

TRAINING



Schedule – Thor

Theoretical / Practical

Introduction:

Thor Tinting
Thor Master
Thor Muletto
Unpacking

Test

THOR

Thor Introduction

Thor is a dispenser for medium-low production outlets, which can be used to make paint cans with variable volume between 100 ml and 20 liters.

Thor modularidad.

Thor Tinting



Thor Tinting

+



Master Module

Thor SP



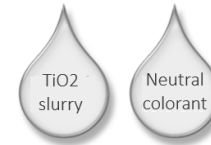
Thor SP

+



Colorants Module

Thor Master



Thor

The Thor can be composed of the following modules:

- Coloring module (up to 16 circuits).
- Module Bases (up to 5 circuits).

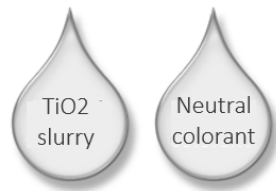
The circuits can be configured with pumps of different flows and tanks of different capacity.

Thor Tinting



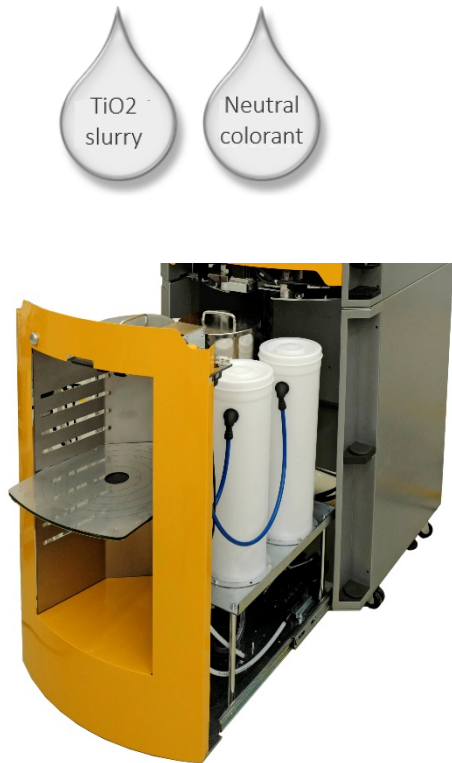
- Modules Coloring:
 - Canisters up to 12x 1,5lt
 - Canisters up to 4x 3lt
 - pumps up to 16 0.25l/min.

Thor Master



- **Colorants:**
 - Canisters up to 8 x 1,5lt
 - Canisters up to 4x 3lt
 - Pumps up to 16 0.25lt/min.
- **Muletto:**
 - Canisters up to 3 x 12lt.
 - pumps up to 2 3lt/min.
 - Canisters 1 x 6lt.
 - Pumps 0.25lt/min.

Thor Muletto



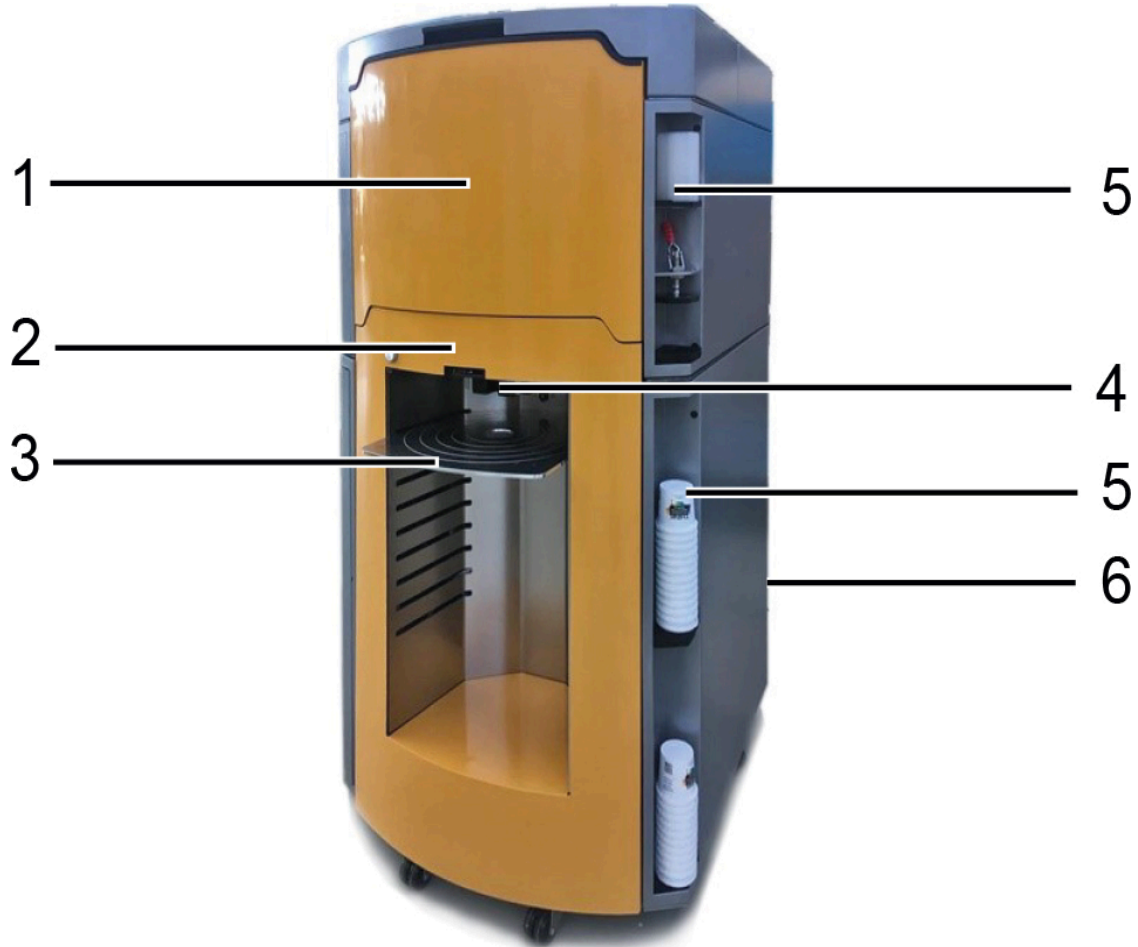
Master Module

- Canisters up to 3 x 12lt.
- 2 Pumps up to 3/min.

Thor

Description

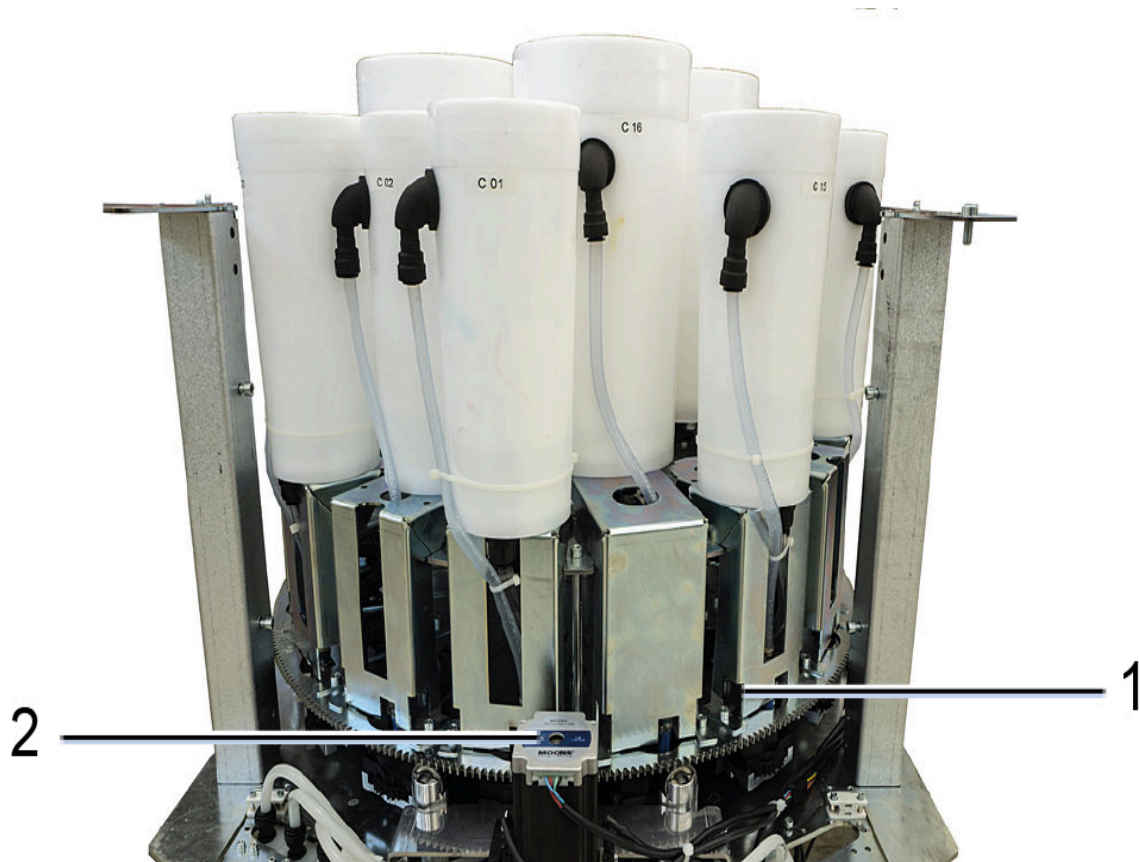
Thor:



Main Components

- 1) Furniture coloring groups
- 2) Semi-finished circuits canisters (removable)
- 3) Adjustable platform.
- 4) Autocap
- 5) CT Set (optional)
- 6) Electrical panel (on the back)

Thor: Carousel



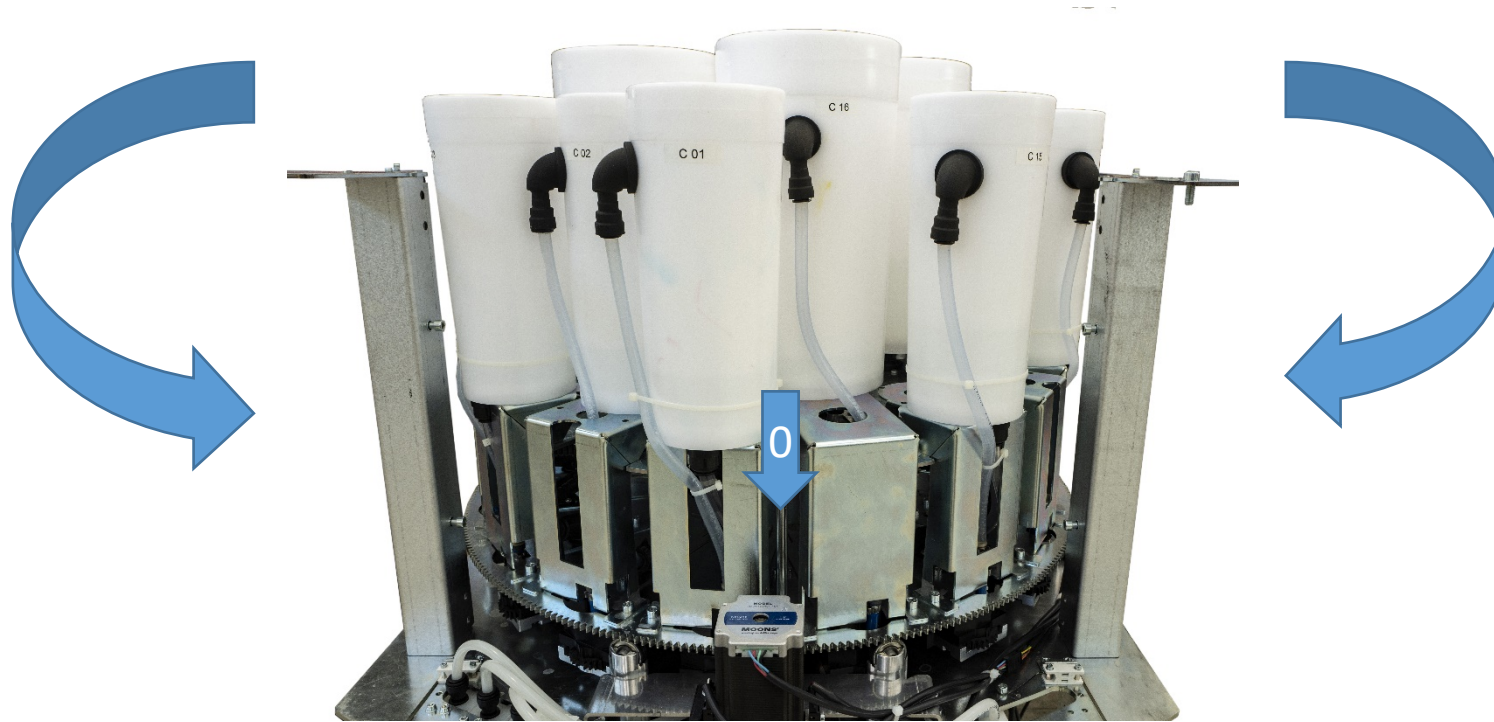
COLORANTS CAROUSEL

The machine can hold up to 16 coloring groups. The circuits are positioned on a rotary table (1), also called "carousel", which allows to place the different circuits in supply sequentially.

