

# SHEARS



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Birim Makina was founded in 1988. The company specializes in Scrap Metal Processing Machinery and is continuously raising its standard of service and personnel. Today it is a preferred and trusted brand in many existing markets.

Experienced engineers, qualified personnel and production technology are at the heart of the company. Birim Makina is the name for sturdy, durable machines.

Birim Makina produces Balers, Shears, Crushers and Grabs for the recycling industry. All of its activities are in production of this type of machinery.

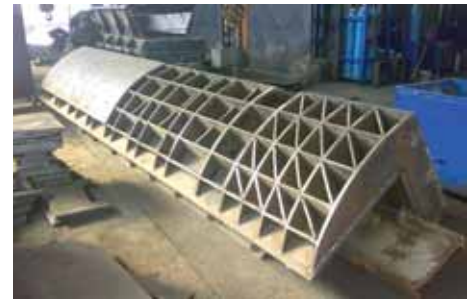
Over 500 metal processing machines, 350 of which are balers; are currently operating in total in 30 countries and 4 continents.



# Product Specifications

## \* Durable

Thanks to their heavy construction Birim Makina shears are extremely durable. The proof is a high demand from the market for brand new and second hand products.



## \* High Quality Cylinders

Birim Makina shears are manufactured using high quality cylinders. Rods are hardened and chrome coated while the cylinders are honed. Technical knowledge derived from years of experience keep our cylinders in operation for many years.

## \* Resistant to Wear

All surfaces that are in contact with scrap (Charging-box, rams, lids) are covered with Hardox type wear resistant liner plates. The wear plates are connected to the press box by countersunk screws. This helps to replace the plates easily and quickly after normal wear.



## \* Fast Operation

Multiple pump solutions provide fast cylinder actions. High tech hydraulic applications make for faster cycles with the same motor power.



## \* Short Stroke Program

The Shear cylinder and Clamp cylinder are programmed to perform a linked action. Vertical movement of shearing cylinder is adjusted according to the height of the clamp. After shearing the material, the shearing cylinder moves back not to the top but just above the height of the clamp. Needless travel is avoided. This function increases the output of the shear.





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#### \* **Low Energy consumption**

Another advantage of the multiple pump application is the lower energy consumption. The system is designed to run at high efficiency therefore energy consumption is less.

#### \* **Automatic Operation**

A Siemens PLC controlled automatic operation increases the capacity of the machine. A control panel is supplied with joysticks for manual operation when required.



#### \* **Radio Control**

A variety of remote control devices are supplied according to the customers' individual requirements. Automatic and manual operations can be controlled from the remote control. A range of 100 meters is possible in most cases.



#### \* **Electric System**

The latest Siemens and Telemecanique components are used in the electrical system.

#### \* **Hydraulic System**

Equipment is chosen from world known high quality brands according to the application and power requirement. Our hydraulic system is designed in our R&D department and installed by our experienced staff. Hydraulic manifolds are also manufactured in our company under stringent quality control.

Whenever possible, pipes are bent in favour of welding. Pipe-work is therefore resistant against shocks. The inner surface of the pipe-work is treated with special chemicals before assembly to prevent contamination of the pipes.

# PRODUCT SPECIFICATIONS

## \* Non-contact Sensors

Automatic shears have non-contact inductive sensors and closed replacing contact sensors. The inductive sensors operate away from the moving part hence there is no contact with the sensors. The closed sensors are installed inside the rod of the cylinder. They provide very precise data to the PLC. All these non-contact sensors prolong the re-setting period and operational life. Research shows that Shears are mostly interrupted by sensor problems, the non-contact sensors eliminates most of these interruptions.

## \* Filter system

The shear is equipped with high quality air, return, circulation and suction filters. These filters keep the oil clean and protect the hydraulic equipment and oil quality. Air filters stop particles from outside contaminating the tank. Upon request special humidity stopper filters can also be installed. Return filters filter the oil coming back to the tank, whilst suction filters filtrate before the pumps and protect them from dirt. Circulation filters continuously filter the oil in the tank and helps keep the oil clean. Filtration is done at 5 microns.



## \* Dirt Detectors

Dirt detectors installed on some filters to signal the changing time. Therefore oil is filtrated with clean filters so remaining clean for a longer time.

## \* Automatic Greasing

Moving parts of the machine are lubricated by the PLC controlled automatic greasing system. This improves the longevity of moving parts and keeps them in good working order. An alarm will show on the panel when the grease container is low.





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#### \* Remote Diagnosis System

In case of a breakdown, our service department can connect to the shear via a built in modem to diagnose the problem promptly.

#### \* Control Panel with Touch Screen

The display of the control panel is a touch screen which also helps with all the settings of the machine. The process data is shown in detail. The display is also very helpful while troubleshooting.



#### \* Mobile

Shears can be supplied as stationary or semi-mobile.



#### \* Cooler

Cools and protects the oil and the hydraulic parts.



#### \* Spare Parts

A high number of parts from manufacturers including Rexroth, Siemens and Telemecanique are available from our stock in case of a sudden breakdown or routine maintenance.

#### \* Service

Well trained, experienced, efficient personnel service our machines. We also co-operate with local service centers around the world.

