



MACKINA - WESTFALIA



# SHEARER ON FLOOR PMA80

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PRODUCT DESCRIPTION



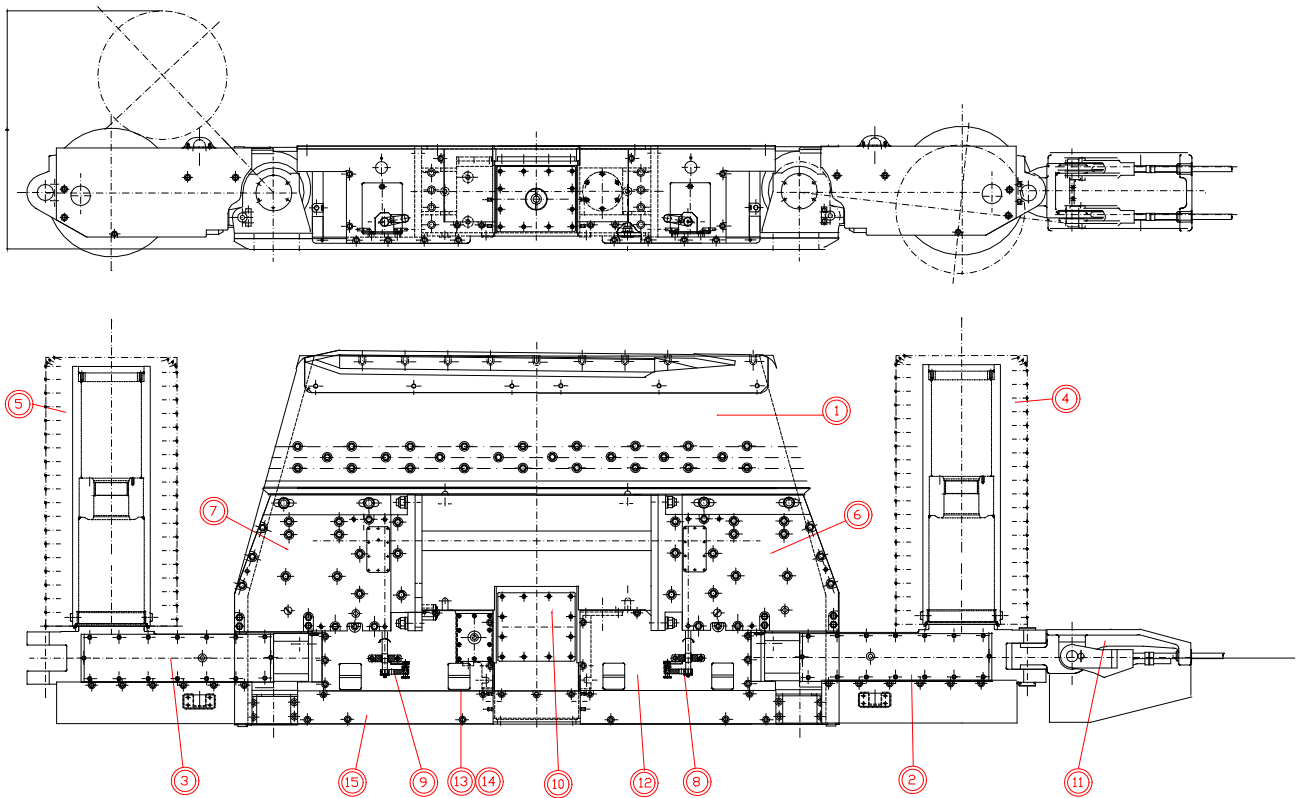


## 1. DESCRIPTION

PMA80 Coal Shearer on floor is a machine with 80/120 kW power equipped with two cutting drums suitable for working in inclined coal seams. In the standard configuration, the shearer is supplied with an electric motor of 80kW.

The Shearer has three versions: normal, Large and embossed, this way the working thickness is in a range between 1.0 to 2.5 m.

SHEARER PMA 80  
MAIN COMPONENTS



The motor (10) is in the central part of the machine which supplies power to the gearboxes through two shafts (6 and 7) placed on both sides. Arms (2 and 3) are in the outputs of the gearboxes through which the turn movement reaches the drums (4 and 5).



Electric Motor

The arms with the drums can oscillate to the roof or the floor due to both hydraulic cylinders.



The shearer operator, who must be close to the machine and moves together with it, can only made the followings movements:

- Start and stop the electric motor
- Turn of the drums.
- Move up and down the arms.

All this actions are made by radio control.