Each coloring group can be equipped with a tank of 1.5 or 3 liters and is equipped with a pump for dispensing.

The actuator that allows dispensing (2) is unique and engages exclusively in the group that is in the dispensing position (in front of the operator). Therefore, the dispensing position is unique, and it is the same where recirculation of a circuit can be performed.

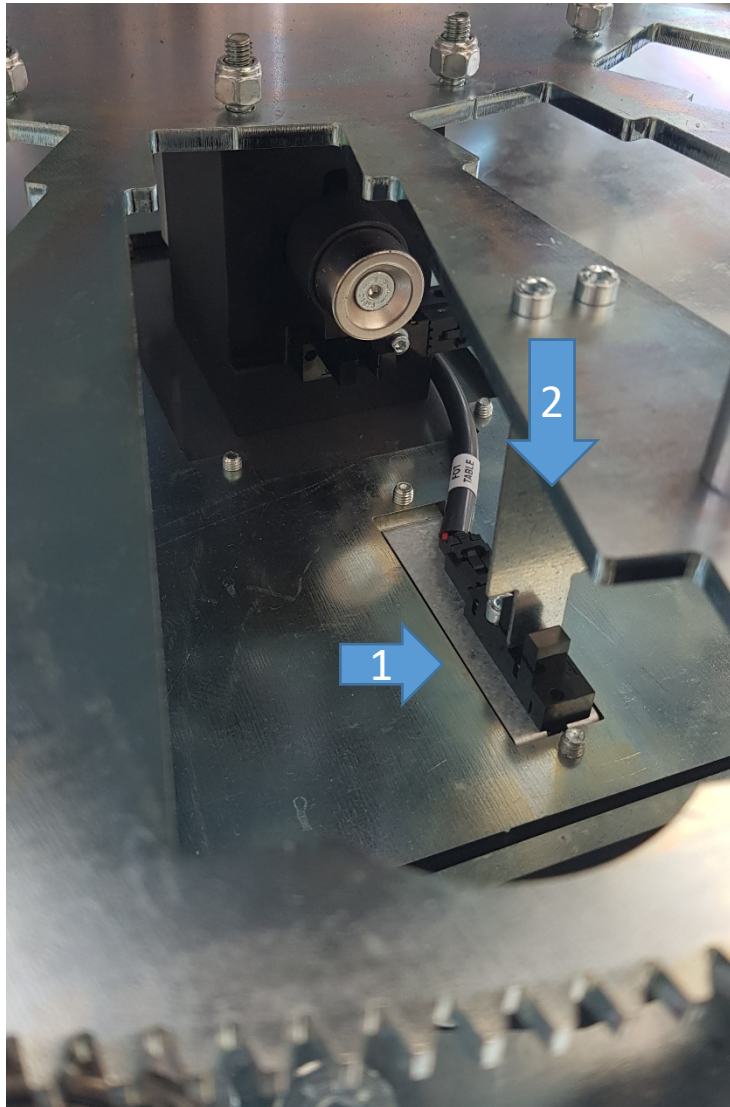
Thor: Carousel



The Carousel rotates clockwise and counterclockwise, between C1 and C16 it is point 0 (home).

Note: If the formula needs to dispense the c1, c3, c10 the software will look for them clockwise and counterclockwise.

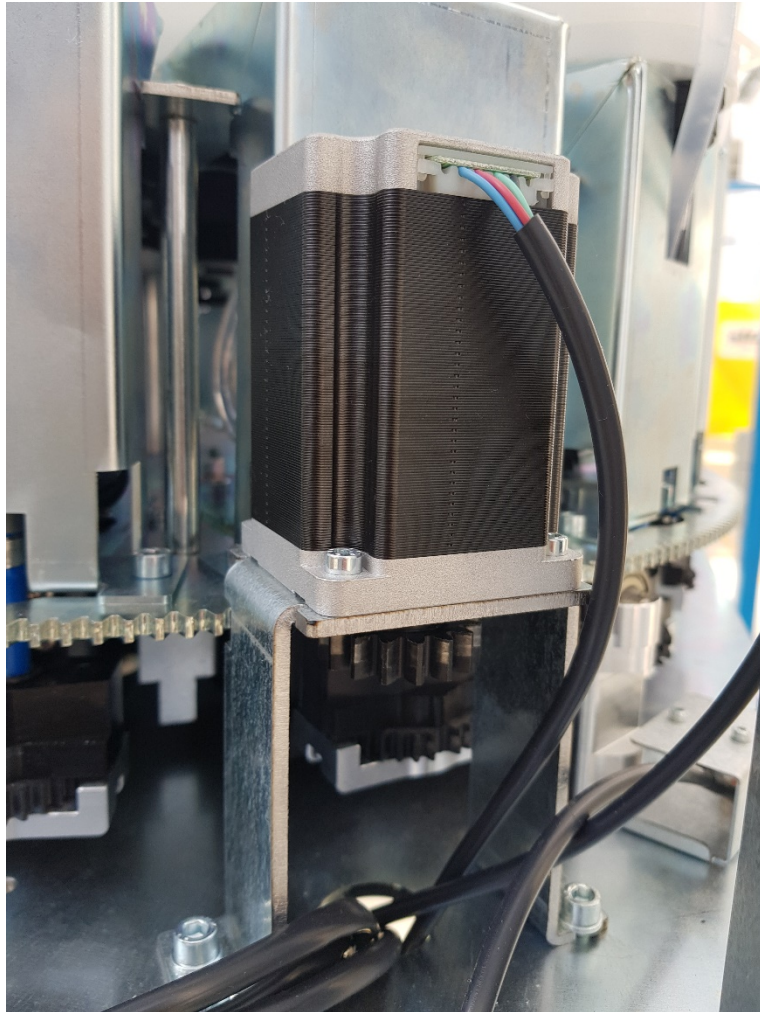
Thor : Point 0



1 • Photocell of position 0 (home) of the carousel.

2 • Flag for point 0 (home)
(it is between him c1 and c16)

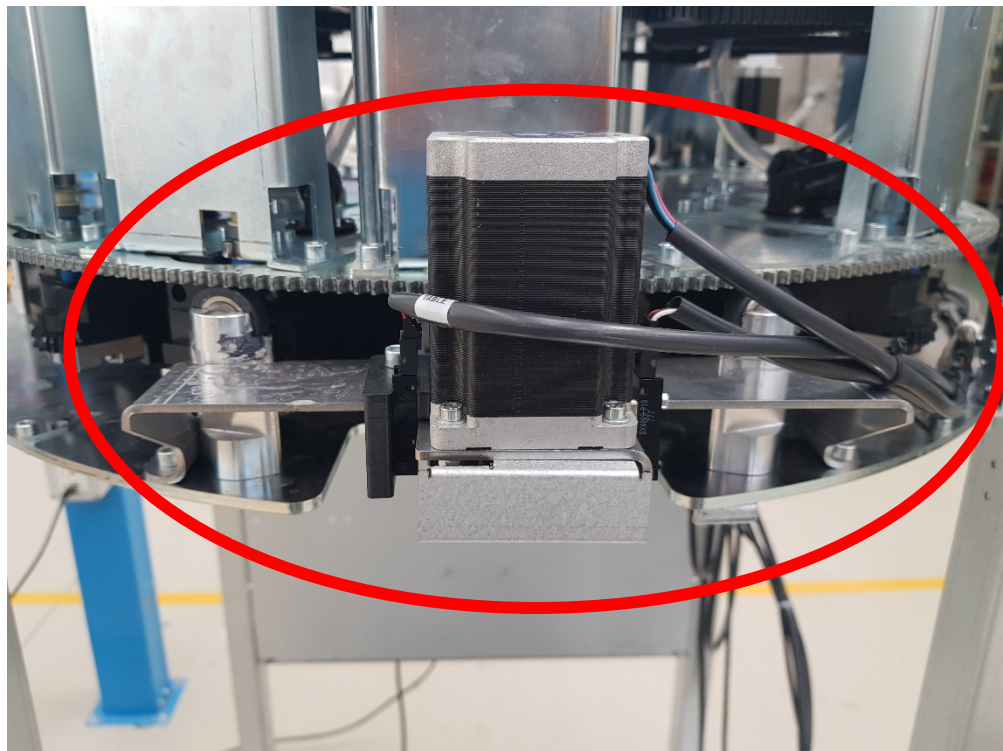
Thor : Carousel engine



The motor that moves the carousel is located on the right side of the machine.

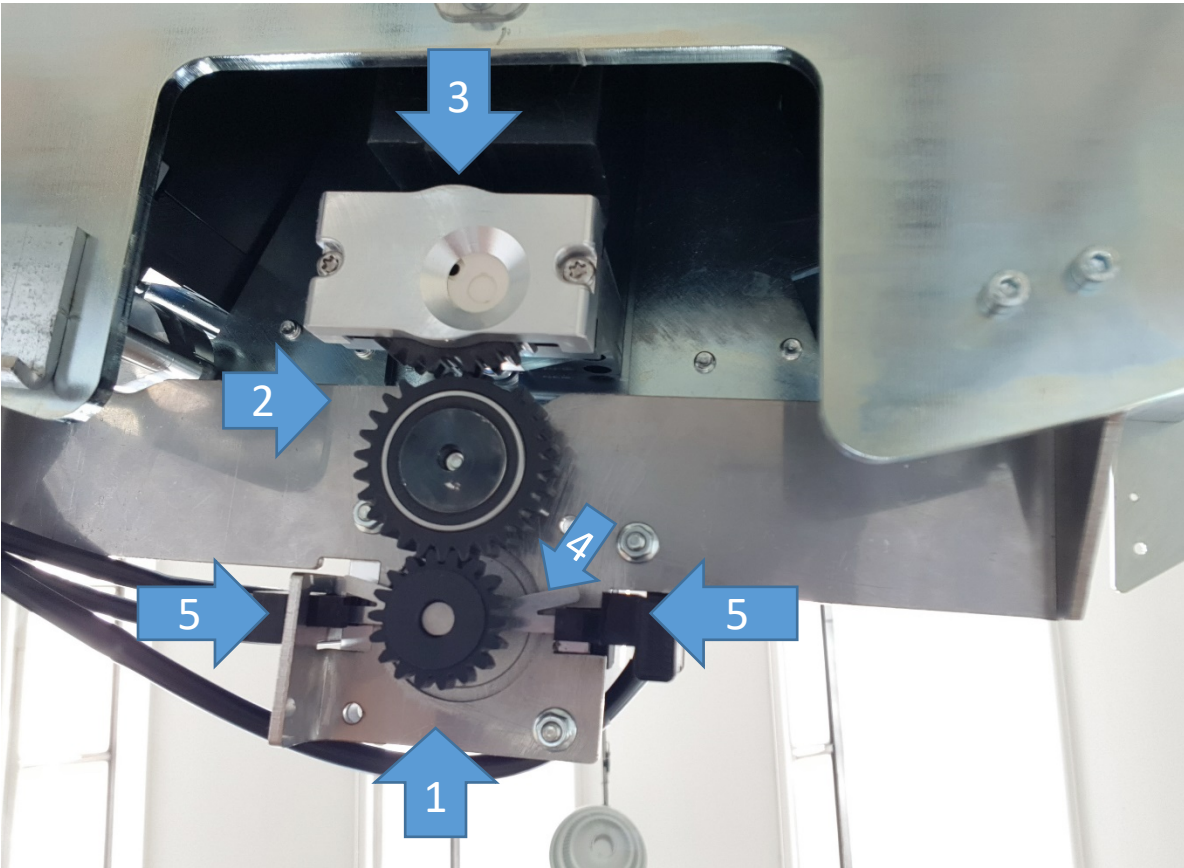
- It feeds at 48 volt.

