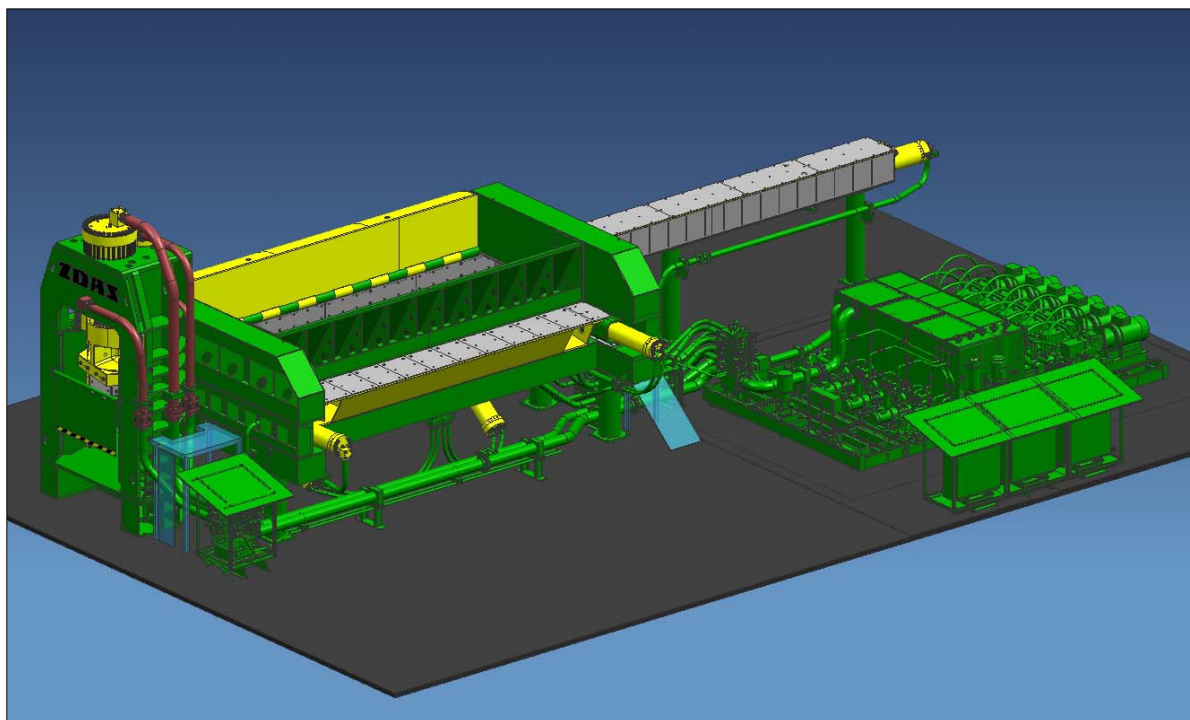


**EFFECTIVE VOLUME REDUCTION OF SCRAP BY MEANS OF  
SWINGING JAW AND COVER OF HYDRAULIC SHEARS CNS 1100  
CV2**

**A. Jaitner<sup>\*</sup>, M. Formánek<sup>\*\*</sup>**

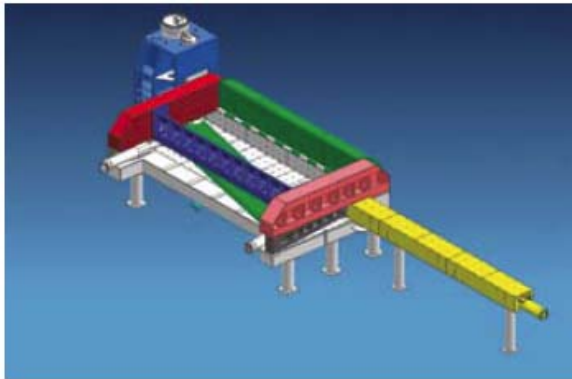
**Abstract**

The CNS 1100-100-CV2 hydraulic scrap shear/baler is designed for cutting heavy scrap or baling light scrap requiring volume reduction before being cut in the cutting part with using vertically moving holder and tool-holding slide carrying out the cut itself. Before being cut, the scrap is compressed in the charging device, registered for patent protection, with width reduction using the swinging jaw, height reduction using the cover. The pusher feeds compressed scrap to the cutting part and reduces scrap length. Hydraulic drive and motions of all hydraulic cylinders are controlled by the shear/baler operator by means of the programmable logical controller.