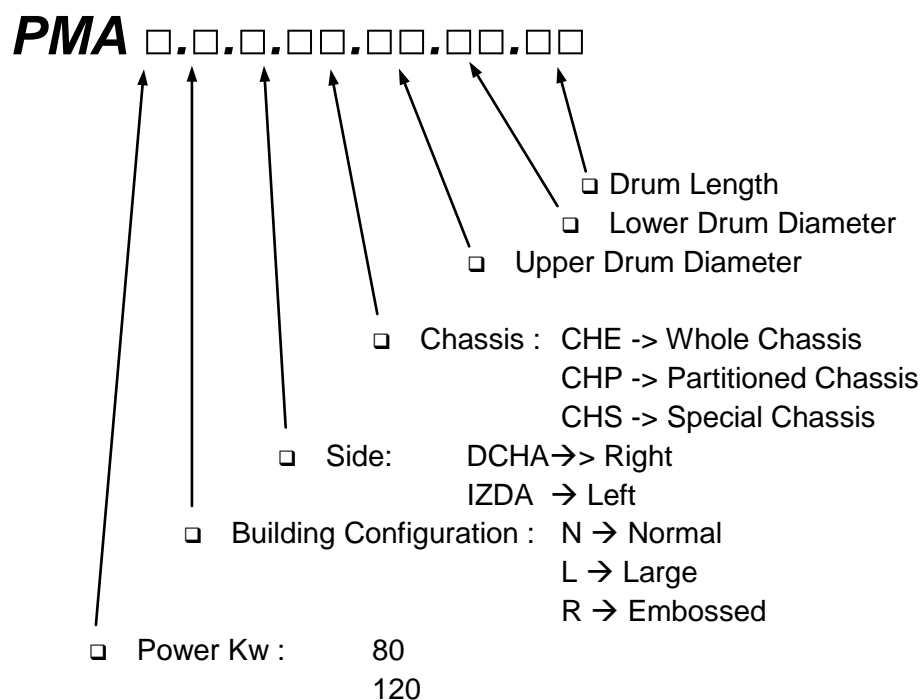
Movement of the Shearer along the mine face is produced through a winch placed in the mine face heading which drags the machine between two cables one of which is used for traction, the other as a safety cable. These cables are fixed to the machine with thimble assembled in the head (11).

So the shearer and the winch operators should have a continuous communication to coordinate the shearer movement.

Gearboxes and the motor are supported in a common frame (1) that slides on floor during the working of the Shearer. This Chassis has a partitioned version in order to enable the access to areas with limited space. The front skate is in contact with coal and slides on it.

## 2. FAMILIA

The line of PMA80 Shearers is standardized as follows:

