

FAMUR

Longwall Systems



LONGWALL SYSTEMS

FAMUR IS AMONGST THE WORLD LEADERS IN THE MANUFACTURE OF LONGWALL SYSTEMS

We focus on technologically advanced and highly efficient automatic longwall systems equipped with control systems, monitoring system of machine states, processes and technical systems, along with IT support which significantly improve safety and efficiency.

Over sixty years of experience in the mining industry enables us to design and manufacture machines operating in particularly challenging underground conditions. Through our rich experience we can complete the most complex projects worldwide.



We optimize solutions for each seam and longwall type, depending on the system performance required by the Customer

The thin seam mining system allows for extraction of thin coal seams deposited in mining conditions inaccessible to plow systems. Thanks to innovative solutions it enables smooth operation in 1–2 m thick seams.

Mining systems based on medium and high seam longwall systems are ideal solutions for mines with highly diversified mining and geological conditions. Depending on the requirements, we are able to offer longwall systems adapted to operate in coalfaces up to 6 m high.

CHARACTERISTICS

- A hallmark and distinguishing feature of FAMUR products is the combination of machines and advanced information technologies into one comprehensive and consistent system. Longwall systems are professional mining industry solution ensuring:
- an integrated monitoring system to improve safety
 - high work efficiency thanks to full compatibility between the machines
 - lowest operational costs by one manufacturer equipment application
 - long machines life achieved by application of high-quality materials

SELECTED APPLICATIONS

System type	Shearer		Powered roof supports	Conveyors	Crusher
THIN SEAM SYSTEM	FL 12/16	FS 200	FRS -10/17-2x5529-1	AFC: FFC-7	FLB-8B
			FRS -10/17-2x5529-2	BSL: FSL-8	
			FRS -14/27-2x3941-1		
	FL 12/18	FS 200	FRS 10/19-2x2340	AFC: FFC 750	KD 1600
			FRS 10/19-2x2340-1	BSL: PPZ 850	
			FRS-18/38		
MEDIUM SEAM SYSTEM	FL 16/33	FS 400	FRS 14/34-2x3620	AFC: PSZ 850	KD 1600
			FRS 14/34-2x3620-1	BSL: PPZ 850	
	FL 16/40	FS 400	FRS 14/41-2x3380	AFC: PSZ 850	
			FRS 14/41-2x3380-1	BSL: PPZ 850	
HIGH SEAM SYSTEM	FL 21/44	FS 400	FRS 19/45-2x3056-1	AFC: PSZ 850	KD 1600
			FRS 19/45-2x3056-2	BSL: PPZ 850	
	FL 27/52	KGE-750F	FRS 25/53 -2x3978-1	AFC: PSZ 950	UKU 1500
			FRS 25/53-2x3978-2		
			FRS 24.5/43	BSL: PPZ 1000	



POWERED ROOF SUPPORTS

FAMUR IS AN EXPERIENCED AND RECOGNIZED MANUFACTURER OF POWERED ROOF SUPPORTS

Many years of GLINIK and FAZOS experience and practice gained in Poland and abroad allows us to adapt powered roof supports to the toughest mining and geological conditions.

Particular emphasis is put on safety and operational efficiency and therefore each powered roof support must undergo a series of tests in an accredited laboratory before being delivered to the customer so we are sure that our product meets strict safety standards and ensures high reliability in varying underground conditions.

FAMUR offer includes a variety of line, transition and face end powered roof supports ensuring a collision-free operation.

DESIGN CHARACTERISTICS

- optimum kinematic designed for individual mining and geological conditions
- full compatibility with other longwall equipment
- geometrical range enabling operation in seams of low, medium and high thickness
- various canopy types (rigid, extendible, inclinable or extendible/inclinable) and various floor base types (divided or catamaran bases)
- operation in seams with longitudinal inclination up to 45° and transverse inclination up to 20° with stabilizing devices
- two-leg or four-leg supports with single, double or triple telescopic legs of diameter from 170 mm to 500 mm, with pad-welded protective designed to enable quick and easy components assembly/disassembly

ADVANTAGES

- high support capacity
- safe working conditions for people and machinery
- long lifetime and high reliability
- equipped with manual, pilot or electrohydraulic control system with full monitoring as per the Customer's requirements



LONGWALL SHEARERS

FAMUR IS A MANUFACTURER OF HIGH-EFFICIENT SHEARERS THAT CONSTITUTE BASIS OF EFFECTIVE MINING

FAMUR shearers are designed to comply with various types of armoured face conveyors with chainless haulage system. Our machines enable bi-directional, pocketless cutting and loading of coal in longwall system of seams thickness from 1m to 6 m.

