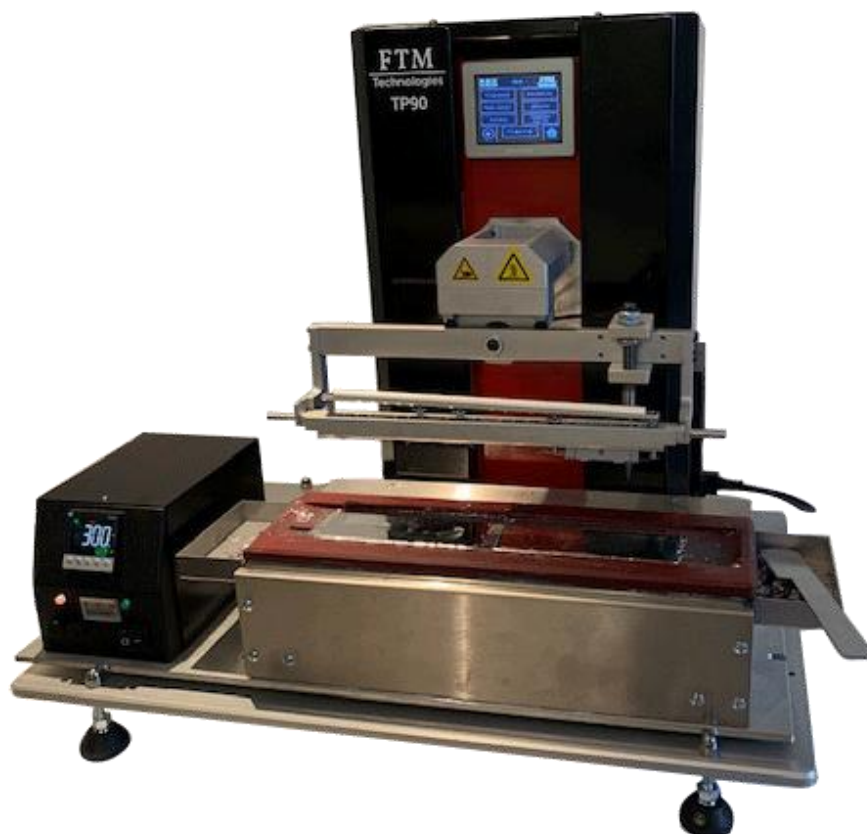


## TINING ROBOT TP90



For further information, please contact :

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The TP90 represents the latest generation of still bath tinning systems. It has the following advantages:

- Automated tinning for individual parts or small and medium series
- Unique human-machine interface to manage time delays and geometric positions
- Adaptability to many types of products: components, flat packs, connectors, coils, wires, etc.
- Stepper motor accuracy <1/10 mm
- Detection of the level of tin allowing very precise tinning
- Control of tinning speeds and times to avoid spikes and legs
- Possibility to create programs for each range of component
- Tool holder compatible with old TP60P model and manual pantograph (bath or flow tray). The existing component carrier bars can therefore be used
- Securing the position. Only the loading of the tool and the scraping require the action of an operator.

Robot conforms to standard NF C 20 720 relating to the operating modes of brazability tests.

Technical data	
Weight	around 30 kg (without tin bath)
Overall length	600 mm
Overall width	300 mm
Overall height	600 mm

