



Dosing

Automated modular system to dose metal grain
to a high degree of accuracy

Smart Manufacturing for the Future



forging competitive clients™



Dosing

Automated modular system to dose metal grain to a high degree of accuracy



YouTube Video

Distinctive features

- Reduces and upgrades manual labor
- Alleviates risk and reduces cost
- It is eco-friendly
- PLC managing with HMI touch screen control panel
- May be operated on its own
- May be part of a T-Line where it follows the T-DryRay drying and sorting module and precedes the filling of graphite molds for casting

Initial transport

The metallic grain may be loaded into the hopper(s) either manually or by means of an automated system as part of a T-Line modular production series. From the hopper(s), positioned on the platform above the weighing station, the grain falls onto a conveyor belt that transports it to and funnels it onto two vibrating channels per load cell.

The channels

The two (min.) vibrating channels move the grain along at distinct speeds, one with a larger quantity of grain moves faster and the other with a smaller quantity of grain moves more slowly, allowing a greater control of the flow rate of the grain. The first vibrating channel funnels the grain into the load cell to fill 95% of the target

weight while the smaller channel slowly funnels an additional 3-4% of the target weight of the grain into the same load cell.

The analytic scale

Once 98-99% of the target weight is attained the load cell unloads the grain into an empty container placed on an extremely accurate analytic scale where the missing amount of the target weight is ascertained. Wire of the same precious metal that is highly calibrated for weight is then automatically cut to make up the missing amount.

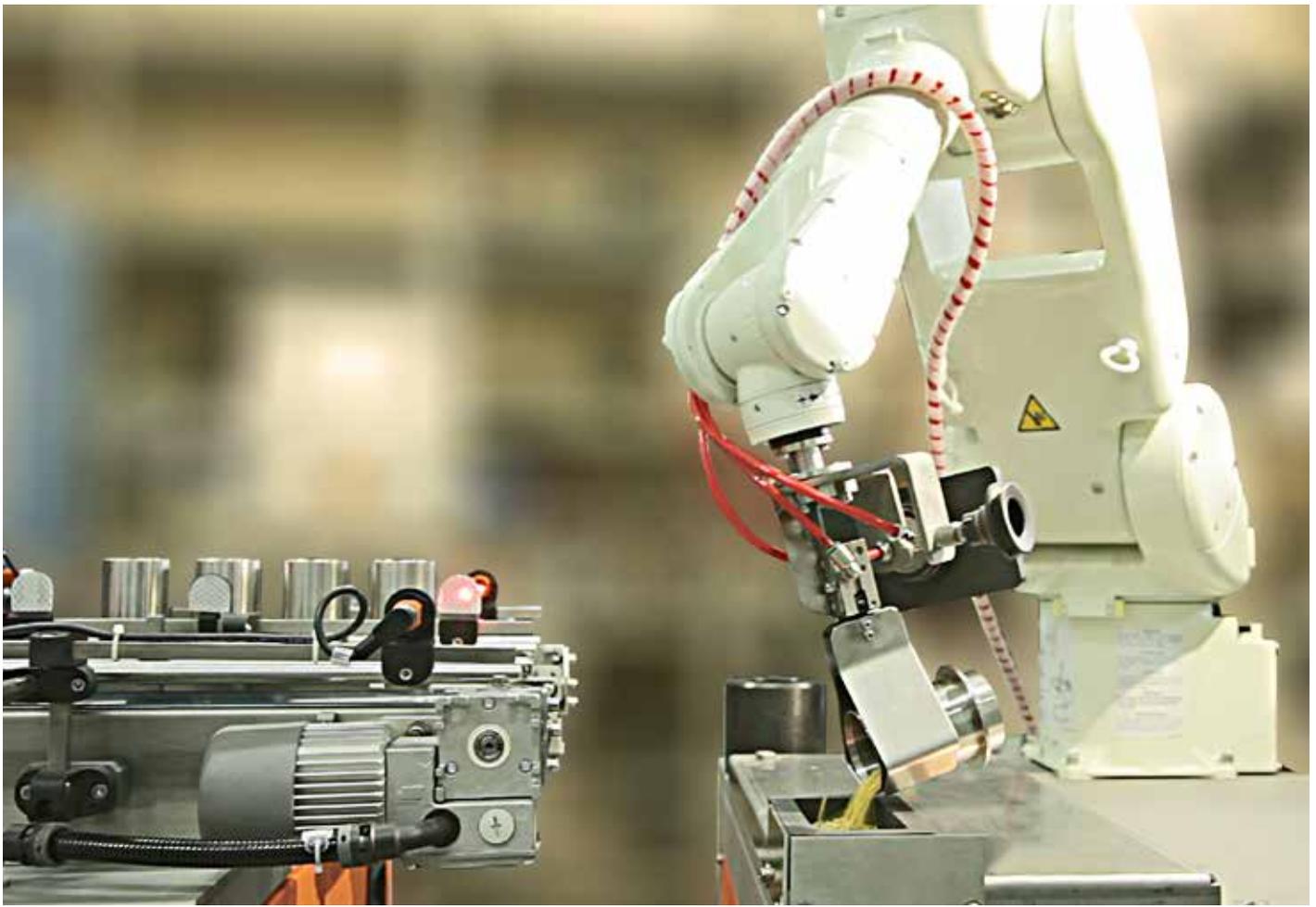
The cartesian robot

A Cartesian Robot handles these containers, minimally two at a time: one that is full and an empty one to replace it. All overweight and underweight containers are removed from the dosing belt and put on a discharge tray. After the final high accuracy weighing the filled containers are transported to the discharge conveyor belt, customized in size and shape as per the needs of the client.

