



MACKINA - WESTFALIA

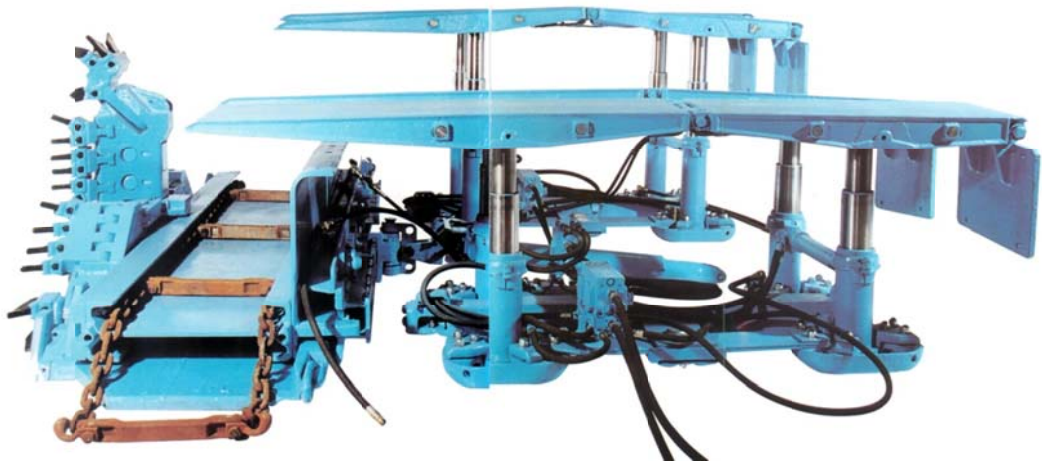


**PRODUCT DESCRIPTION**

# **LONGWALL FACE WITH S3G Reissshaken PLOUGH**

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*Mining machine S3G plough*

## INTRODUCTION

For more than 45 years, S3G ploughs with K 1,1 selfmoving roof support systems have been working on long-wall faces in Spanish coal mines.

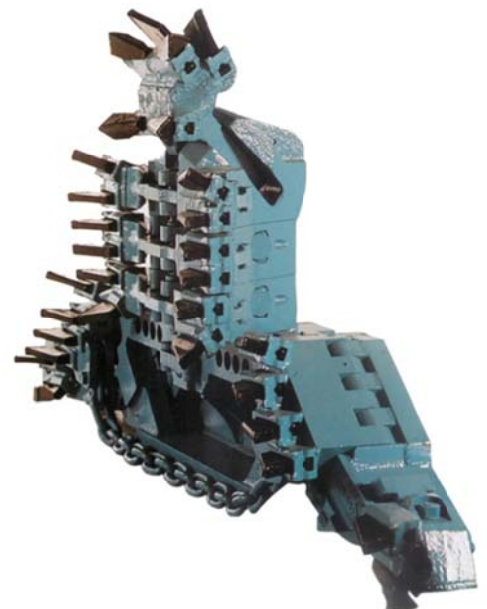
Basically this system is applied to deposits with reduced thickness which varies between approximately 0,6 m and 1,3 m, with a medium inclination.

The height of the plough body depends on the ease of loosening of the coal. In extreme circumstances a plough model can be used which has a single central articulation with a height of only 275 mm.

A Panzer MI type model has been used as the face conveyor in the past. Today a MIV/500 with a 20 mm thick baseplate and a reinforced 50 mm thick front base is used.

A K 1.1 roof support module or frame-type is placed every 1,5 m along the face. Since each frame has 4 props which support a 43/30 ton nominal load, the support capacity for each 1,5 m of face totals 172/120 t.

Also, an MW-80 and MW-100 metal roof frame with individual hydraulic props can be used as roof support.