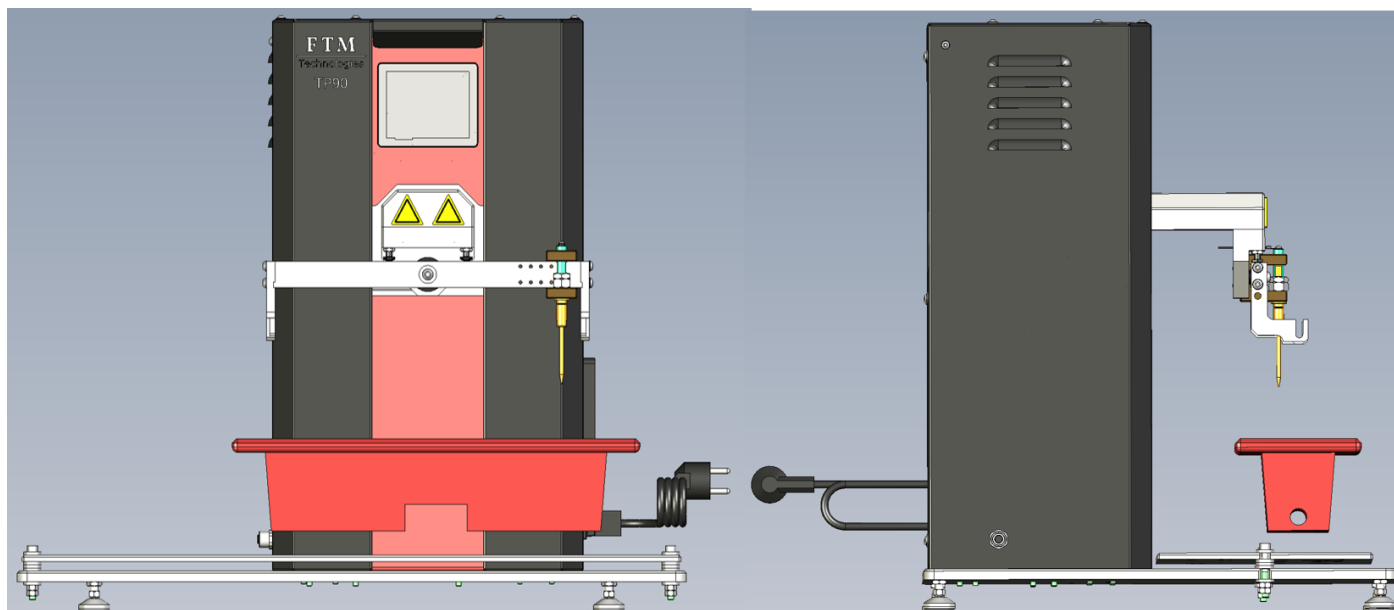
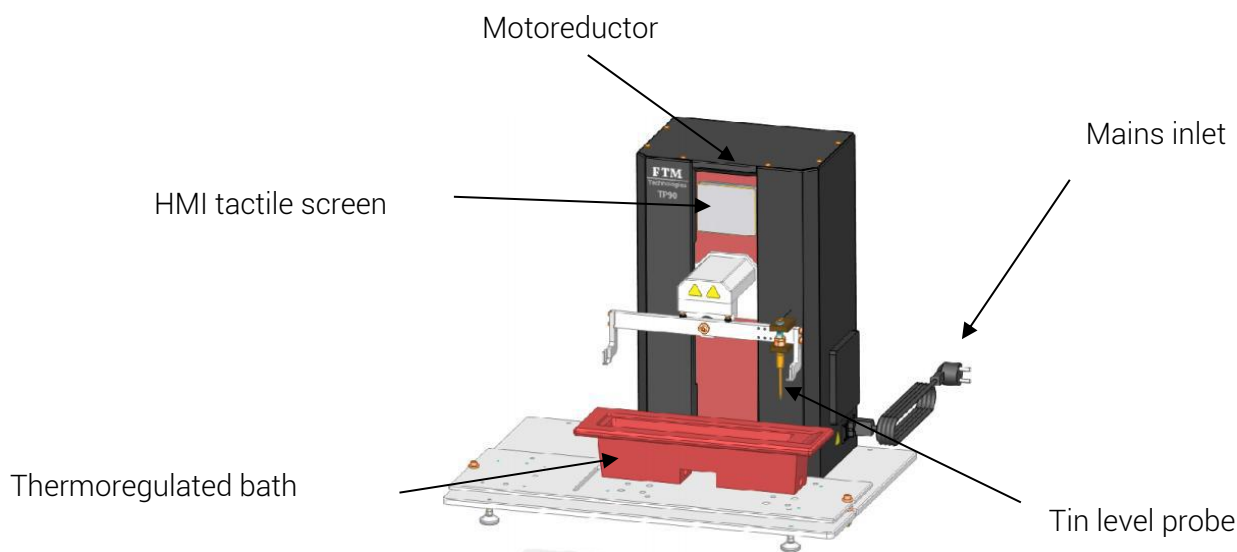
The TP90 tinner is designed to work with the FTM Technologies range of tinning tools:

- Fluxing bin
- Fluxing bin with manual pantograph
- Manual pantograph for gold removing bath
- Tinning bath:
  - o BE 300X50
  - o BE 300X50D (double tank)
  - o BE 300X90

The combination of these different products will guarantee you a high-quality tinning process for all your types of parts..

## 1. Presentation of the machine

### Overview of the device



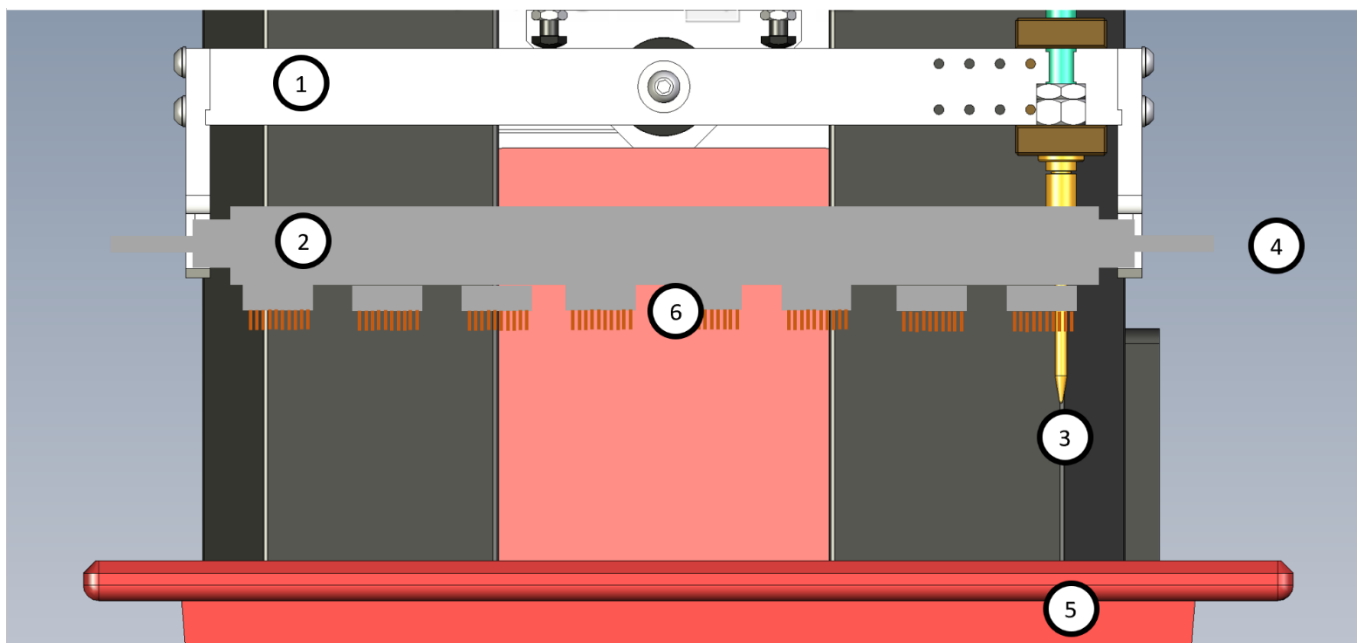
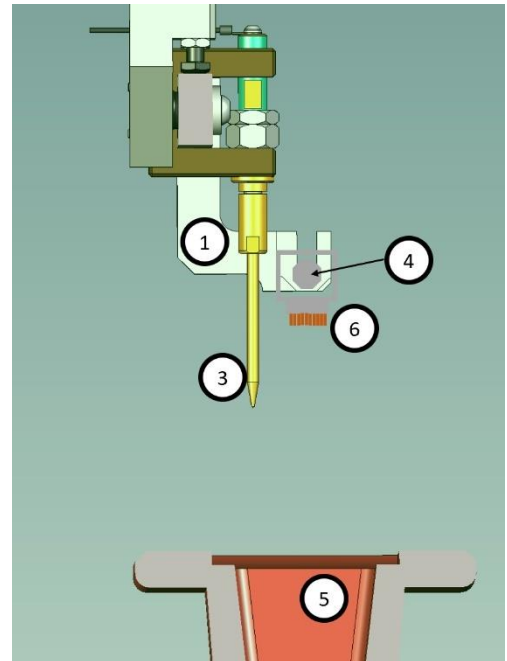
### Operating cycle:

- 1) Selection and transfer of the program corresponding to the product to be tinned.
- 2) Installation of the contacts to be tin plated on the laying.
- 3) Cycle start.
- 4) Lower the tool until the tin level is detected.
- 5) Movement of the tool to the preheating position.
- 6) Lowering of the laying in the low position for tinning
- 7) Raising the tool.

Focus on the tooling zone

Caption:

1. Tool holder console
2. Component holder tool
3. Alloy level detection probe
4. Tool holder reference axis
5. Tin bath (supplied separately)
6. Typical connector to be tin-plated



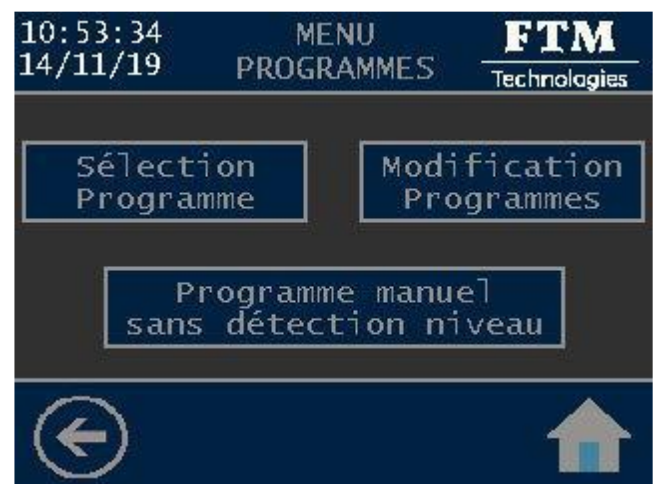
## 2. Human Machine Interface

The TP90 offers a unique human-machine interface to manage time delays and geometric positions.

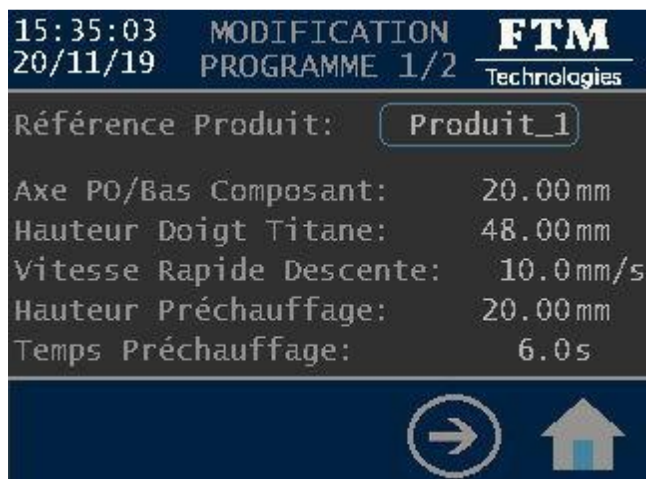
The different programmable parameters are:

- Tool holder axis distance - low point of the connector to be tin-plated (determined by the geometry of the fitting)
- Preheating height (activation of the flux before tinning)
- Preheating time
- Fast descent speed
- Speed of entry into the tinning bath
- Tinning height
- Exit speed of the tinning bath
- Automatic mode (determination of the alloy level by titanium finger) or manual mode (manual approach and fixing of the point of contact with the alloy by pressing on the automaton)
- Safety not allowing operation at too low temperature (connection to the bath necessary)
- Storage of tinning programs

HMI menus are reachable in french or english language.