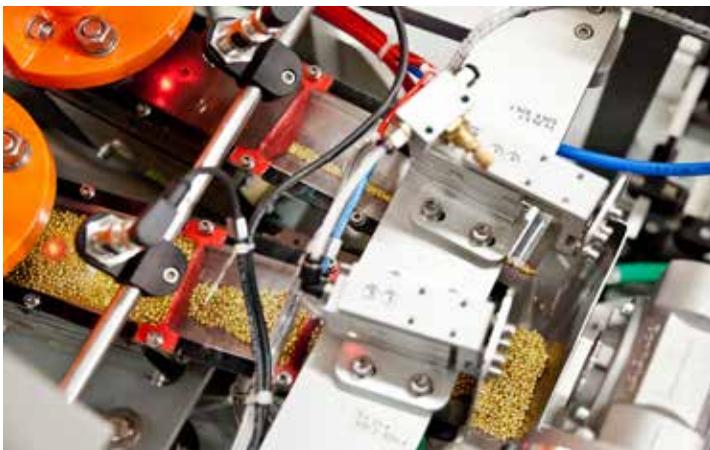
Benefits

There is a significant reduction in production time and therefore an increase in volume. It allows a discernible reduction in human error and therefor in labor costs. No grain is lost. An automated system guarantees consistency in the quality of the product. Automated machinery maximizes workplace health and safety.

Version	Power	Production range	Dosage accuracy	Loading hopper capacity	Software	Voltage supply	Dimensions (mm)	Weight
STANDARD	1,5 kW	Max productivity: 120-140 pcs/hour @ 1 Kg	± 0,01 g	Up to 150 kg of silver grains	Touch control panel & PLC	400 V, 50 Hz, 3 Ph	1100 × 1400 × 1800 h	700 Kg
		Max productivity: 250-300 pcs/hour @ 100 g		Up to 350 kg of gold grains				



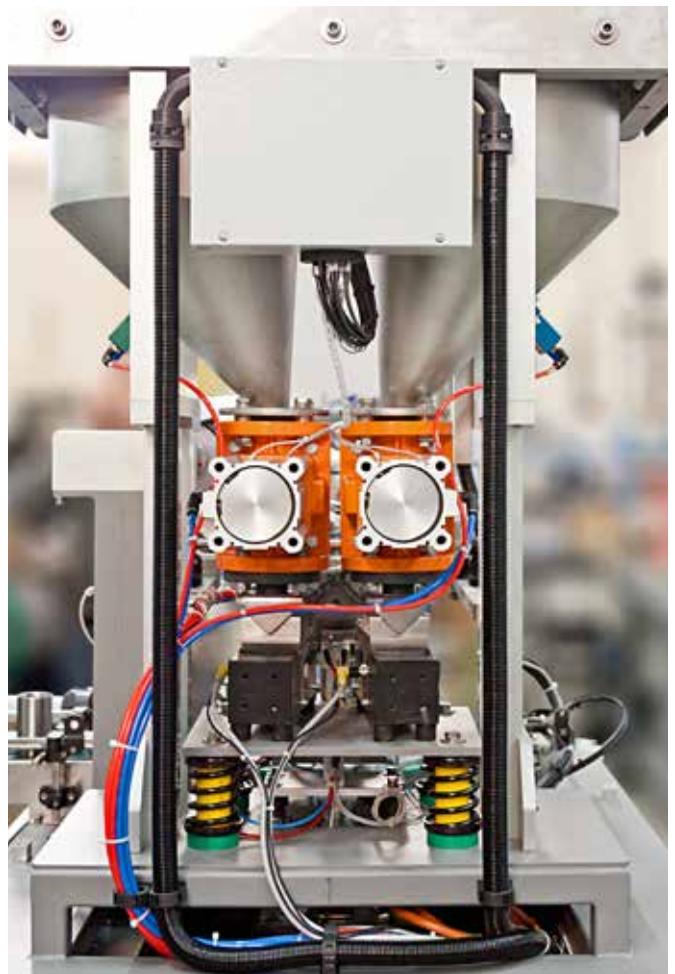
An anthropomorphic robot can be integrated to manage the jar moving and to automate the mold filling operations



Separated s/steel vibrating channels, one for bigger and one for smaller grains



Analytic load cell for high accuracy weighing



Separated loading hoppers, one for bigger and one for smaller grains



Jar on the load cell ready to receive grains and wire



Inlet and Outlet conveyor belts



The carousel is able to move up to four jars at the same time



Wire cutting system to ensure the high accuracy of the T-Dosing



Outlet conveyor belt full of jars with target weight of grains and wire





tera-automation.com

HEADQUARTER

Via Romena, 7/9, Loc. Porrena
52014 Poppi (AR) Italy

T. +39 0575 536 625

T. +39 0575 536 931

F. +39 0575 539 851

tera@tera-automation.com

TERA IN THE WORLD



U.S.A.

Korea & Japan

Hong Kong

Thailand

India

Turkey

Spain