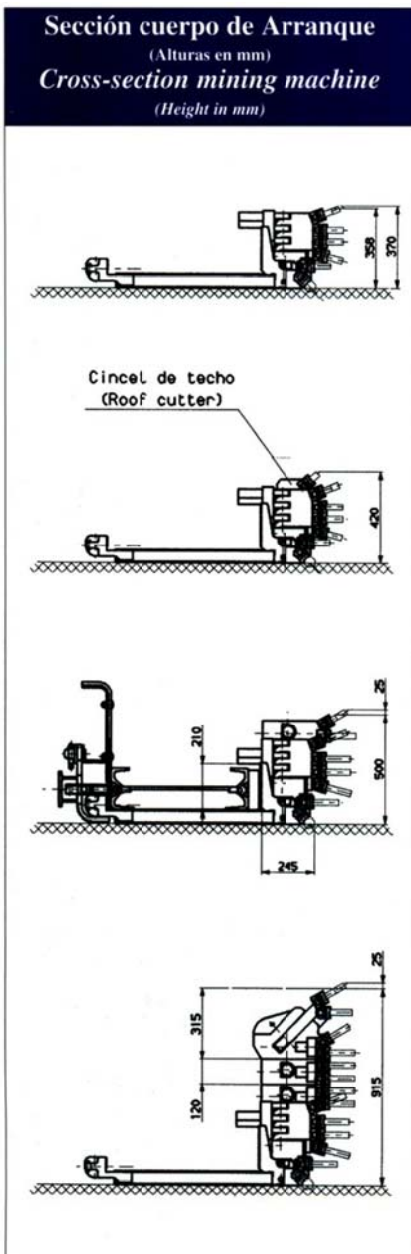
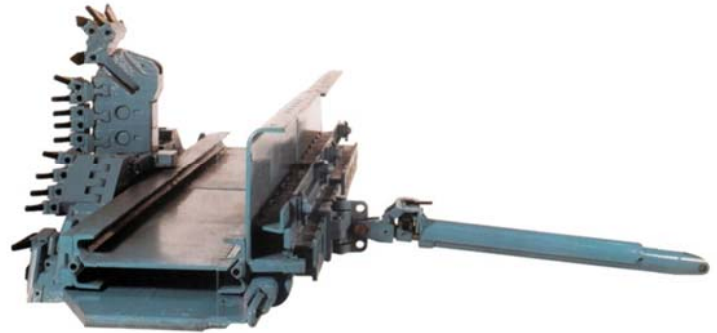
LONGWALL FACE WITH S3G Reissshaken PLOUGH

S3G PLOUGH EQUIPMENT

The mining machine or S3G plough moves along the face guided by a panzer conveyor which forms an integral part of the equipment or plough installation.

This equipment is composed of the following components:

- Face conveyor
- Plough drives
- Pulling chain with its guides
- Mining machine
- Pushing system



The face conveyor acts as a guide for the mining machine and the means for evacuating the mined coal. Normally it works with one 40 kw motor at each end at a transport speed of 0,65 m/s. The solid construction of the MIV/500 conveyor pan meets perfectly the force and wear requirements of the mining machines and often it is not necessary to substitute the conveyor pans when the machine is moved to another face. Normally an 18x64 chain is used on each side or if necessary 2 central 22x86 mm chains.

The plough drive is attached to the load frame of the conveyor, involving gear reducers for 2 speeds  $i=65:1$  or  $i=21:1$  and takes electric motors of up to 90 Kw.

The pulling chain of the plough is 26x92 mm and moves through the guide linea of the angle guides which are attached to the conveyor on the opposite side to the coal face. The side plate which increases the conveyor height forms a part of the guide and its height is chosen depending on the coal load which the conveyor will carry.

