

T-FINISHING

Fully automated cell for ingot marking and quality control

WHAT IS T-FINISHING?

Is an all marking system that includes a centigrams precision scale, an hydraulic press for the logo stamping and a micro-dot marking machine for the serialization of numerical data. However, thanks to its circular shape, the machine can be equipped with many integration tools, such as the laser marking machine or an optical visor (T-Photo Viewer) for quality control. With the T-Finishing™ process, it is possible to stamp the serial number and mark the company's logo on gold and silver ingots of various size. This system can significantly increase production levels, optimize time dedicated to each process and reach full autonomy, can be equipped with a robot which can pick and place ingots on the automated cell.

HOW DOES IT WORK?

The stand-alone version of the T-Finishing requires the operator to load the ingots onto the input conveyor and retrieve the ingots from the output conveyor after processing. Once the ingot is loaded onto the input conveyor, the rotating table is activated to initiate the various stages of processing.

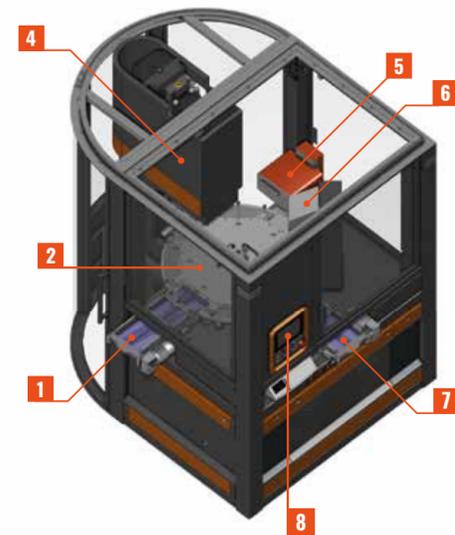
1. INGOT WEIGHTING: In the first station, the ingot is weighed on a centigrams precision scale to check for conformity. If the weight does not meet specifications, the ingot will pass directly to the output conveyor.

2. INGOT STAMPING: The second station to which the ingots arrive is the T-Press.

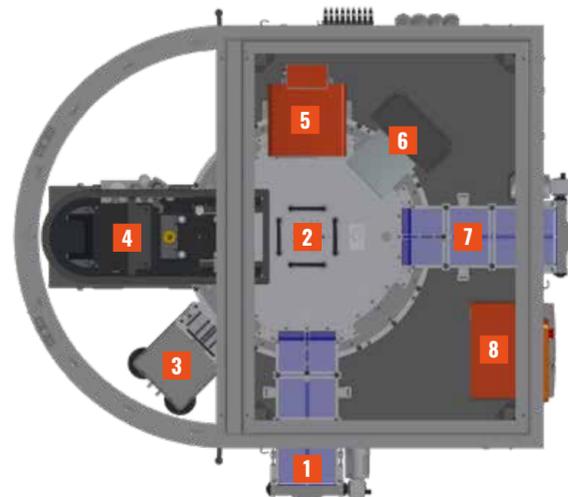
- ◆ The rotating table brings the ingot under the stamping die, positioning it in the dedicated working area.
- ◆ The press detects the presence of the ingot and carries out the stamping.
- ◆ Upon its completion, the table activates again, bringing a new ingot under the stamping die and moving the one already stamped to the following station.

3. INGOT MARKING: The third station is the T-Numbering machine, where the ingot is serialized according to the customer's requests.

4. INGOT OUTPUT: At the end of all operations, the rotating table brings the ingot to the outlet conveyor belt, where it will be picked up by the operator.



1. Inlet conveyor belt
2. Rotating table
3. Cg load cell
4. T-Ecopress 33 tons
5. T-Numbering
6. OPTIONAL: T-Photo Tracker (OCV vision system for character verification)
7. Outlet conveyor belt
8. T-Numbering controller



FOCUS ON ELEMENTS



INTERCHANGEABLE TEMPLATES

Thanks to a re-engineering of the rotating carousel, the bar design changeover operation in the range going from 50 gr. to 100 oz is now much faster thanks to a magnet template which ensures a strong locking. For each bar size a set made of n°8 quick-change inserts is available allowing fast and neat changeover. Thanks to this innovative solution the operator only needs to pull out the old inserts and position the new ones for different bar size.