Thor: Actuator



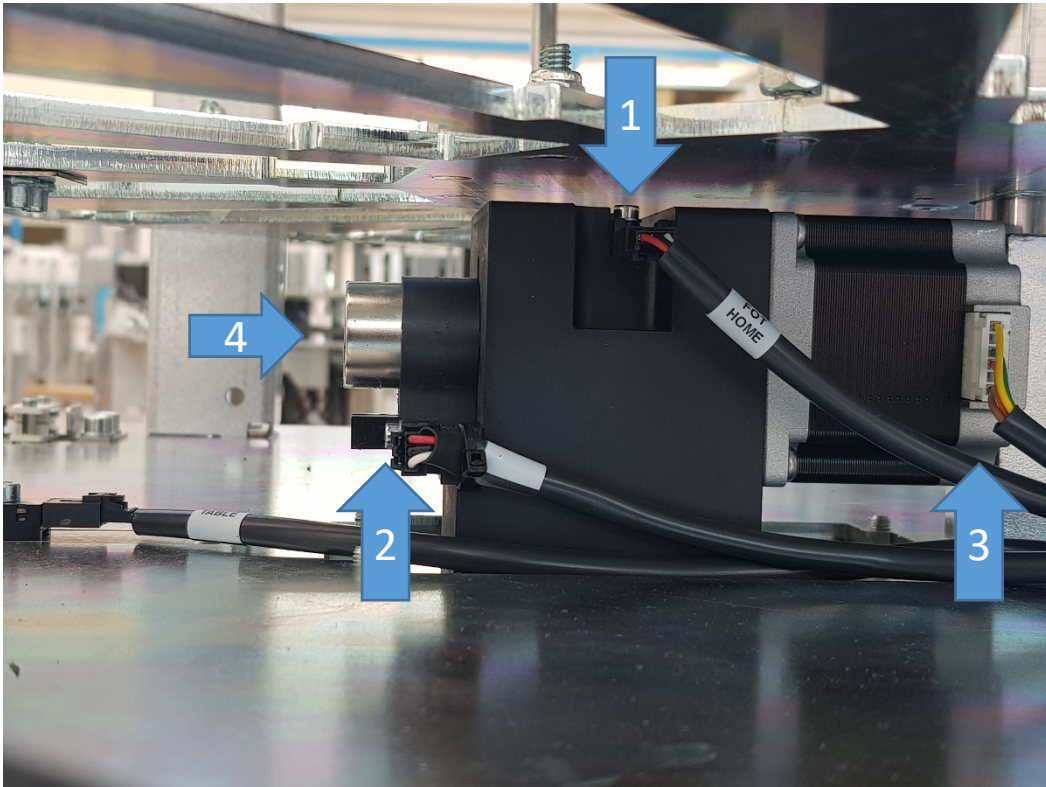
The Actuator has the function of opening and closing the valve in the dispensing.

Thor: Actuator



In the actuator we find the pinion (1) that is fixed to the motor that moves the gear (2) that opens the valves (3). The pinion has a flag (4) that is always positioned between the two photocells (5), when it makes the movement to the right or left it always returns to the initial position.

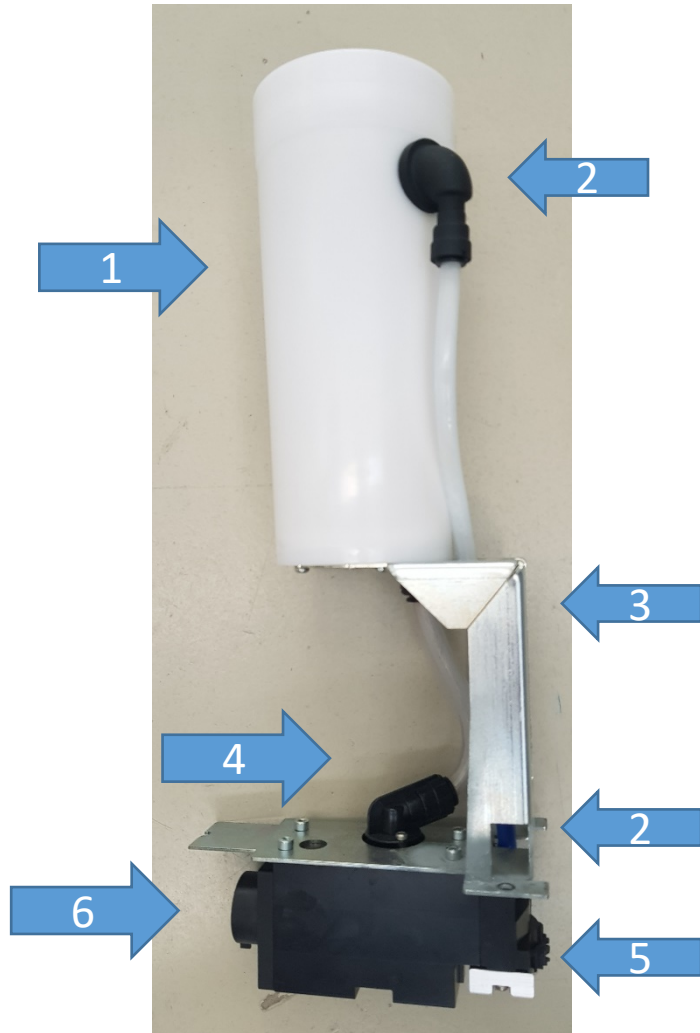
Thor: Motor pump group



Motor that drives the pump of Thor coloring groups

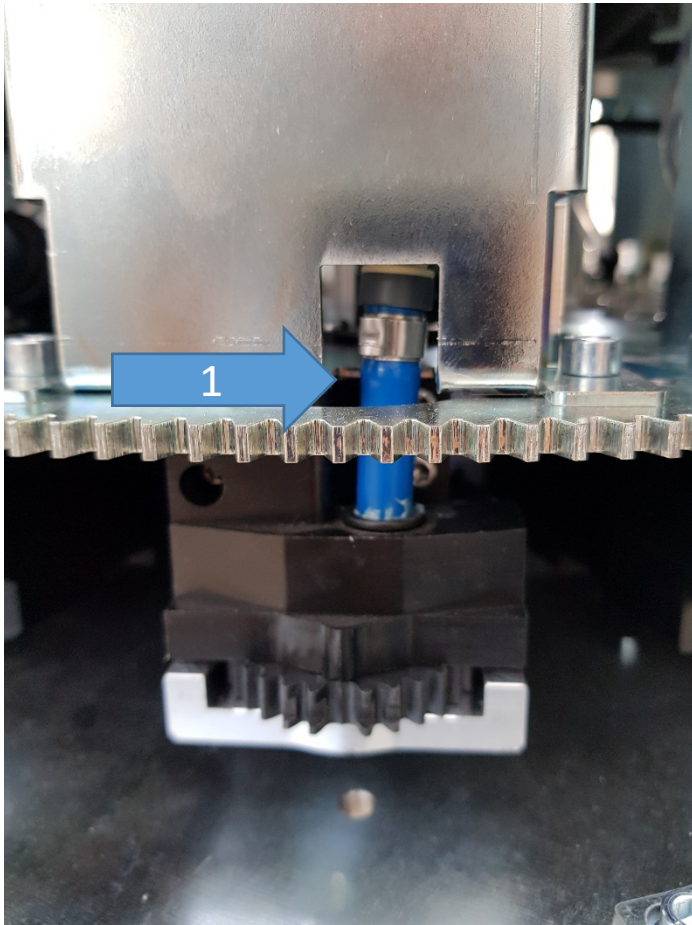
- 1 • Start position photocell
- 2 • Photocell of coupling with the coloring pump
- 3 • Motor power at 48volt
- 4 • Magnet to be attached to the pump

Thor: Coloring Group



- 1 • Colorant canisters 1,5 lt or 3lt.
- 2 • Recirculation
- 3 • Color group support
- 4 • Aspiration
- 5 • Valve
- 6 • Pump 0,25ml / min (without motor).

Thor: Recirculation



The Thor does not have solenoid valves in the coloring groups only for semi-finished products.

1 • Recirculation tube that connects directly to the valve.

Recirculation hose



The recirculation hose has a valve (1) that does not allow the dye to return.

It only moves in one direction.

(The valve is mounted with the clear part facing up)

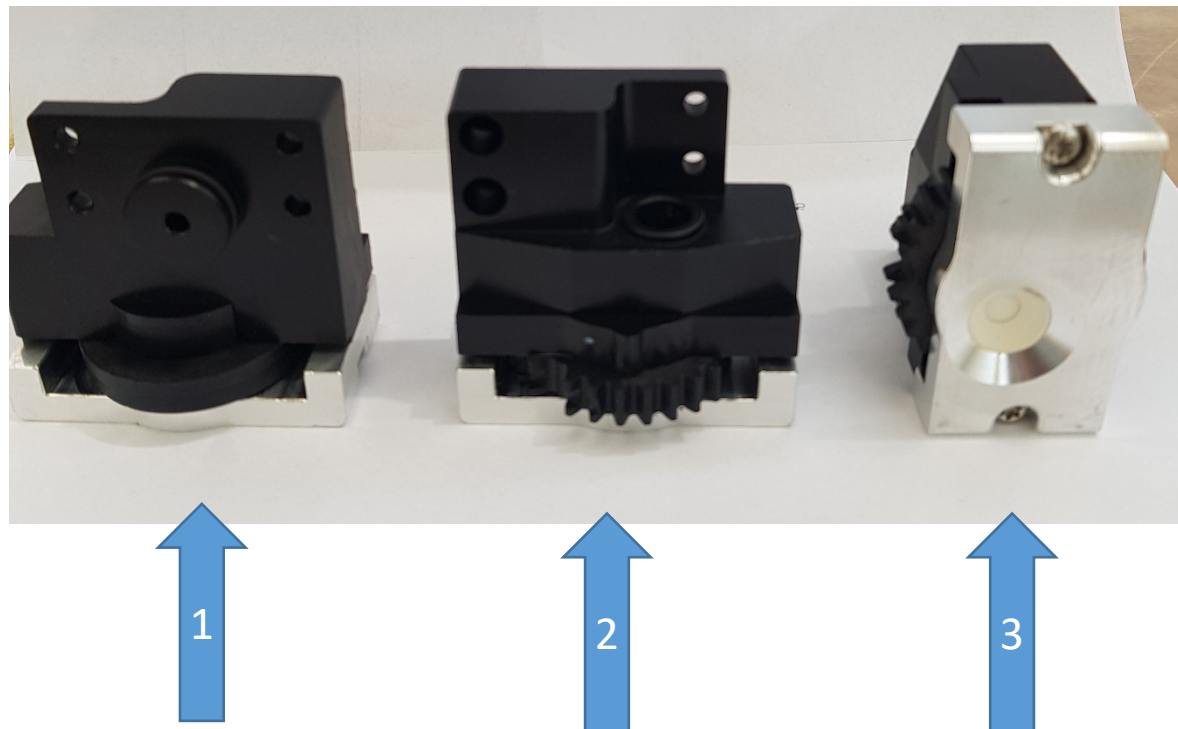
Recirculation and agitation

- The circuits of the semifinished are each equipped with a pump and have parameters of independent timing.
- On the contrary, the coloring circuits are mix at the same time each time the rotation of the carousel is activated where the coloring groups are installed.

The default values of the duration and pause variables of each function are reproduced in the following table:

| | Agitation | Recirculation |
|--------------------|---|---------------|
| Colorants | At each rotation of the carousel and before each recirculation of dyes | 1' each 30' |
| Bases semifinished | 30" each 30' | 1' each 30' |

Thor: Valve



Valve of the coloring group.

1 • Side that fits into the pump.