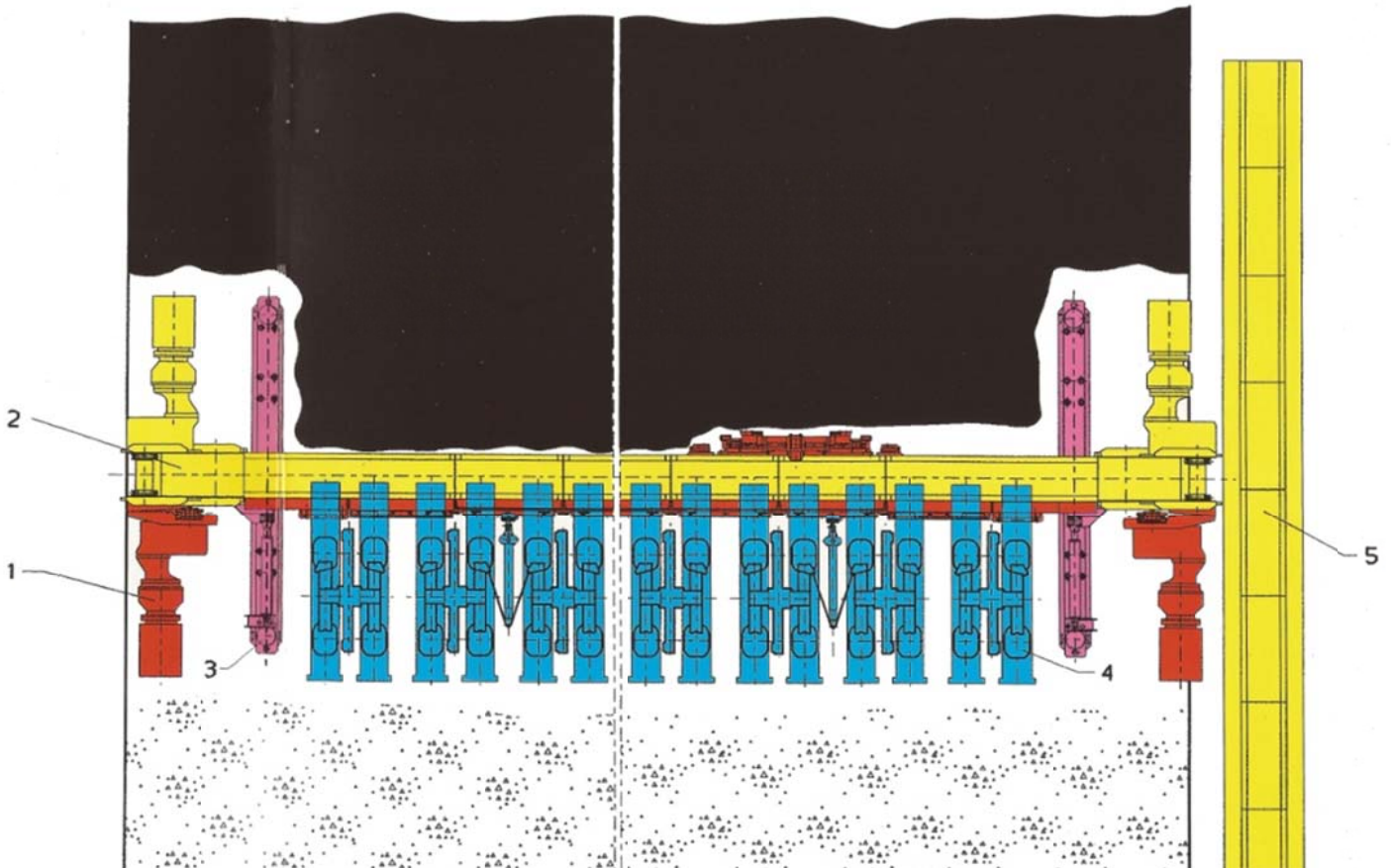
The installation unit module is 1,5 meters long which represents the standard length of the conveyor pan. Each module with its components- pan, chain guide for the plough, chains and reinforced front bumper - weight about 770 kgs.

The S3G mining machine has relatively small dimensions and in the basic 358/370 mm version weights about 1500 kg. Depending on the thickness of the seam, the height of the central part is increased with 120 mm blocks. The total height may reach a little over 1 m without causing problems of stability. The lower cutter bits can be regulated to different cutting heights in 4 positions: 30 mm above the seam floor and 5, 25 or 40 mm below the floor. The S3G plough is valid for mining soft to medium hard coal.