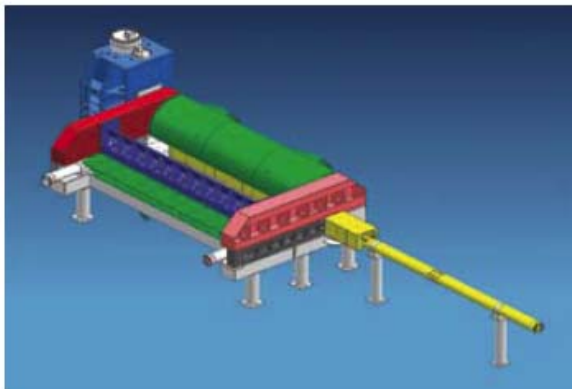


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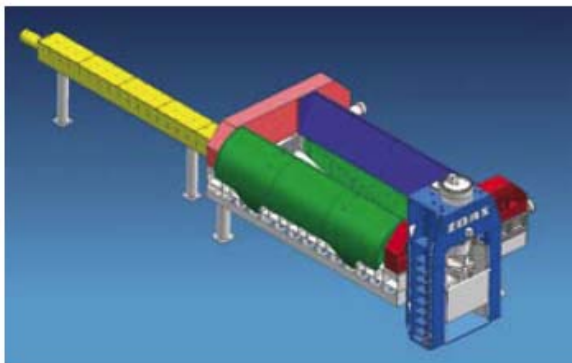
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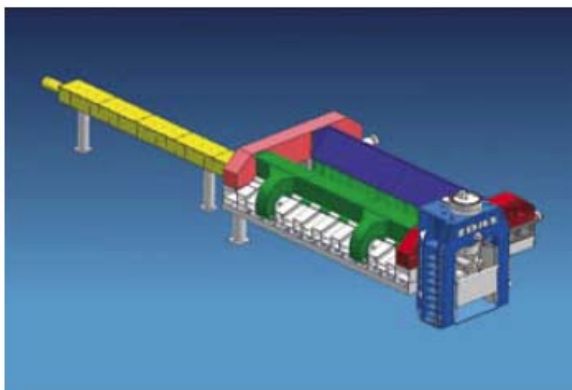
*Preliminary treatment of metal scrap by means of pendulum movement of shear blade*



*Pendulum cover movement arranges the scrap to the height of the press clamp*



*Long movement of the pressing cylinder bales the metal scrap and moves it into the cutting part*



*The pressed metal scrap is pressed up either in the form of a bale or cut to the working length*

## **System of scrap treatment by means of share blade and cover with possibility of baling**

The shears are intended for cutting of bulky amortization scrap as well as bar scrap with tensile strength up to 440 MPa, or for baling of bulky scrap of the wall thickness up to 6 mm with the tensile strength up to 440 MPa.

### **The shears mechanics consists of two main units:**

- charging equipment,
- shearing part.

The charging equipment is instrumental to preliminary treatment of scrap, i.e. reduction of width (by means of pressing swinging jaw), height (by means of pressing cover) and length of the scrap (by means of press pusher).

The cutting part ensures vertical clamping and holding down of scrap by means of holder and cutting of scrap by means of sledge blade to the length pre-set by means of the press pusher stroke. If, for example, the output product is the baled scrap, the cycle of pressing is selected where scrap is pressed down by means of the press pusher in the full pressure value towards the sledge blade and the holder in the lower position. As soon as the pressing operation finished and after decompressing, the sledge blade and the holder as well as the bale are extended out from the sledge blade by means of the press pusher.