2 • Front side.

3 • Dispensing side.

Thor: The Three positions of the valve



Thor: Position 1



Close/recirculation position

Thor: Position 2



Position 2: Dispensation with
2.5mm hole.

Realizing the movement of the
counter-clockwise valve.

Thor: Position 3



Position 3: Dispensation with 1.2mm hole.

Realizing the time movement of the valve.

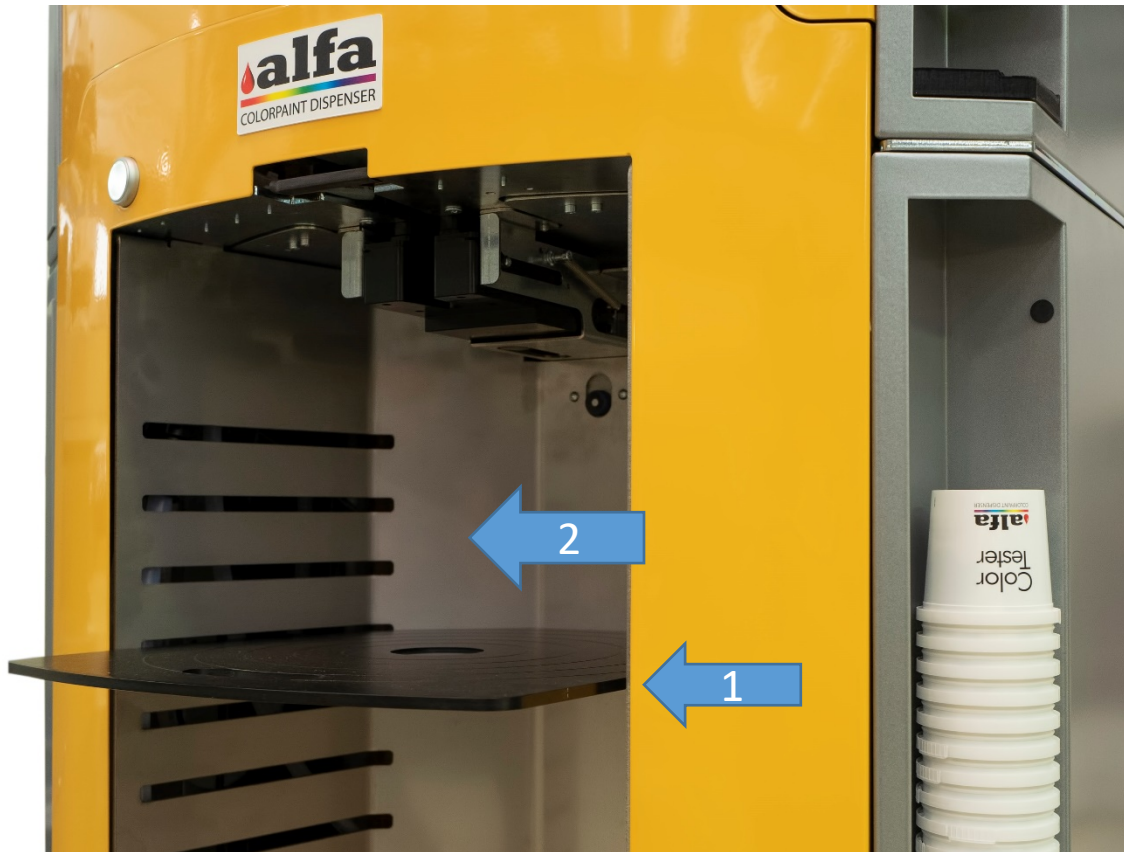
Thor dispensation

The dispensation is carried out in the following steps:

The operator selects the formula in the software (Linux), this communicates to the MAB card, it communicates with the Tinting card that rotates the carousel, positioning the corresponding coloring group to the formula in point 0.

The Tinting card receives the signal that is in position, activates the motor of the pump until it is coupled with the piston of the pump, the coupling photocell sends the signal to the card tinting, which is in position begins the dispensing.

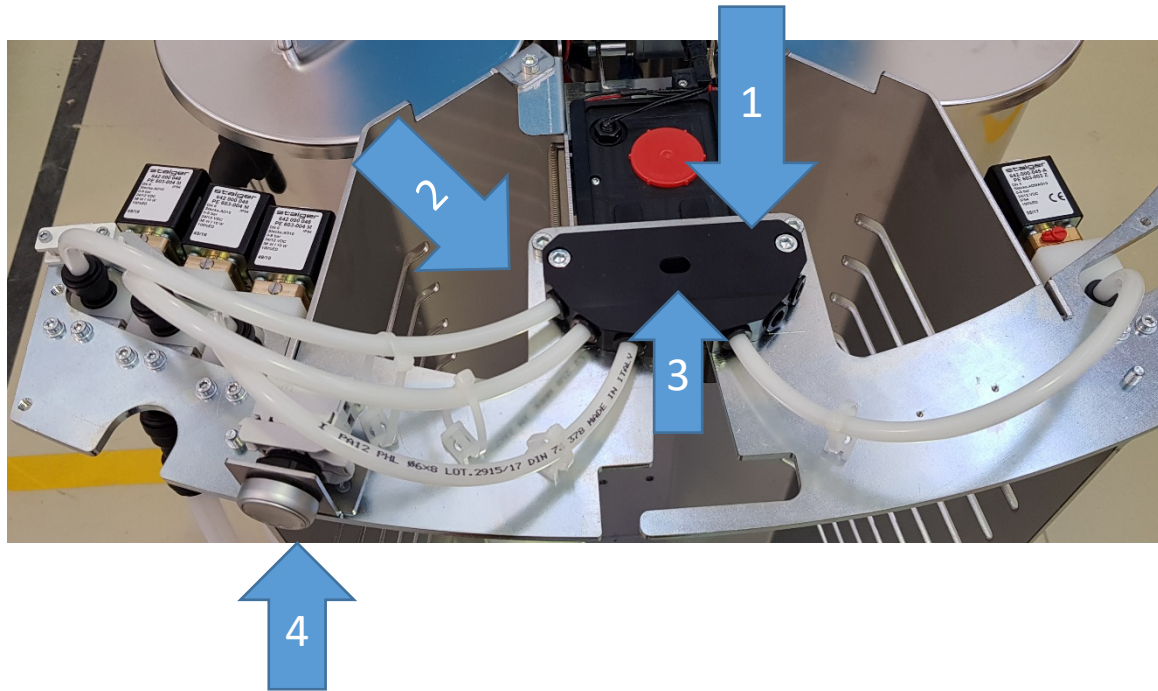
Thor: Platform



The displacement of the platform (1) is manual: the operator raises and lowers the platform manually extracting it from the guide (2) and repositioning it at the desired height.

Concentric circles are recorded on the support surface indicating the exact point where the container should be placed, according to the diameter.

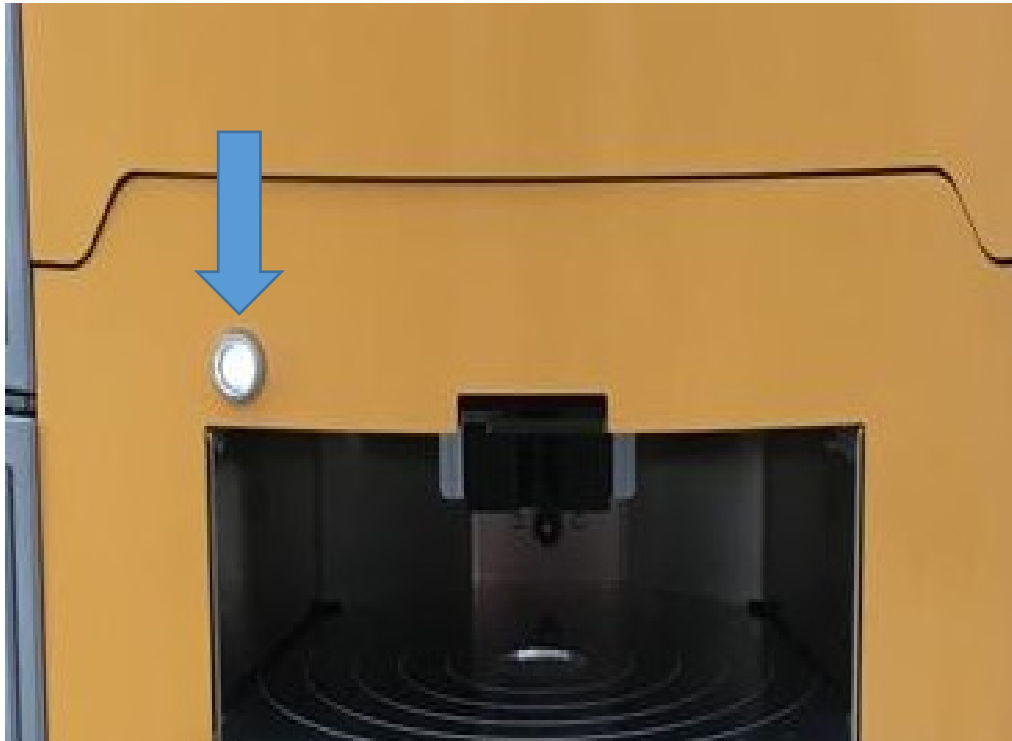
Thor: Centre of dispensation



In the lateral figure the upper front part of a base module with the center of the nozzle (1) in which the dispensing tubes of the semi-finished products (2) converge, is observed. In the central part of the center of the nozzle is the hole (3) through which the dyes are supplied, located in the upper part of the machine.

On the front panel of the machine there is a pushbutton-on / status light (4), which also functions as a stop command.

Thor: Pushbutton / warning light



The light indicator can adopt three states different:

Fixed light = machine ON (STANDBY/
DISPENSATION)

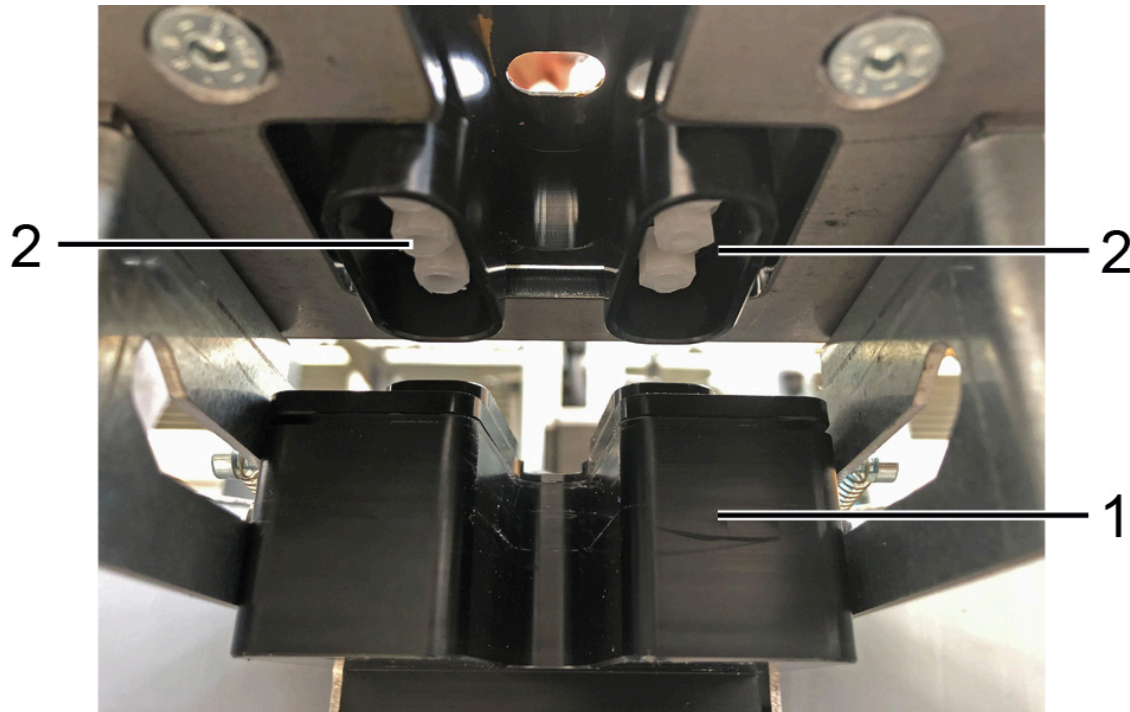
Flashing light 1s ON / 1s OFF = RESET in progress

Flashing light 0.5s ON / 0.5s OFF = ALARM

- After pressing the stop button, the machine goes to error status (ERR.10), for leave it, it is necessary to perform a RESET.