CG LOAD CELL

In the integrated weighing system, you can choose between **Mettler Toledo** or **Sartorius** scales, which in our opinion are the best available on the market for weighing precious metals.



T-ECOPRESS 33 Tons

A high quality "C" shaped pneumo-hydraulic 33 Tons power press is integrated in the T-Finishing to ensure a consistent and precise logo application over all bars. The use of a pneumatic driven press is a milestone in ecological approach of minting bars, is also reliable for maintenance since there is no hydraulic pump unit which was necessary in the older version. T-Finishing is supplied already equipped with full tooling for 1 bar design (to be indicated by the client), including quick-change magnetic sets, universal stamp holder and stamping tool.

Au/Ag Bars output	From 120 to 500 pcs/hour (Production range may vary according to number of digits, font, pressure and thickness of marking machine)
Processed bars in automatic mode	From 50 g to 100 oz
Processed bars in manual mode	Over 100 oz

T-NUMBERING

T-Numbering is microdot marking device for personalized serialization of ingots and printing of company logos. With this machine, in a very compact size, you have the possibility of printing logos, serial numbers or customized lettering on metal surfaces. The T-Numbering marking system does not create engravings, but rather micro-hammers. There is therefore no removal of metal, only crushing. The absence of metal loss is the greatest advantage of this machine.



THE BENEFITS OF AN INNOVATED, AUTOMATED SOLUTION:



Press and numbering machine integrated in one module.



Finishing of large volumes in short time and automatically.



Increased safety level for the operators.



Possibility of total automation with the integration of a robot and quality control.

ACCESSORIES:



STAMPING DIES AND STAMP HOLDERS

For high-quality results, press stamps can be customized according to:

- ◆ ingot design
- ◆ graphical elements to be stamped



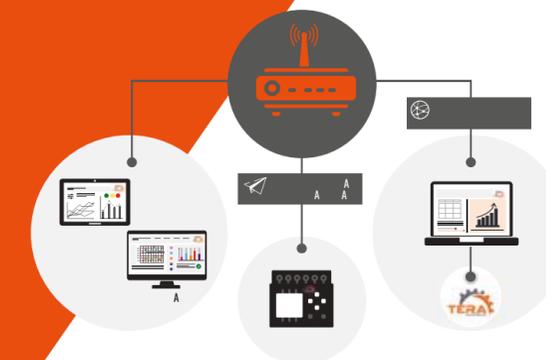
QUICK-CHANGE MAGNETIC INSERTS

T-Finishing requires full set of magnetic inserts suitable for processing each bar size. Sets of inserts for any bar size are available for both manual and automated procedure (according to bar size).



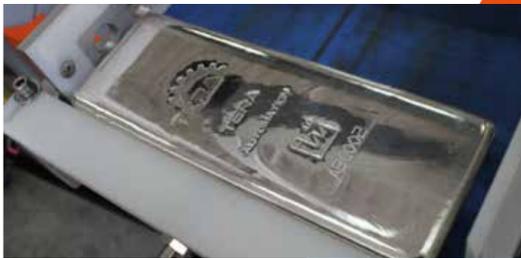
T-PHOTO VIEWER

Is a vision system that can be programmed for a quality logo stamping control for OCR and OCV serial checking. Is also possible to stamp a photo on the bar and store in a data logging REP.



T-ROUTER

T-Router allows a remote access for diagnostics and control operations, modifications and software updates to Tera Automation's machinery anywhere in the world. There is no need for additional software. Directly from our technical office we can access to the PLC of the connected equipment, having the possibility to analyze the failure, managing its solution and updating the software. This device requires internet connectivity, either wired or Wi-Fi or possibly via a SIM card, depending on the needs of the customer.



OUR PASSION FOR YOUR EVOLUTION

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