

Technical description – WIRE CUTTING machine, patented machine for wire cutting and unpacking of waste or plastic materials.



The image illustrates Teuman's **first production** WIRE-CUTTING machine, installed at our customer's facility.

I. OPERATION DESCRIPTION

The wire-cutting machine has made possible the total automatic opening of the bales. In fact, previously, the wire extraction was performed manually by the operators who encountered difficulties for two main reasons. The first was related to the safety of the operators due to the use of common pincers and working close up to the bale. During the cutting with this tool being the wire much in tension, the detachment of the two extremities caused a shot and wire release could strike the operator himself. Similarly, getting closer to the bale, which is of undifferentiated waste, placed the operator in conditions to breathe dust and vapors released from the opening of it, putting the operator's health at risk as this operation was repeated several times during the working day.

The use of the wire-cutting machine solves the aforementioned problems, with considerable advantages: firstly in improving the working environment and therefore the health of the operators; secondly a substantial improvement in productivity, as the cutting and extraction of the wires takes only 2 minutes whereas before an operator took almost 10 minutes; thirdly the recovery and the relative possibility of sale, as recycled material, of the iron wires, which otherwise, using the tied bales these ended up in the plants causing various production problems by winding up in the machinery used for waste disposal causing plant shutdown.



II. TECHNICAL CHARACTERISTICS

The WIRE-CUTTING machine is composed by the following parts:

- Conveyor belt with modular carpet in plastic material.
- Bale positioning translator with cutting system.
- Wire collection unit with winder.
- Wire ejection group.

Conveyor belt about 7 meters long, built in press-pleated metal sheets, the belt is made with a load-bearing structure on which the modular belt slides to allow the bale in treatment to slide on it for a correct positioning. The traction of the will be performed by an electric motor and an orthogonal reducer. Possibility to place 2 bales.

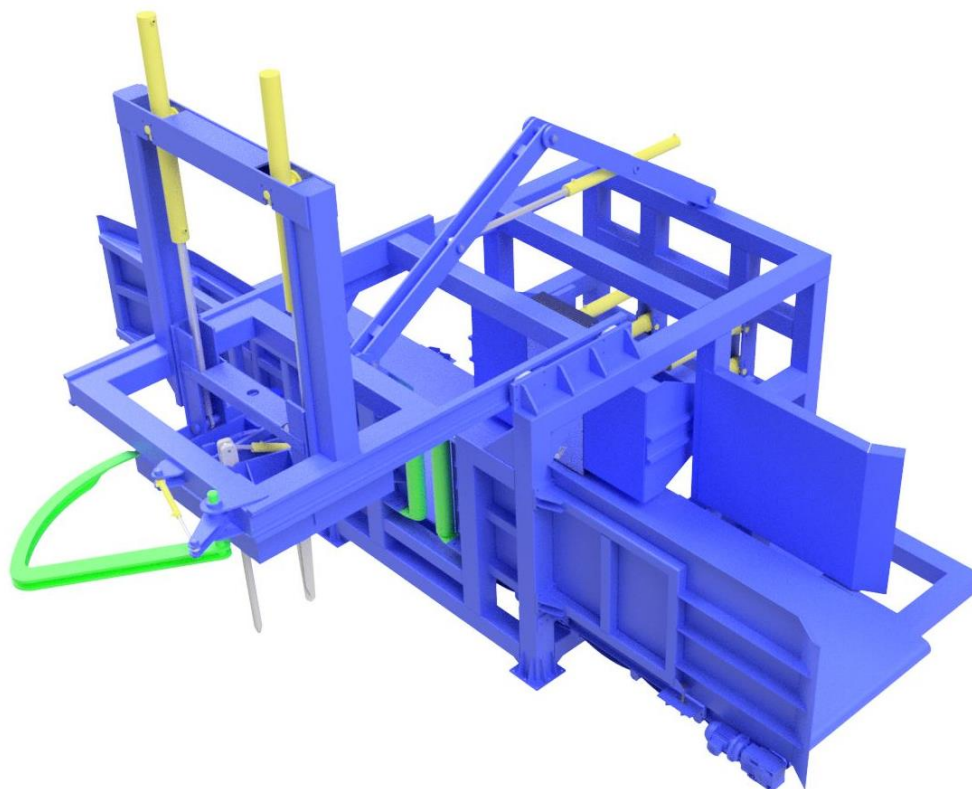
Positioning translator composed of a suitably dimensioned tubular structure with the application of 4 hydraulic cylinders which, by means of sliding guides, position the bales in the working phase and at the same time inserts the wire cutting blade into the same.

Wire collection unit with winder mounted on two horizontal Hoesch guides to allow the advancement of the structure which, in a first phase, inserts a needle into the bale to intercept the binding wires. During the second phase the wires are moved away from the material and in the last phase, after the wires have been cut by the blades they are wounded and expelled from the machine.