During filling operations the machine find in a state called POSITIONING, also characterized by a light with 0 fixed light

Thor: Autocap



The Autocap (1) is integrated into the base circuit cabinet. It is positioned below the supply injectors of the semi-finished products (2) and has the function of keeping the volume around the injectors normally closed and humidified in order to reduce the drying phenomena of the products (semi-finished products).

The unit is electronically activated and opens a few seconds before delivery, and then closed immediately after.

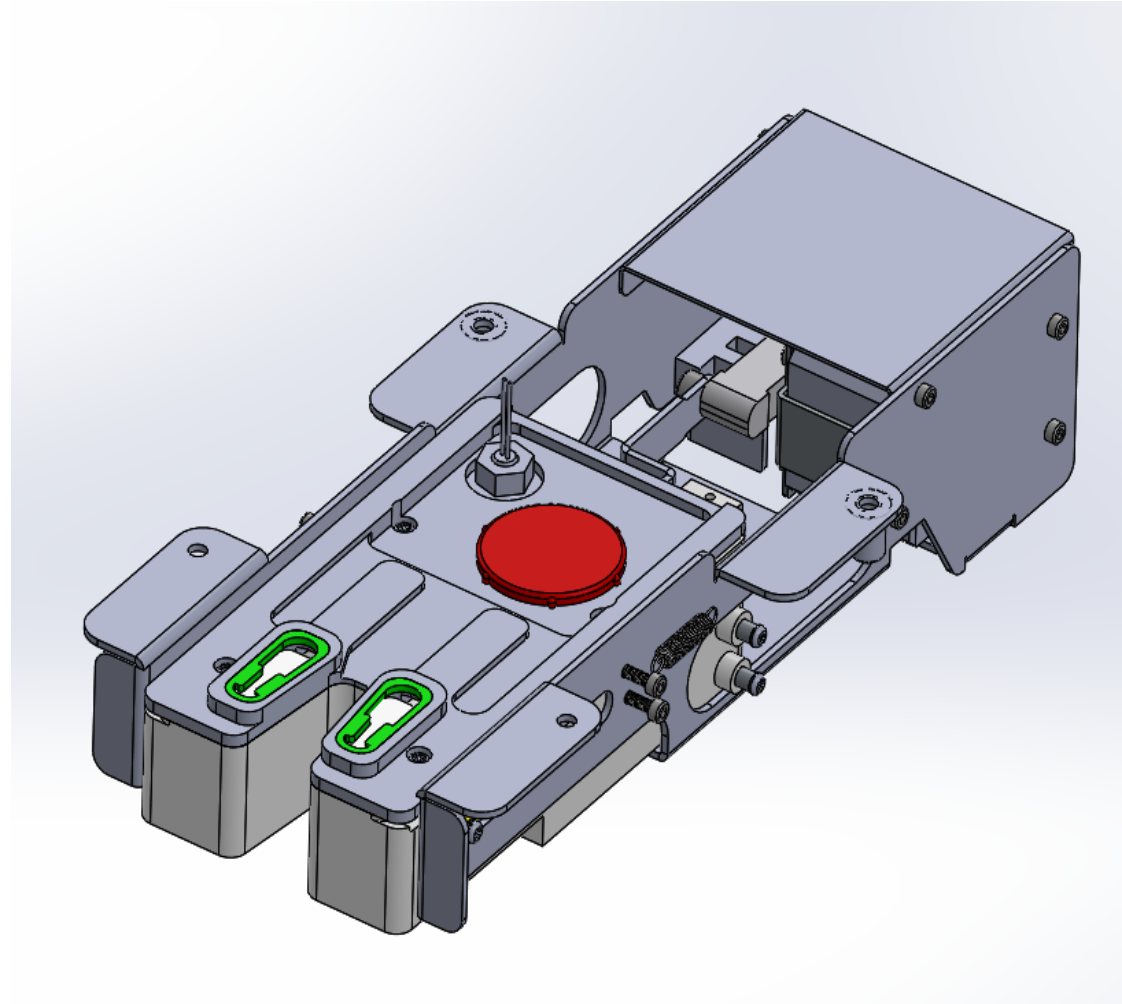
The Autocap can adopt two different states, corresponding to two different positions: CLOSED (humidification) and OPEN (supply / maintenance).

In the Autocap there is a reservoir for the humidification water, which is heated to a suitable temperature by means of an immersion resistance.

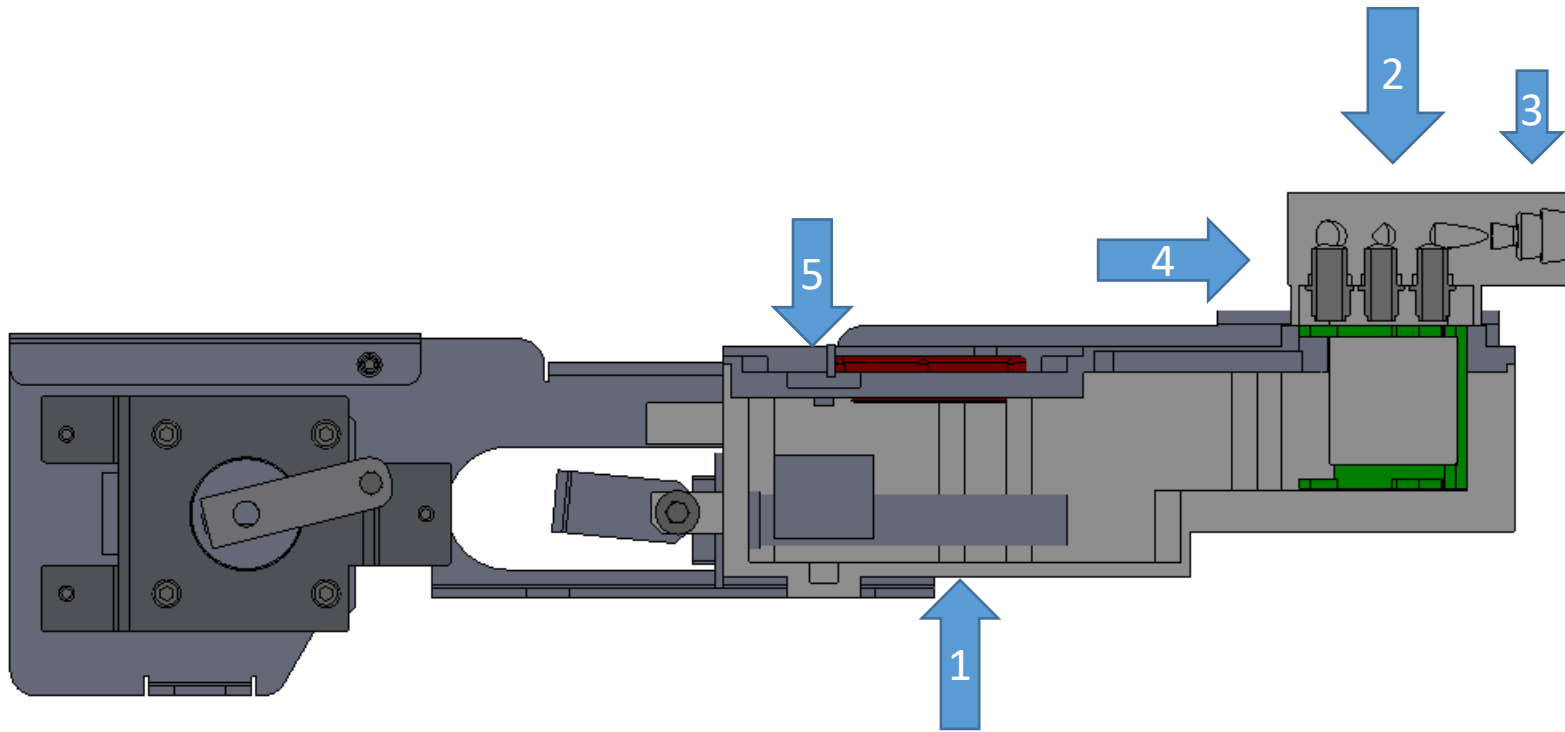
It has 4 laser lights for the centering of the container.

Thor: Autocap Description

- The Autocap of the Thor is characterized by the fact that the machine has the function of dosing dyes sequentially and of dosing semi-finished products simultaneously. Both operations can take place simultaneously.
- Since the Thor is a rotating machine, with the nozzles of the coloring pumps arranged in the periphery, these pumps do not have a nozzle center. The Autocap only serves for semi-finished products. (Green)
- The Autocap consists of a tank that contains approximately 200 cc of water. This water has the function of keeping close to saturation the closed environment where the dosing nozzles are present.
- To facilitate evaporation there is an immersion resistance completely immersed in the liquid.



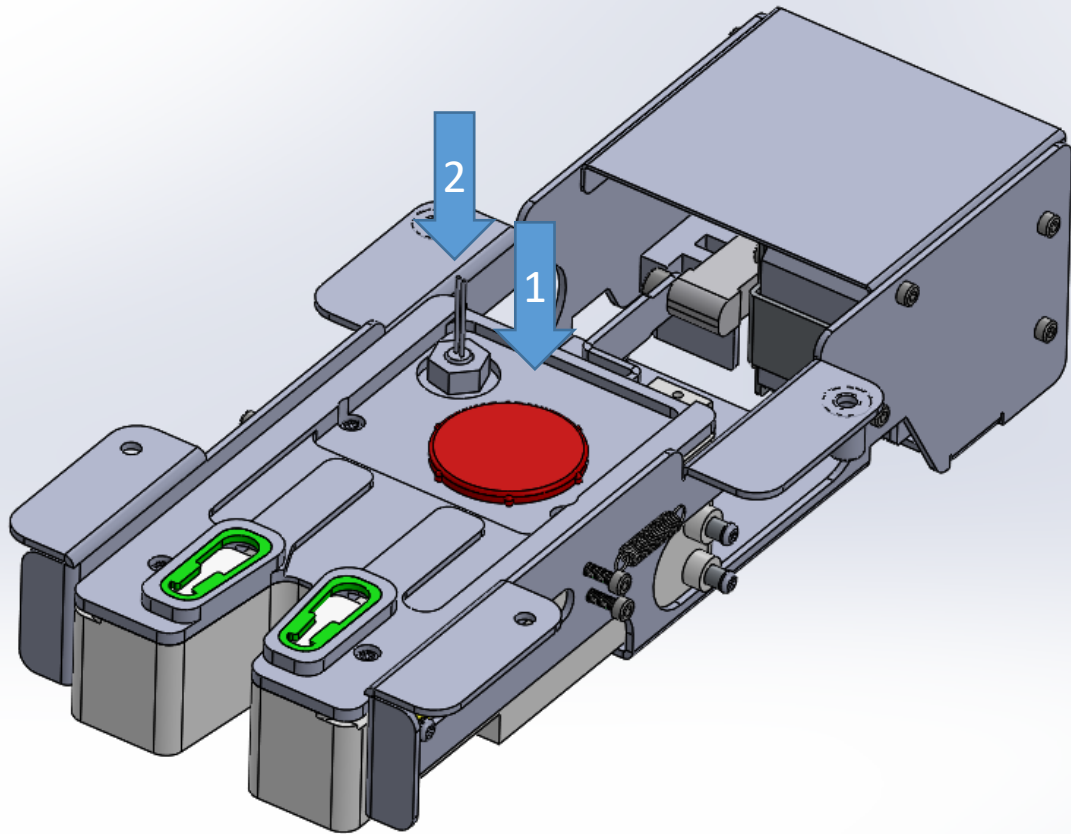
Thor: Autocap Description



On the side, a section showing the heater (1), the center area of nozzles (2) and the relative nozzles (3), the sponge (4) and, in part, the level sensor (5).