The interface allows you to create your programs for each range of components and also to modify them at any time in secure mode.



With its 75 x 60 mm touch interface, the TP90 is a robot that is easy to use and easily adapted.

### 3. Complementary products at the tinning station

To have an optimal workstation, the TP90 can be combined with other products.

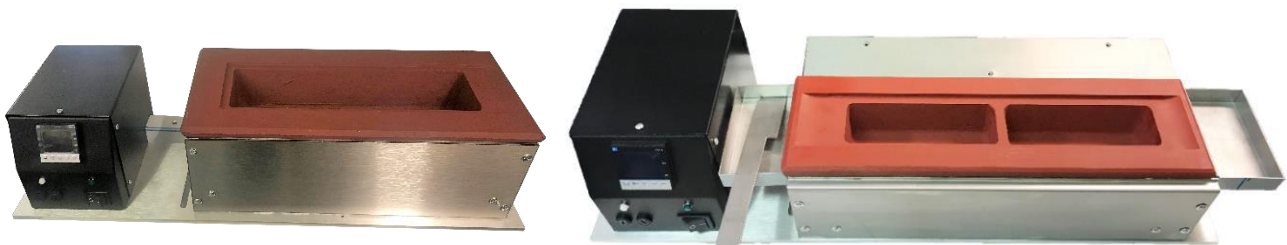
#### Tin bath

The TP90 hosts a tin bath on its table.

Two standard baths are suitable for the tinning robot: BE300X50 and B3300X90

In the case of a preliminary phase of gold removal, requiring a separate bath to avoid contamination, three solutions are possible, all allowing the use of the same tooling designed for the component or connector to be tin-plated:

- Use of two complete TP90 sets with a dedicated bath for each operation
- Realization of the gold removal using a manual pantograph and a dedicated bath
- gold removing and tin plating by halves with a single TP90 and a BE300X50D double crucible bath



#### fluxing

The precision of fluxing is an essential element for the success of the overall tinning procedure and requires mastering different points:

- Accuracy of immersion in the fluxing bin,
- Anticipation of the capillarity phenomenon causing the alloy to rise along the pins,
- Activation time of the flux.
- Control of flux evaporation.

A double vat fluxing tank ensuring a determined level surmounted by a pantograph allows precise soaking. The shallow depth of the upper tank allows low flux consumption and at the same time frequent renewal, guaranteeing good quality.