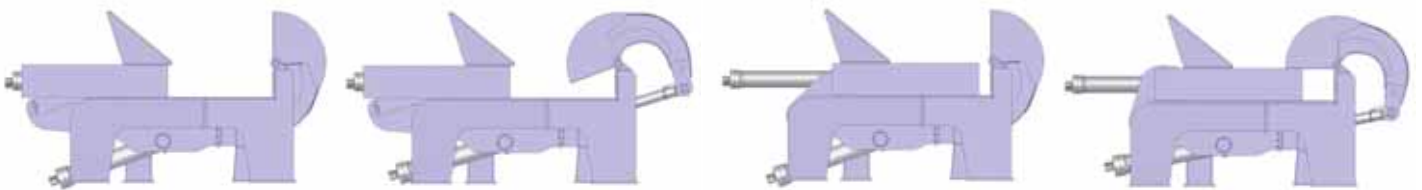


# Shears with Side Compression

# ORCA



**OPERATION**







# SPECIFICATIONS



Processes heavy to very heavy metal scrap  
Stationary

- \* DURABLE
- \* HIGH QUALITY CYLINDERS
- \* RESISTANT TO WEAR
- \* FAST OPERATION
- \* SHORT STROKE PROGRAM
- \* LOW ENERGY CONSUMPTION
- \* AUTOMATIC OPERATION
- \* RADIO CONTROL
- \* NON-CONTACT SENSORS
- \* FILTER SYSTEM
- \* DIRT DETECTORS
- \* AUTOMATIC GREASING
- \* REMOTE DIAGNOSIS SYSTEM
- \* CONTROL PANEL WITH TOUCH SCREEN
- \* COOLER
- \* HEATER FOR COLD CLIMATES

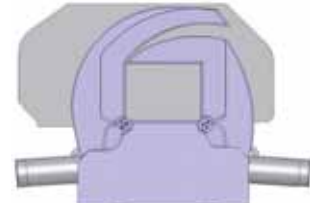
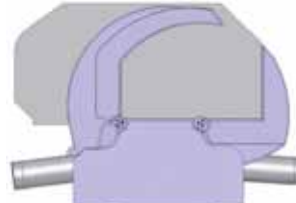


# Shears with Wings Compression

# SHARK



## OPERATION





## SPECIFICATIONS



Processes light to heavy metal scrap

Baler and Shear functions

Stationary or semi-mobile

Electric or diesel engine

- \* DURABLE
- \* HIGH QUALITY CYLINDERS
- \* RESISTANT TO WEAR
- \* FAST OPERATION
- \* SHORT STROKE PROGRAM
- \* LOW ENERGY CONSUMPTION
- \* AUTOMATIC OPERATION
- \* RADIO CONTROL
- \* NON-CONTACT SENSORS
- \* FILTER SYSTEM
- \* DIRT DETECTORS
- \* AUTOMATIC GREASING
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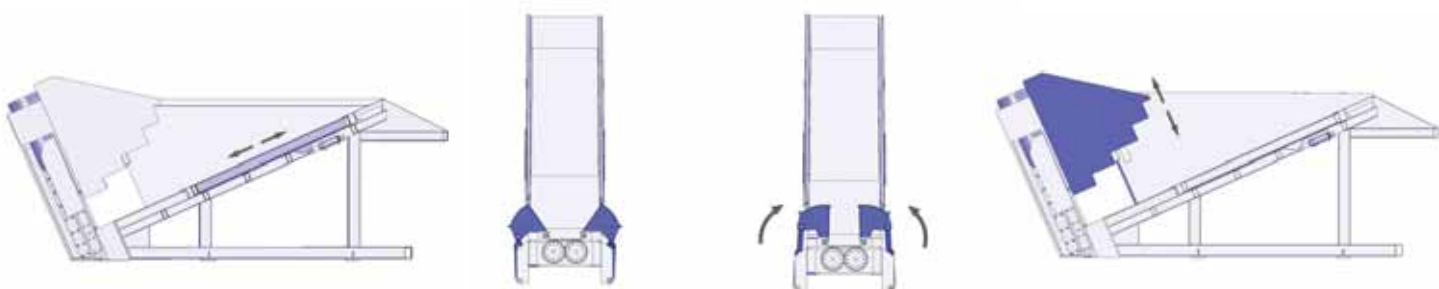
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# Shears with Continuous Operation

# PIRANHHA



## OPERATION





## SPECIFICATIONS



Processes light to heavy metal scrap

Higher productivity thanks to fully automatic and continuous operation. Scrap can be charged continuously while shearing in progress.

Stationary or semi-mobile

Electric or diesel engine

- \* DURABLE
- \* HIGH QUALITY CYLINDERS
- \* RESISTANT TO WEAR
- \* FAST OPERATION
- \* SHORT STROKE PROGRAM
- \* LOW ENERGY CONSUMPTION
- \* AUTOMATIC OPERATION
- \* RADIO CONTROL
- \* NON-CONTACT SENSORS
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- \* REMOTE DIAGNOSIS SYSTEM
- \* CONTROL PANEL WITH TOUCH SCREEN
- \* COOLER
- \* HEATER FOR COLD CLIMATES



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