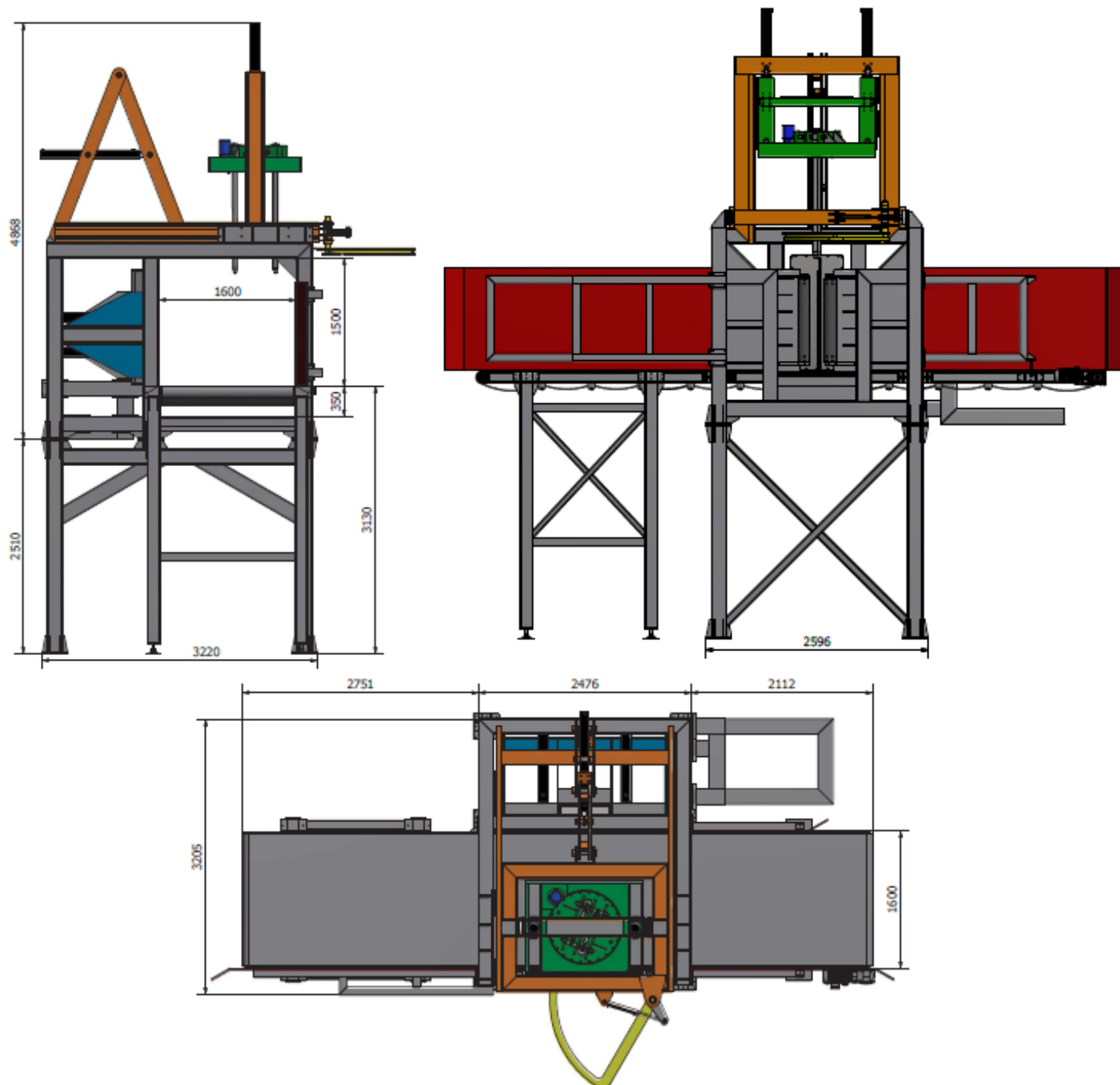
Wire ejection unit is a part inserted on the wire intercepting needle which, after having wound the wires, unthreads the skein and ejects it by pushing it out of the machine.

The wire-cutting machine is powered by a hydraulic power plant composed of a 400 litre tank, an air-oil heat exchanger and it is equipped with 1 electric motor and 1 fan. The 22 Kw electric motor is used to operate the main pump of the wire-cutting machine and it is coupled by means of a flexible coupling device, and the pump is installed with variable power / constant power.

The following drawing shows the wire-cutting machine just explained and which, on the basis of the application needs of the end customer is placed and positioned on individually designed structures, to best meet the potentiality of the wire-cutting machine.



III. DIMENSIONAL DATA



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