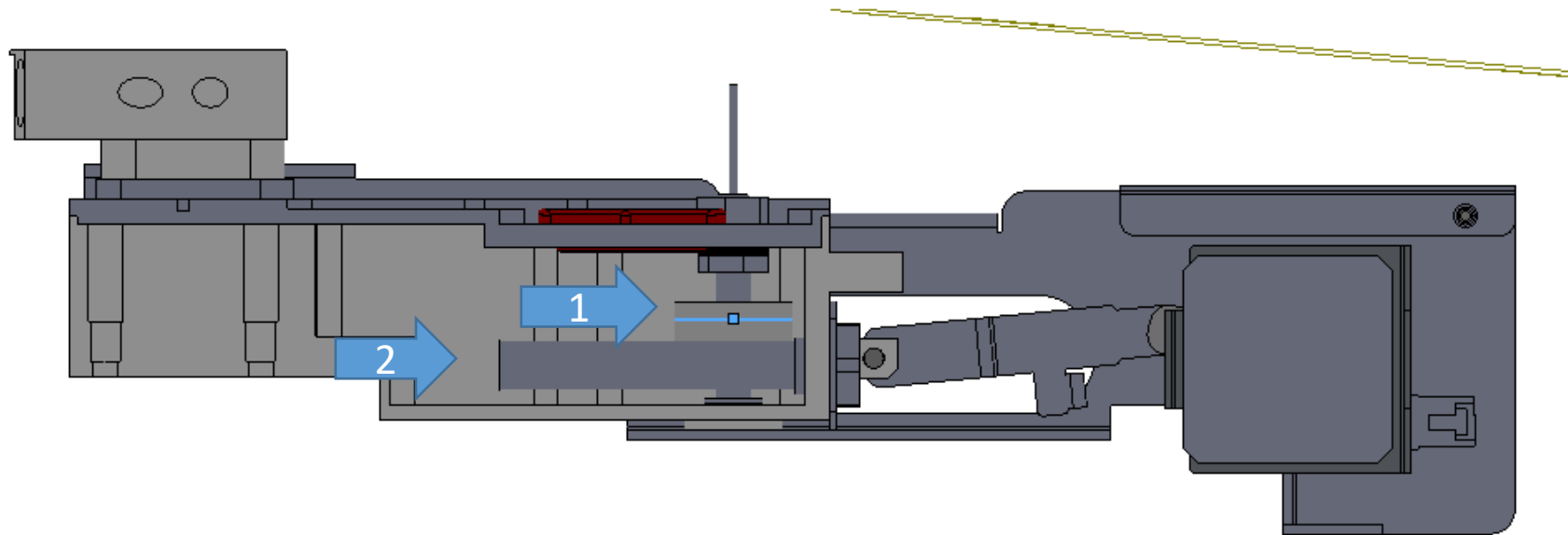
- One of the aspects that differentiates this Autocap from the classics is the fact that the container to collect any condensation formed due to excessive humidification falls into the same container in which it is formed.
- As an advantage, there can be a much more robust control of the humidity of the air in contact with the nozzles than the current systems, which undoubtedly require careful control to ensure sufficient humidity but without exceeding it and causing condensation.

Thor: Autocap Description



The Autocap includes a cover, which is red (1), to recharge. We hope that this is done with a very low frequency. For safety, there is a level sensor (2) that eliminates the possibility of running out of water and prevents the heater from igniting without completely submerging it. The risk is that its temperature increases to values close to the softening of the plastic material from which the tray is made.

Thor: Autocap Description



Level at which the deposit recharge alarm indicates, blue line (1). The cartridge heater (2) is evidently below this line.

Thor: CT



Color Tester

Machines configured with the "CT" option dispense 100 cc paint samples, just like those supplied by a ColorTester Alfa.

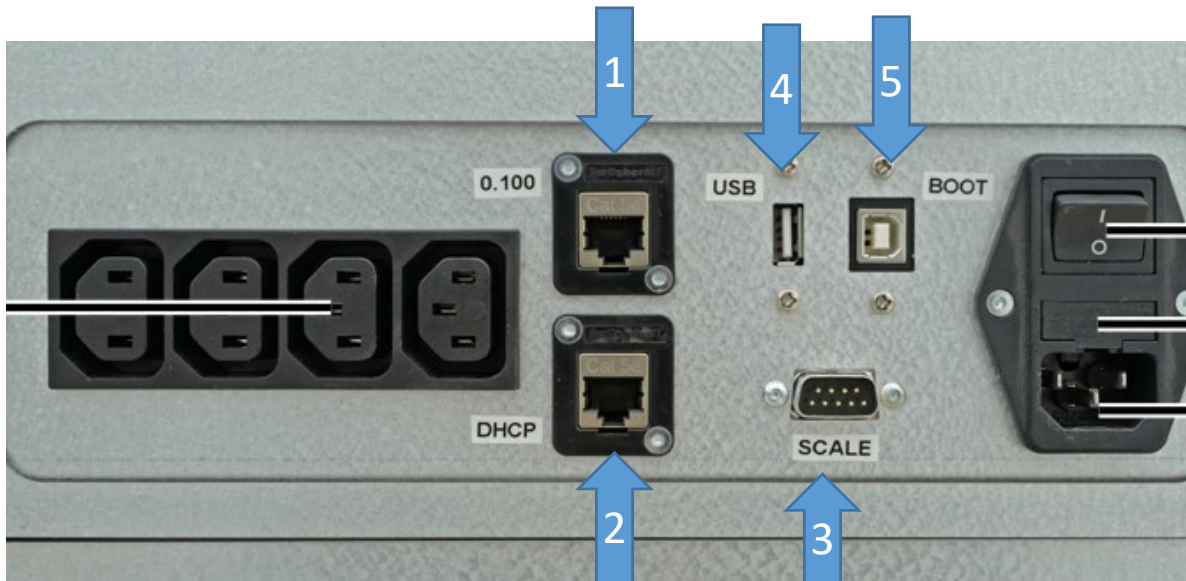
The CT option foresees the use of circuits for the dispensing of the bases and a "set samples" that allows to lodge in the body a small warehouse of 100 cc, with its lids and a manual cover system.

Thor:Electrical panel



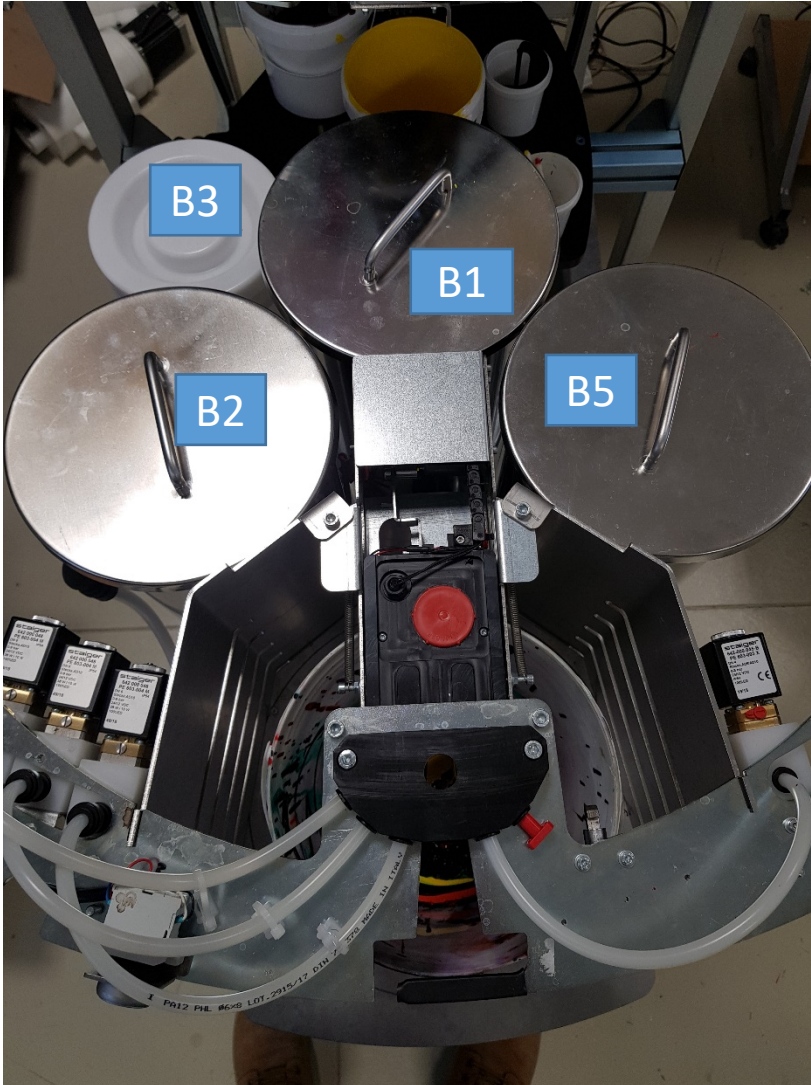
- 1 • switch on/off
- 2 • Fuse port 5x20mm T4A 250Vac
- 3 • 100-240Vac standard CT-120 socket
- 4 • 4 x standard connector C14 (200W MAX *)

Thor: Electric panel



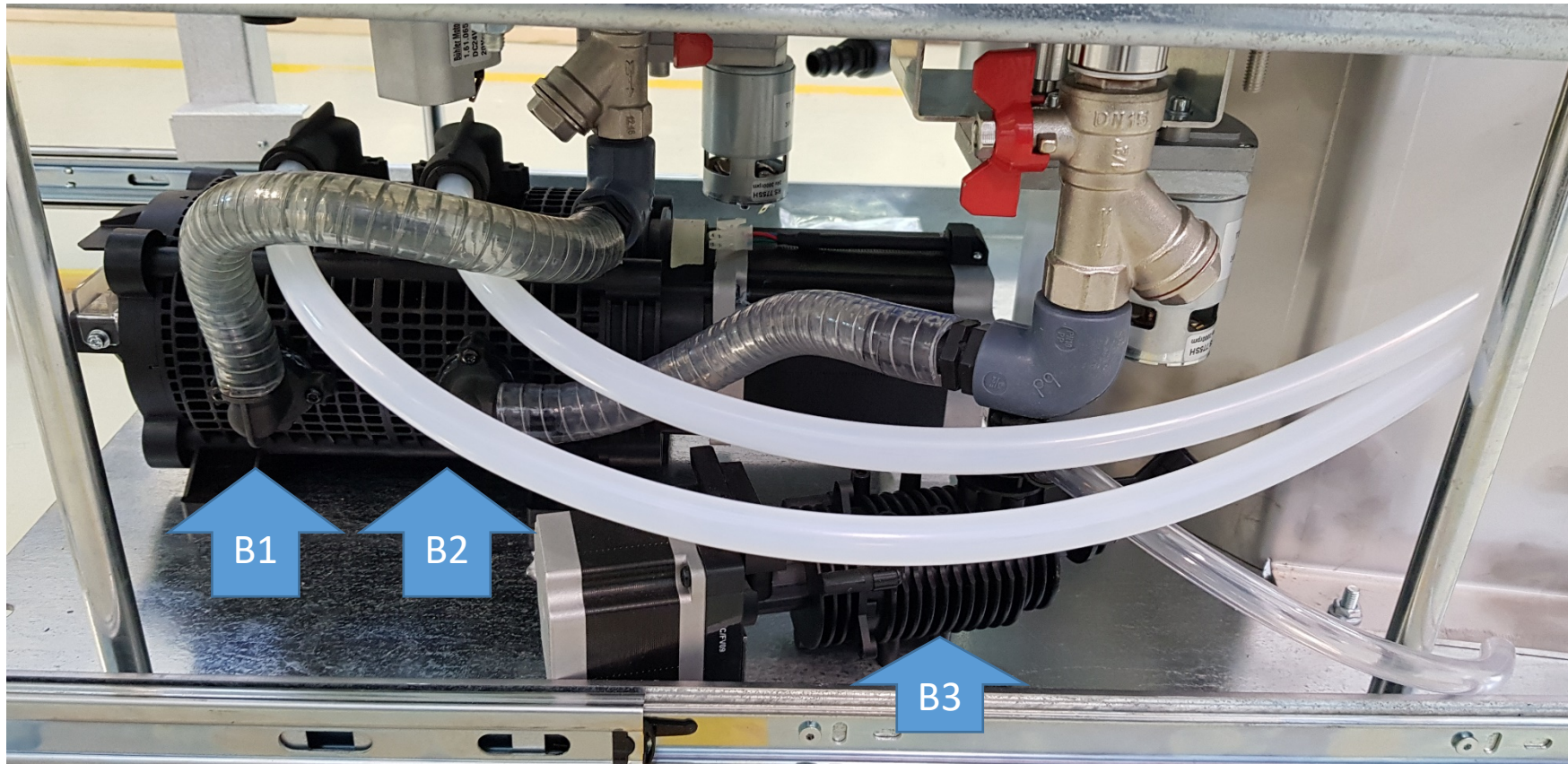
- 1 • "0.100": RJ45 socket for direct communication with the machine
- 2 • "DHCP": RJ45 socket for local Ethernet network connection
- 3 • "SCALES": RS-232 socket (for scale)
- 4 • "USB": port for possible Spectrophotometer connection or for another USB device
- 5 • "BOOT": USB-B service port used to update the Firmware via Boot.