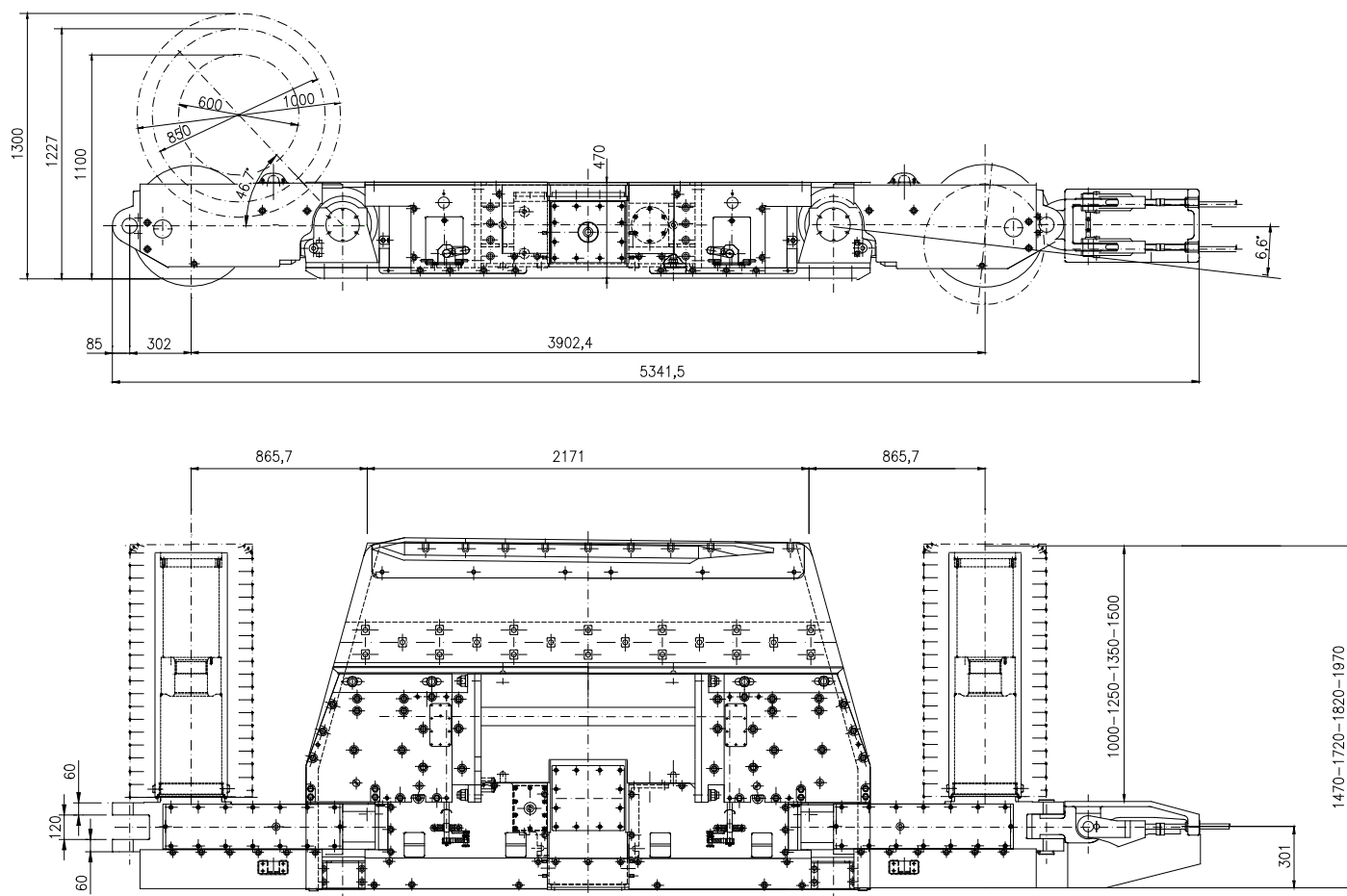


### 3. TECHNICAL SPECIFICATIONS

Supply Voltage .....	Customer needs
Frequency .....	Customer needs
Motor .....	1
Power .....	80/120 kW
Emergency Stops .....	2
Switch .....	Yes
Mechanical Protection (According with ATEX) .....	c k
Electrical Protection (According with ATEX) .....	d
Mobile Machine Certificate (According with ATEX) .....	LOM 03.2187X/01
Weight .....	8 // 16 Tm