DESIGN CHARACTERISTICS

- modular design of main subassemblies forming machine body with no underframe
- various drive units allowing the machine height adjustment
- different types of ranging arms with various cutting drums rotation speed
- electric motors equipped with quill shafts to protect gearboxes (of arms and haulage system)
- automatic lubrication system of shearer key components
- adjustable cable holder to suit to different spill plates height
- optional lump breaker to ensure smooth material transport
- control system intended for monitoring of the most significant shearer parameters, i.a. enabling operation in the Memory Cut mode

ADVANTAGES

- high productivity
- ease of operation
- high reliability
- considerable clearance under the shearer
- possibility of remote troubleshooting (diagnostics) from the mine surface
- easy transportability



SCRAPER CONVEYORS

FAMUR longwall conveying systems, consisting of armoured face conveyors and beam stage loaders are modern design, great capacity, long lifetime, high durability and reliability machines.

Our equipment operates particularly well in the toughest mining and geological conditions and is available in various types and options suitable for individual customer's needs.

Scraper conveyors by FAMUR can be adjusted to each shearer haulage system operating in medium and high performance longwalls.

The pan route width (750 to 1200 mm) is adjusted to the mining

AFC ADVANTAGES

- high capacity
- modular design to suit to left and right hand longwalls
- FAMAC AFC control system
- wear-resistant deck plates and side profiles made of wear-resistant cast steel to extend linepans life
- flexible or rigid connection with the BSL
- optional AFC/SBL configuration with no mechanical joints

BSL ADVANTAGES

- high capacity
- rigid or flexible overlapping section
- optional dynamic crushers
- long life of drive sprockets
- chain sprockets replacement with no need to disconnect transmission units
- compatibility with boot ends

production level on short and long longwalls, in seams of thin, medium and high thickness.

Beam stage loaders along with crushers and FSBE boot end devices have a significant impact on efficiency of the material transfer to belt conveyor. The beam stage loaders are compatible with armoured face conveyors and belt conveyors by FAMUR as well as with any conveyors by other manufacturers.

They can be also equipped with various types of boot ends. It enables longwall operation with no need to shorten the belt at the length of 3 to 30 m. Conveyors can also be integrated with lump breakers.



E-MINE

E-mine system is a modern approach to the mining industry. The system is based on a recognition and belief that it is necessary to combine machines and autonomous system into one organism – high-efficient and reliable mining system.

Effective management of the longwall system operation requires the integration of data from multiple sources: machinery control

CONTROL SYSTEM

FAMAC OPTI

Control of the longwall shearer operation, self-diagnostics (Self-Check), remote parameterization and control, Memory Cut function.

FAMAC AFC

Control of the AFC and crusher operation, loud communication and safety system, the AFC follow-up chain tensioning system.

DIAGNOSTICS

FAMAC VIBRO

Monitoring/check of drive units condition by measuring and analyzing the vibration level and temperature of rotating elements, detection of damages at a very early stage of propagation, repair actions planning, ensuring continuity of extraction.

FAMAC RSPC

Monitoring of powered roof support load bearing capacity by wireless measurement of pressure in the leg piston area, monitoring of the roof protection and of the powered roof support intensive load areas.

FAMAC GEO

Monitoring of seismic phenomena on the longwall panel length and in its immediate vicinity, which is particularly important in seams with a high hazard of rock bumps.