Thor Master: Description



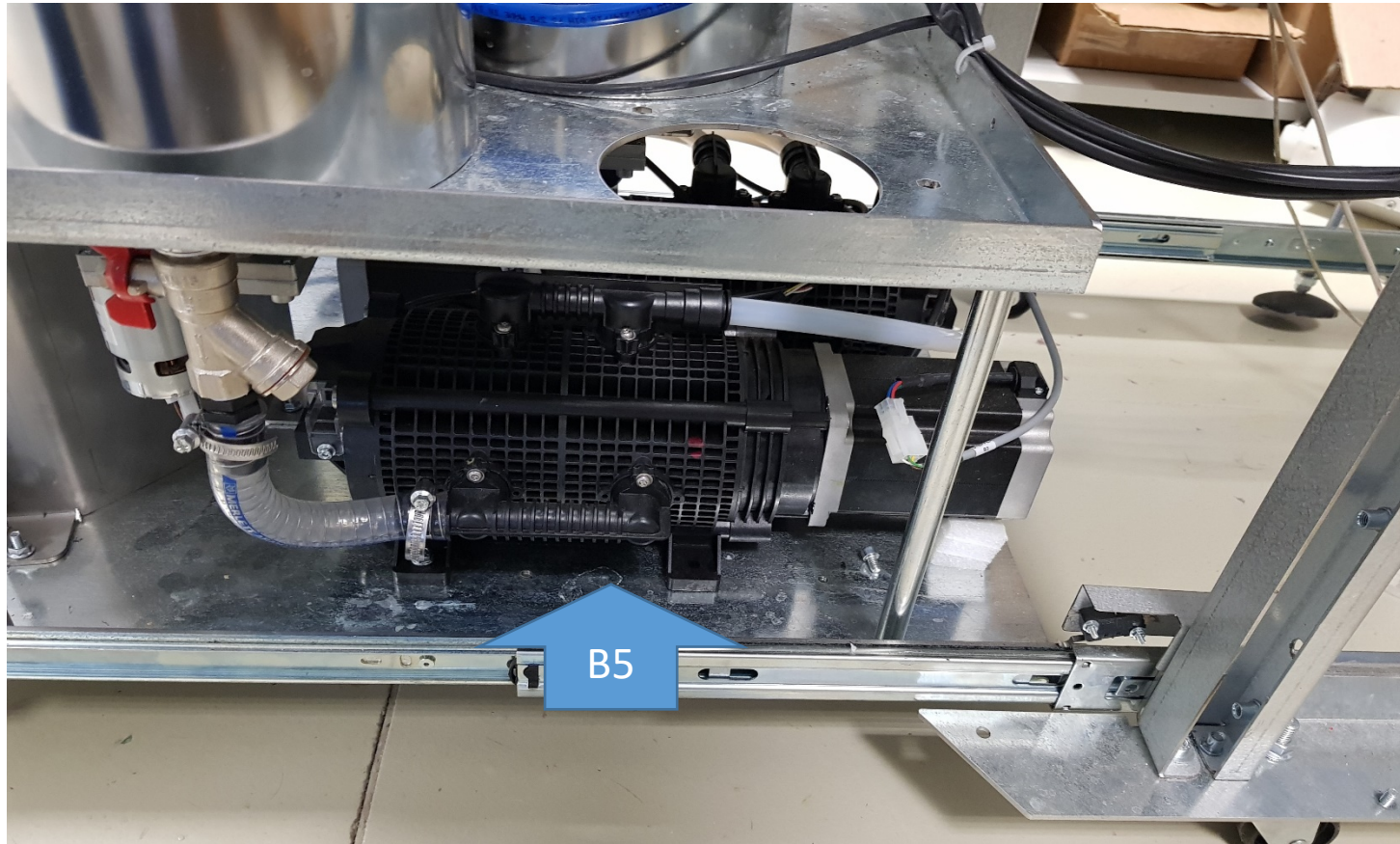
- Two canisters of 12 liters with a pump of 3 liters, one chamber of the pump for each circuit. (Cover of 1.5 liter).
- A 12 liter tank with a 3 lt / min pump.
- A 6 liter tank with a pump of 02lt / min

Thor: Double pump 3lt/min.



The external part of the pump uses the tank B1 the internal part tank B2.

Thor



Pump of 3 liters tank B5

Thor

Unpacking

Thor



- With the help of a cutter, remove the straps with caution;
- Lift the wooden lid (1) and remove it, resting it on the ground near the machine;
- Pull the cardboard upwards and remove the internal alveolar film protections that protect the machine.
- Keep the cover (1) without damaging it since it can be used as a ramp to lower the platform machine.

Thor



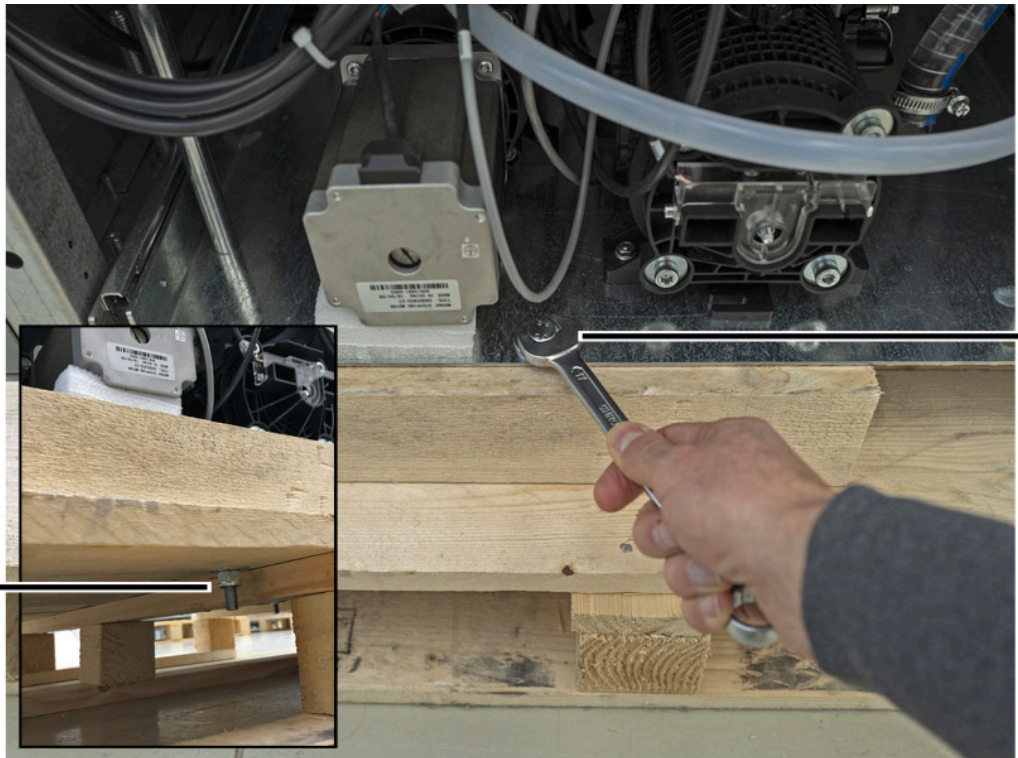
- To release the machine from the platform it is necessary to remove the external panels.
- Remove the rear panel by unscrewing the 4 M6x12 round head screws (2) with a 4 mm Allen key.

Thor



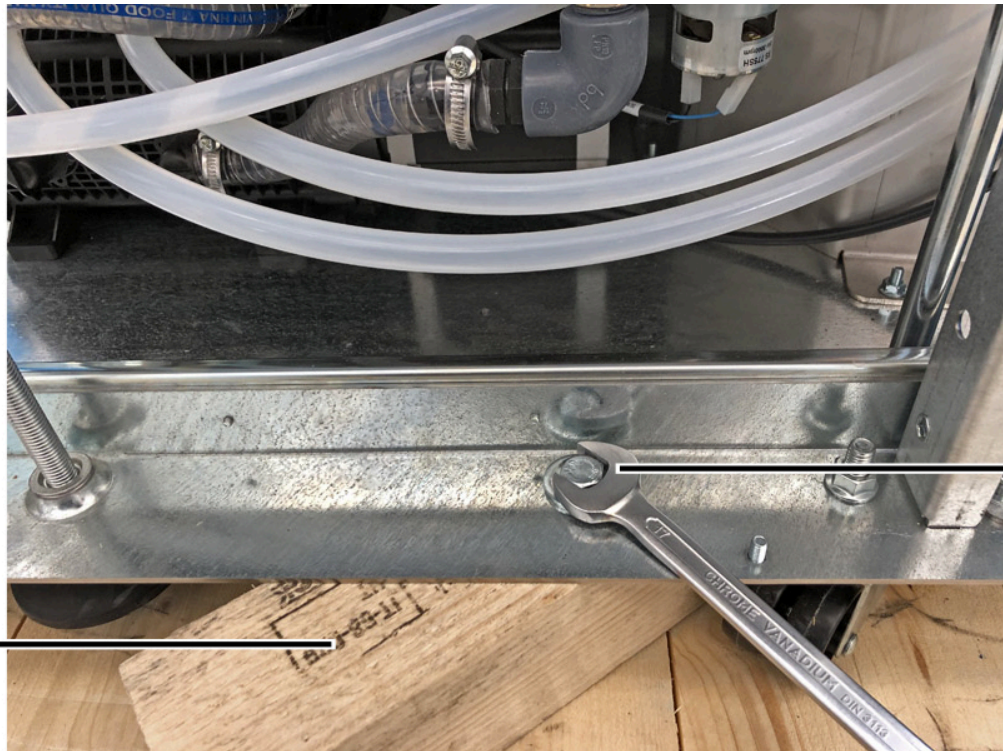
- Remove the two side panels by unscrewing the M6x12 screw present under each panel (3) with a 5 mm Allen key; then, move the panel towards the back of the machine so that the eyelets present in the lower part of the panel (4) come out of the anchor bolts present in the base.

Thor



- With two 17 mm wrenches, lock the nut under the platform (5) and unscrew the 3 M10x150 screws (6) that fix the base to the platform.