LONGWALL FACE WITH S3G Reissshaken PLOUGH

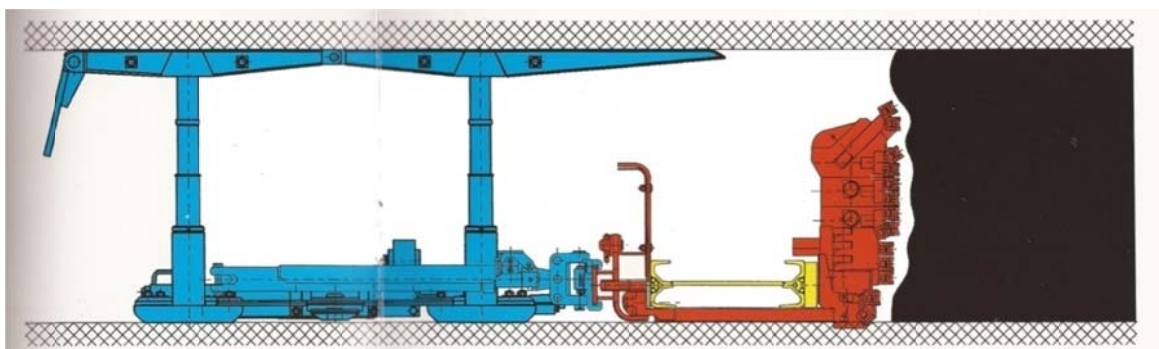
When the mining machine moves, the cutter bits attack and penetrate the seam and loosen the coal. This is done thanks to the pushing force supplied by hydraulic cylinders which are attached to the plough installation and placed along the face, normally every 4,5 m. Each cylinder has a pushing force of 50 kN at 100 bar.

**K 1.1 LONGWALL FACE**



1.-Plough. 2.-Face conveyor 3.-Anchoring beam. 4.- K 1.1 self-moving support system. 5.- Gallery conveyor

**CROSS-SECTION**



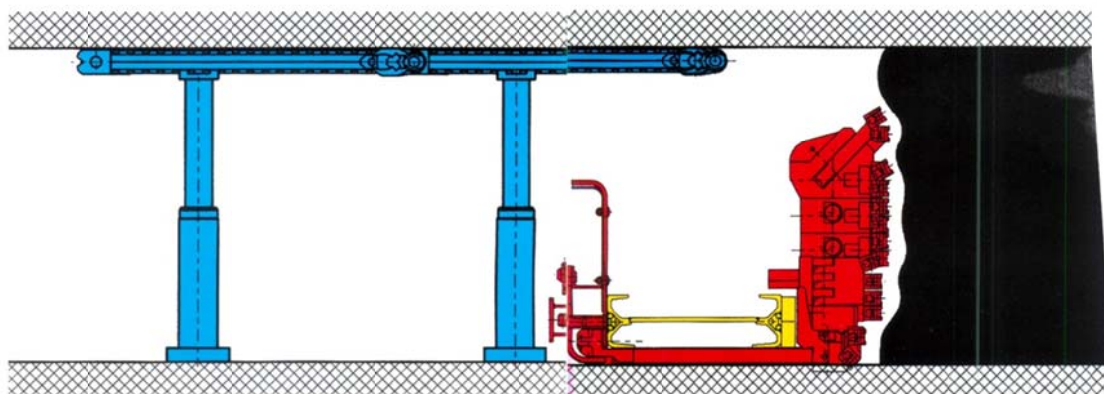
**CHARACTERISTICS**

	PLOUGH S3G	CONVEYOR Mlv/500
INTALLED POWER kW	2 x 90	2 x 45 ó 2 x 90
SPEED m/s	0,4 / 1,2	0,65
CHAIN	26 x 92	18x64 (double)