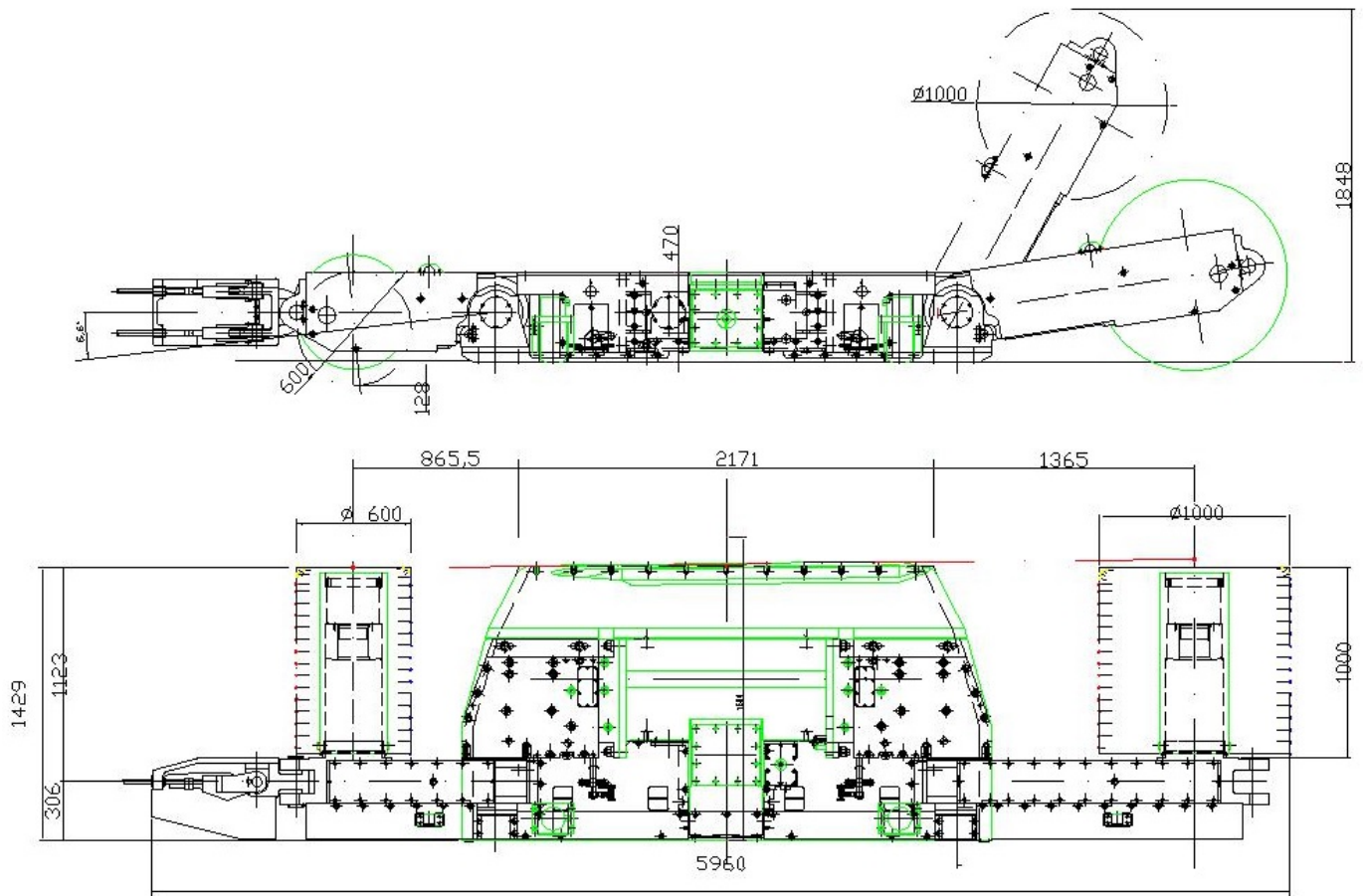


STANDARD PMA80 SHEARER  
DRUMS DIAMETER FROM 600 TO 1000 mm  
THICKNESS COAL SEAM FROM 1000 TO 1300 mm  
DRUMS LENGTH FROM 1000 TO 1500 mm