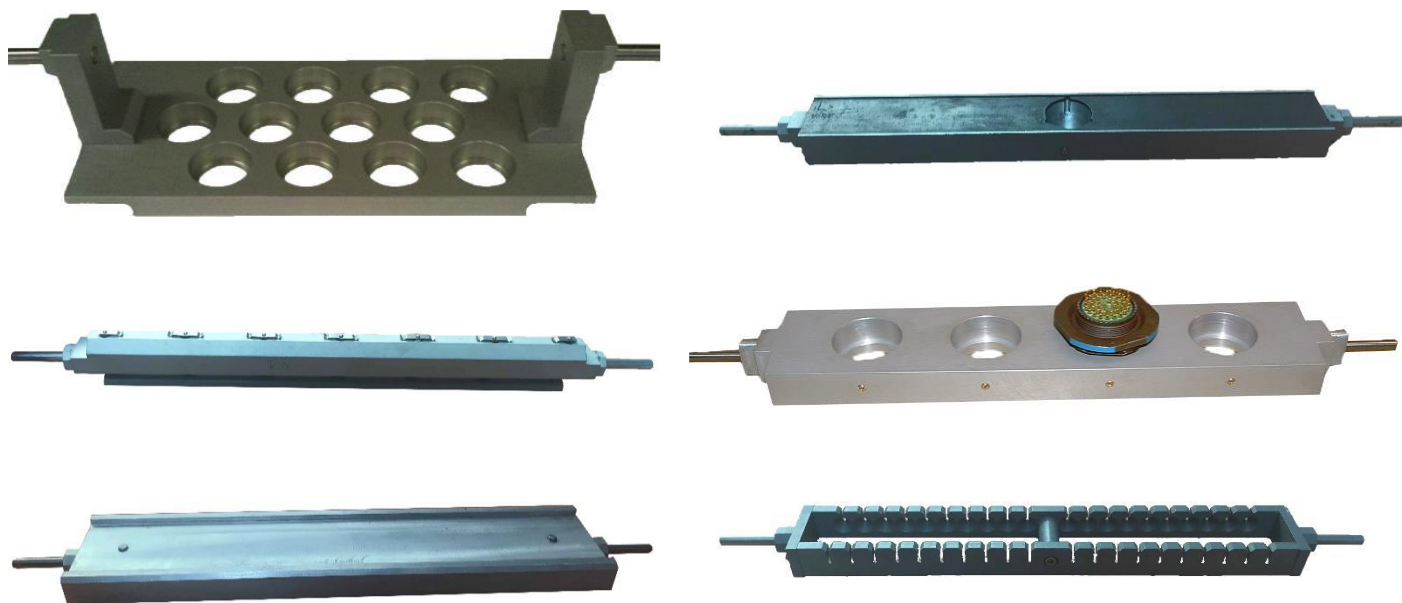


## Component holders

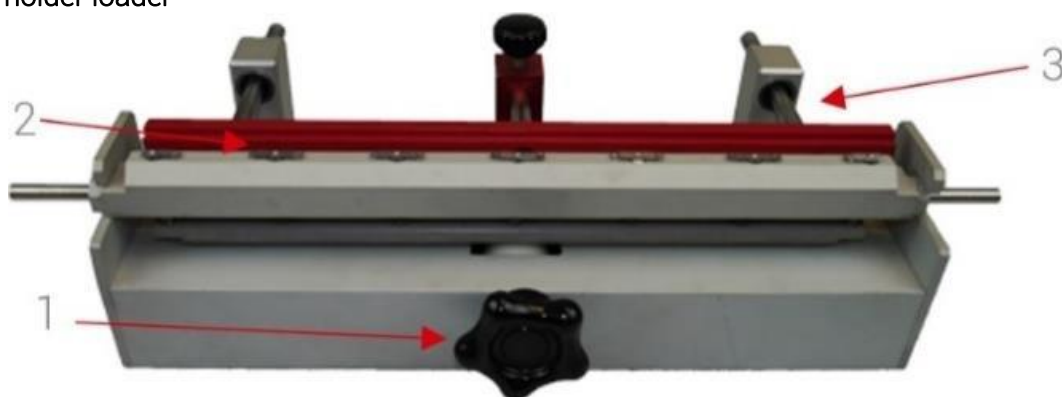
Thanks to its tool holder, the TP90 can accommodate different component holders. Thus, they adapt to many types of products: components, connectors, flat packs, coils, wires ...

The tool holder is compatible with the TP60P model and the manual pantograph.

Examples of tools developed for different tinning applications. Contact us for your projects.



## Component-holder loader



This device was studied to facilitate the loading and the unloading of components in particular those concerning the hybrid components, Flatpacks, Quad packs etc. A button (1) activates a cam and raises the springs (2) to let the components pass. In addition, this device makes it possible, by means of its adjustable stop (3), to wedge the component on the bar in a predetermined position, for example by centering them so as to be able to tin the 2 sides by turning it over.

