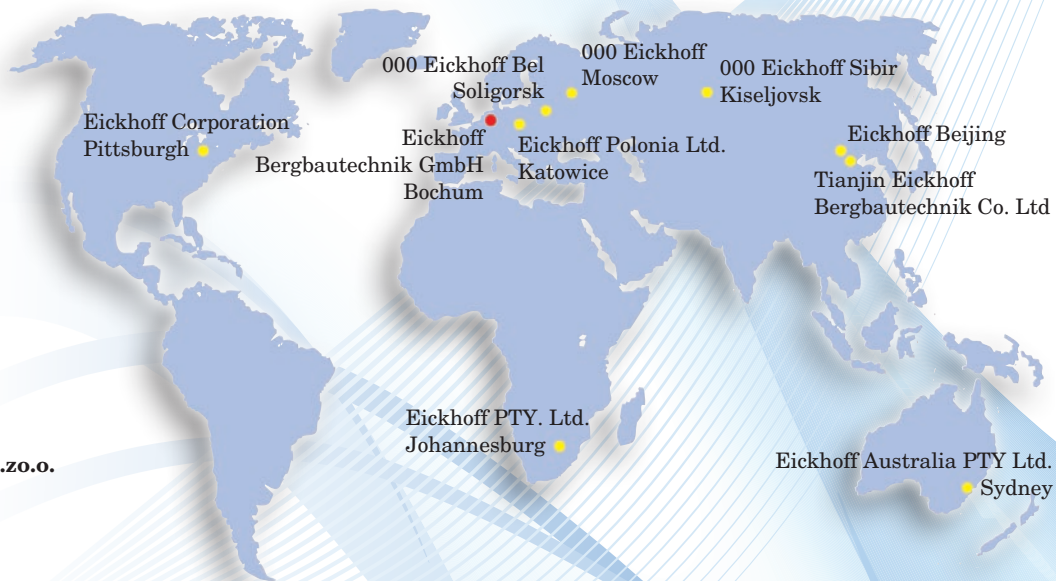
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