Thor



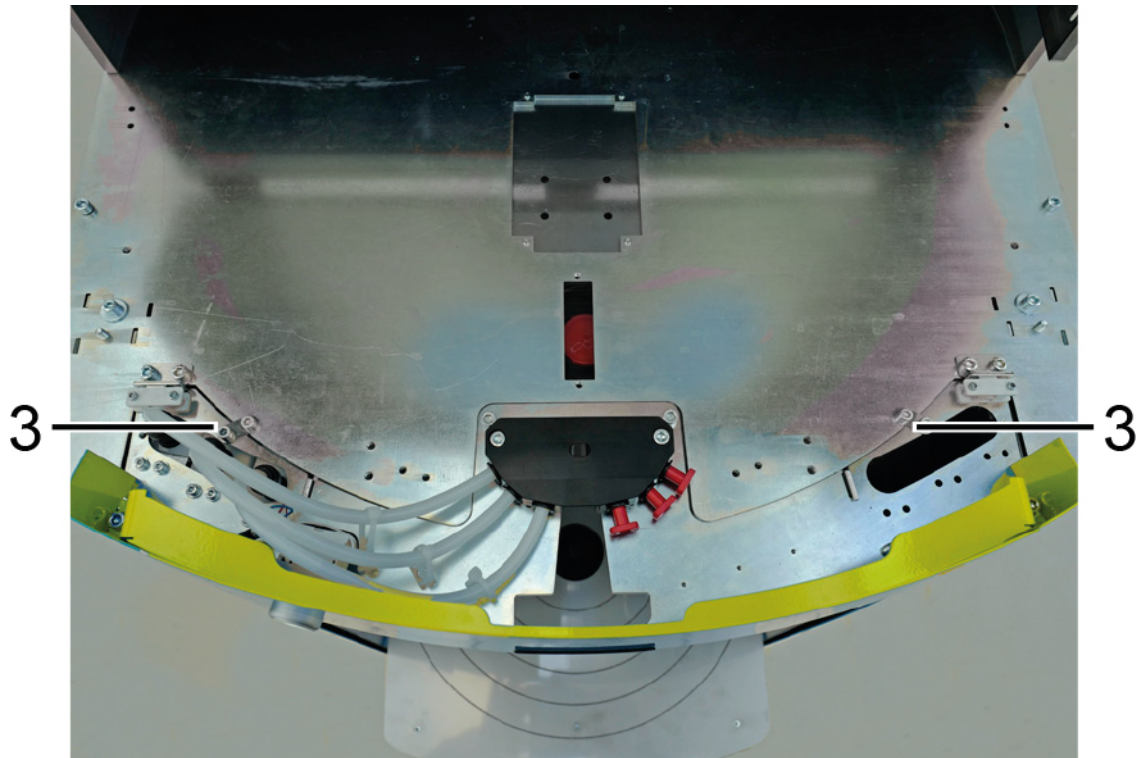
- In the same way, unscrew the two screws on both sides of the machine (7).
- Adjust the wheels so that they touch the platform, then remove the thickness of wood between the machine and the platform (8).

Thor



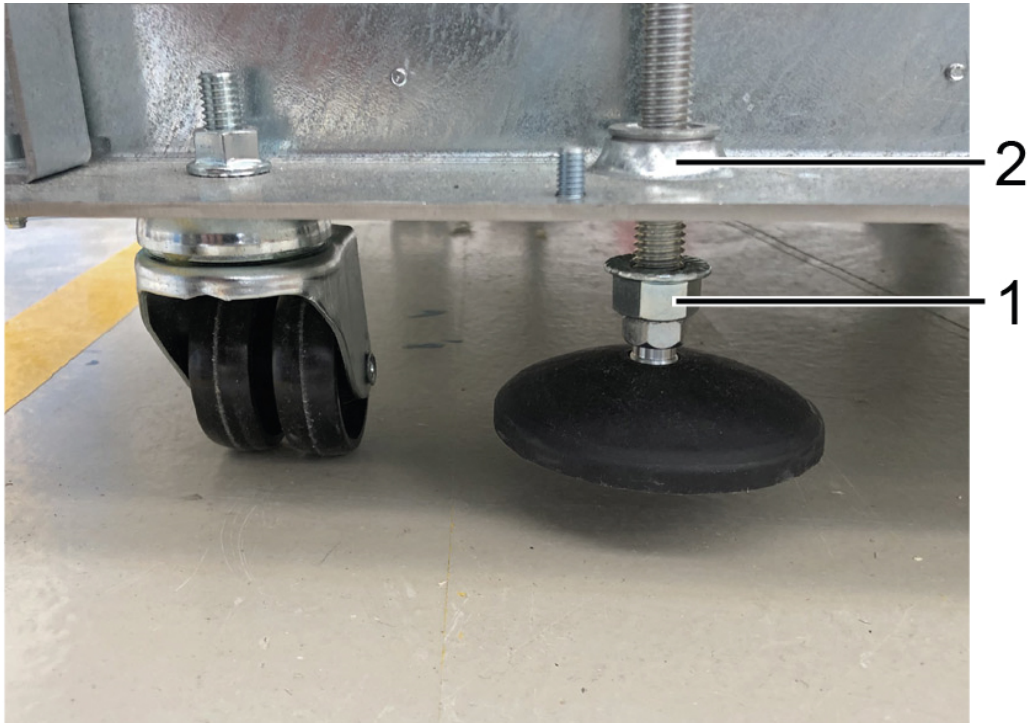
- Slowly, push the machine on the platform making it slide on the wheels.
- Carry out this operation with the help of
- less two people, holding the
- machine on both sides to avoid
- imbalances, rollovers or loss of
- control during the descent. Check that the
- platform does not move during the step of
- the platform to the platform.

Thor



- ELIMINATION OF MECHANICAL BLOCKS
- The semi-finished trolley is fixed to the machine with two small bras. Remove the screws and brassieres (3) using a 4 mm allen wrench.

Thor



Once the machine is placed in the desired place, it is necessary to stabilize it on the adjustable support legs.

Using the nut / groove in the base of the screw (1), with a 10 mm wrench, lower the leg until the wheel is completely raised. As an alternative, screw an M12 nut up to the stop on the insert (2) and then raise or lower the leg using a 19 mm wrench.

Use an M12 nut to lock the leg

Thor

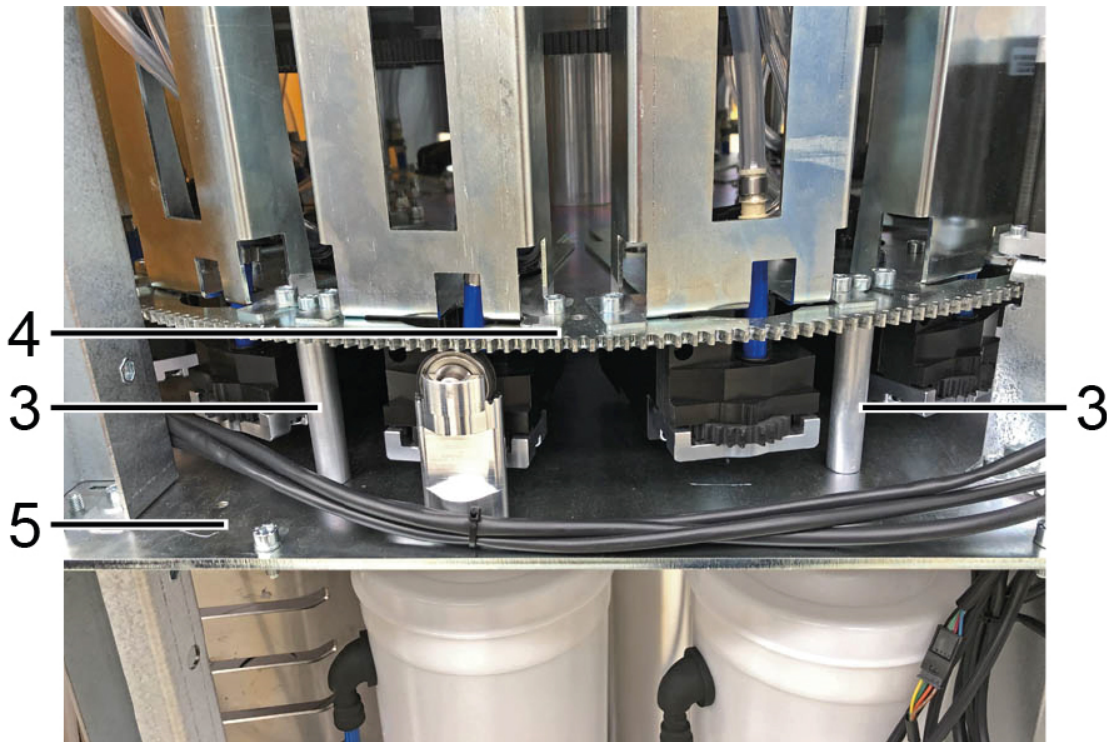


UNLOCK CAROUSEL

The carousel is fixed to the cabinet with 4 columns that prevent rotation during transport. To unlock the carousel, follow the instructions below:

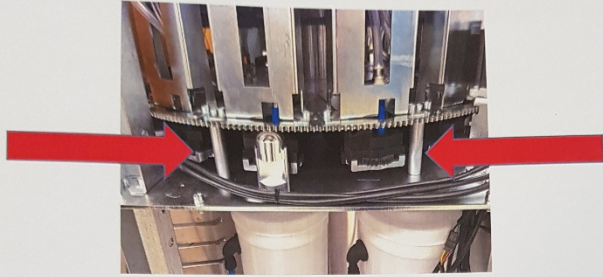
Remove the upper side panels by unscrewing the M6 TCEI screw (1) with a 5 mm Allen key.

Thor

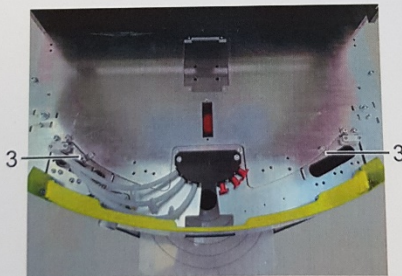


- Remove the 4 columns (3), two on each side of the carousel, which block the rotating carousel (4) on the fixed base (5) by unscrewing the respective M5 TCEI screws present above each column and the M6 TCEI screws present below each column.

Thor



POR FAVOR **QUITAR** ANTES DE
HACER FUNCIONAR
LA MAQUINA

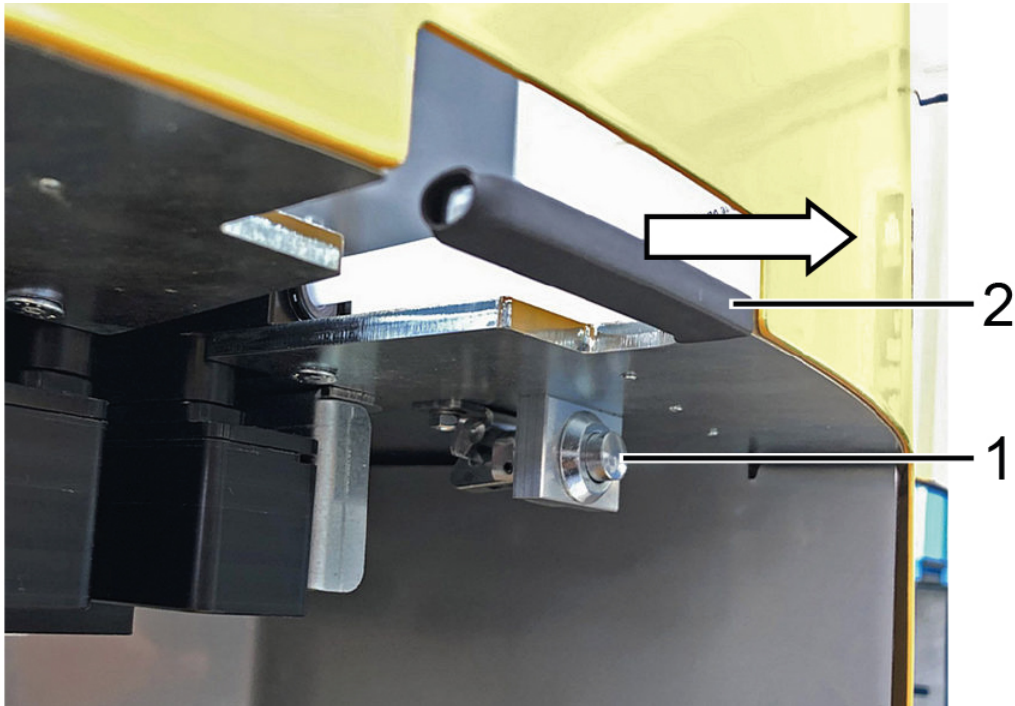


(Consulte el manual del Operador § 3.3)

Each Thor you will find this sheet in the frontal part of the machine.

To prevent the computer from turning on with the lock.

Thor



SEMI-FINISHED CART REMOVAL

To remove the furniture base trolley it is necessary to unlock the safety stop:

press the button (1) and remove the furniture with the handle (2).

Thor



Check that all the accessories are:

- Power cord;
- Connection cable;
- Ethernet cable;
- User's manual;
- Replacement fuse set;
- Sponge set autocap.

Modem
Network wire
2 Antennas

Thank you!