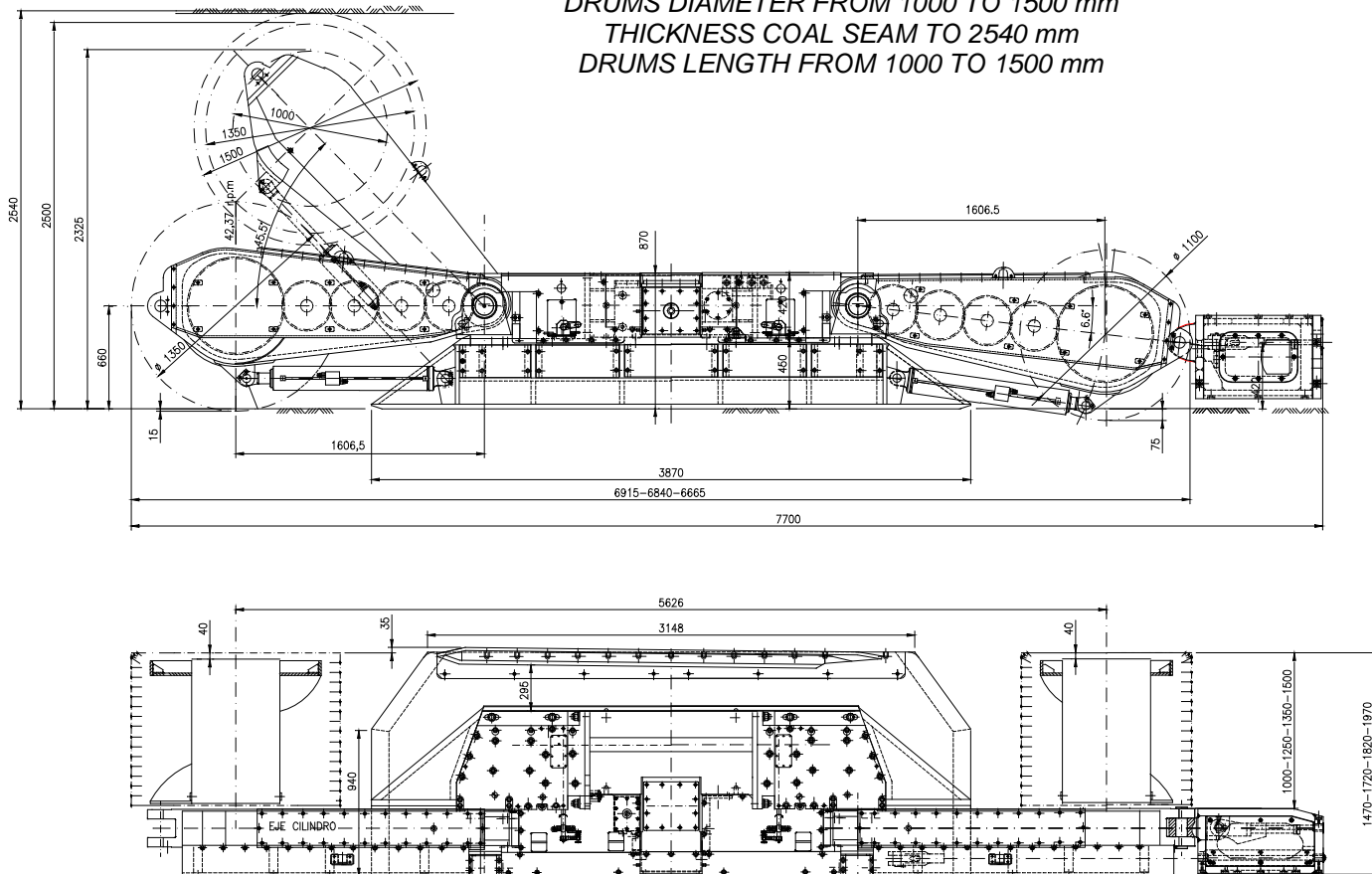




PMA80-L SHEARER  
DRUMS DIAMETER FROM 600 TO 1000 mm  
THICKNESS COAL SEAM FROM 1100 TO 1800 mm



*PMA80 EMBOSSED  
DRUMS DIAMETER FROM 1000 TO 1500 mm  
THICKNESS COAL SEAM TO 2540 mm  
DRUMS LENGTH FROM 1000 TO 1500 mm*



#### 4. MOTOR AND ELECTRIC SYSTEM

Power is supplied to the Shearer through an asynchronous three-phase flameproof motor with the following features:

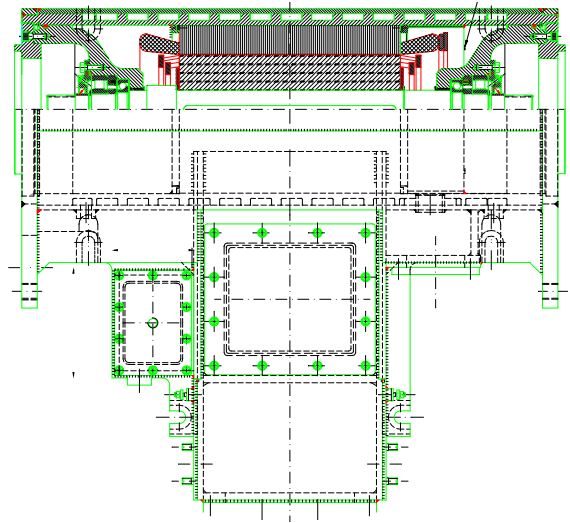
- ☐ Nominal power standard ..... 80 kW
- ☐ Nominal power special applications ..... 120 kW
- ☐ Nominal Voltage ..... Customer needs
- ☐ Nominal Frequency ..... Customer needs
- ☐ Poles..... 4
- ☐ Insulation type ..... F
- ☐ Service type..... S1
- ☐ Protection type ..... Eex d I LOM 03ATEX1087X

Motor is cooled by water and it has thermal probes for disconnection in case of overheating beyond 120 °C.

The power connection is done through a flameproof cable.

The motor has a separate compartment apart from the connecting panel and the switch.

Emergency stop of the motor is done through two flameproof switches placed on both sides of the machine. Switches are blocked after pushing them and they are released with the traction.



## **5. HYDRAULIC SYSTEM**

PMA80 Shearer hydraulic system has the mission of driving hydraulic cylinders through which the movement of the arms is produced as well as the lubrication of the gear assemblies. There are three independent circuits, the first or the main one produces the driving of the cylinders in charge of the vertical movement of the arms and the remaining two or auxiliary ones are in charge of lubricating the gear assemblies.

## **6. COOLING SYSTEM**

The machine has a water circuit with the mission of cooling the electric engine and dust cleaning in order to reduce the dust emissions to the working area.

Once that the water cross through the electric motor, it goes to a sprayer that is located in each arm. For the right working condition s of cooling and dust cleaning it is necessary to supply to the shearer clean water with the following parameters:

- Flow: 20 l/min
- Pressure: 6 bar.



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PMA80 SHEARER ON FLOOR

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