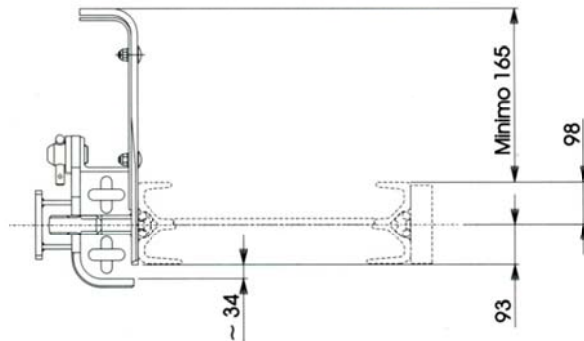
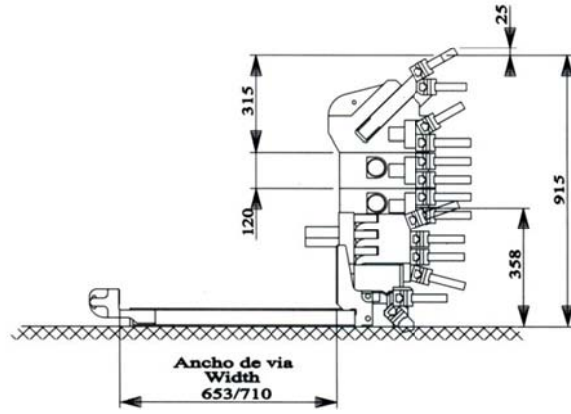
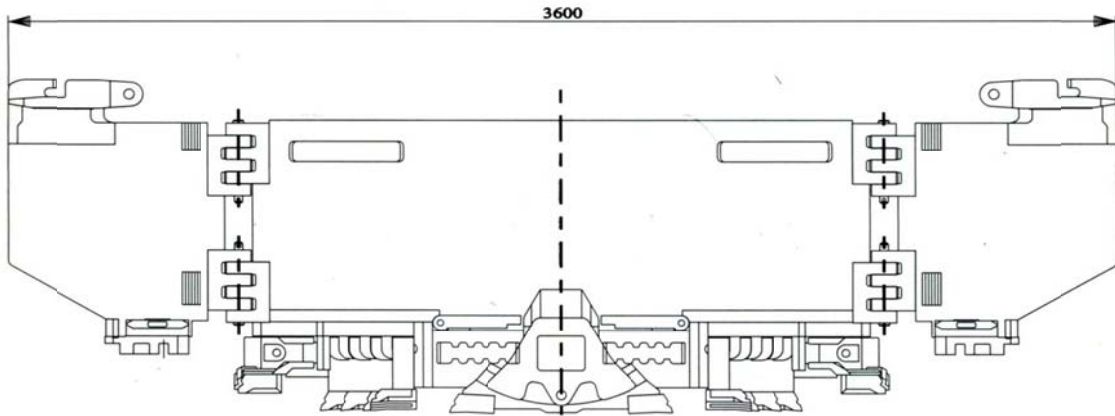
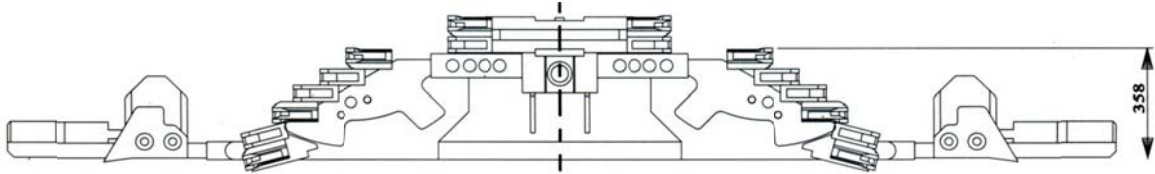
*LONGWALL FACE WITH METAL FRAMES*

*CROSS-SECTION*





DIMENSIONS:





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