VIDEO MONITORING

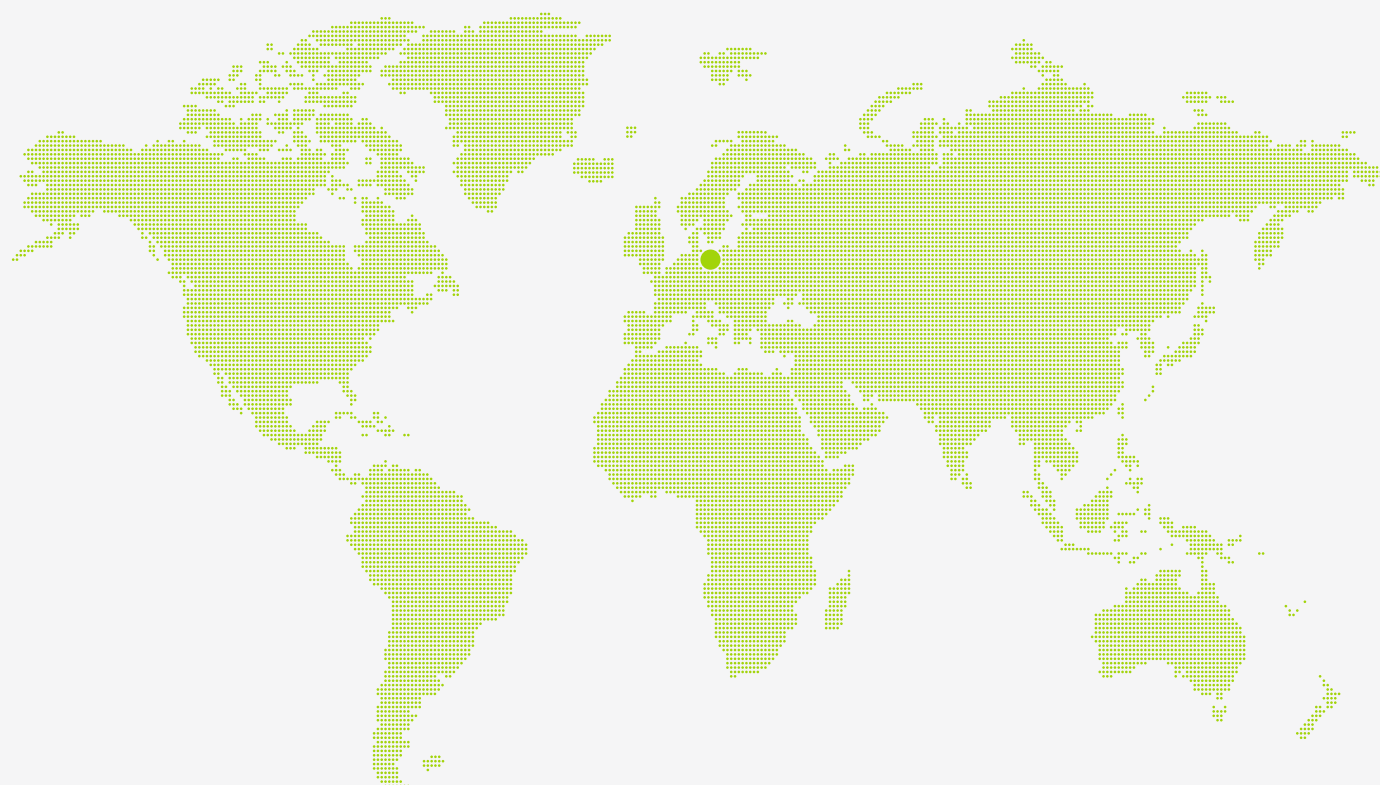
Surveillance over key areas (e.g. AFC drive areas, discharge points), reliable operation of cameras in low light conditions and in complete darkness.

TRANSMISSION AND VISUALIZATION

E-mine system sets the standard for data exchange process between the longwall system equipment, operator terminals underground and surface supervisory and control system. The basis of this standard is the Ethernet underground network. Communication in its physical matter is based on fiber-optic infrastructure or teletechnical network. The software is based on an OPC standard, very popular in the industry. The whole is completed by an intuitive, user-friendly visualization application interface.

systems, electrical equipment, troubleshooting (diagnostic) systems, communication and safety systems, video monitoring. It is possible to make right decisions only on the basis of complete data, processed and transmitted to relevant users. The effects of these decisions will result in greater safety, optimization of the equipment operation and use, increase of the production level and cost reduction.





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