

## 5. ORDINARY MAINTENANCE AND ADJUSTMENTS

### 5.1. INTRODUCTION

The following paragraphs describe the circuit top-up operations as well as the instructions for simple adjustments that can be performed by the operator.

Namely:

- Colorant and master tanks top-up

Please refer to Chapter 6 for lubrication and cleaning of the machine.

**THE OPERATIONS DESCRIBED IN THIS CHAPTER MAY REQUIRE ACCESS TO DANGEROUS SERVICE AREAS. ACCESS TO SERVICE AREA IS RESERVED TO TRAINED AND AUTHORISED STAFF (MAINTENANCE OPERATOR, SEE PARA. 0. – USERS AND ACCESS LEVELS).**

### 5.2. TANK AND CANISTER TOP-UP

When the machine indicates that the product reserve level has been reached, it is necessary to top up the relevant canister or tank and then record the top-up operation. In order to perform this operation, proceed as follows:

Colorant group canisters:

Top-up using only the canister in the front part of the machine.

To top-up colorant proceed as follows:

- Open AlfaTint “Service” tab and press REFILL button of the circuit to be topped-up.
- Once the table has completed rotation (if necessary) the circuit will be in the front position and will be ready for top-up.
- Remove the canister lid.
- Fill the canister with the appropriate pigment up to the indicated maximum level (MAX LEVEL).

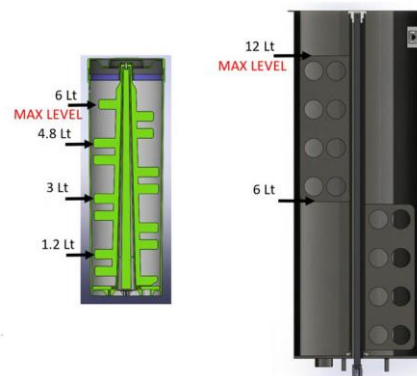
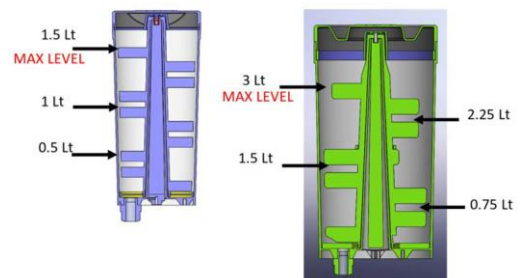
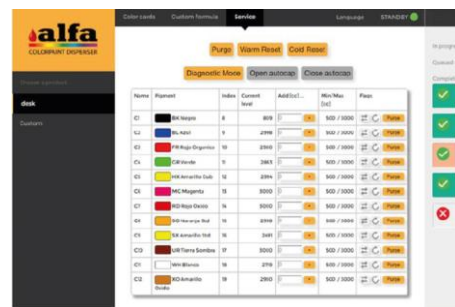
**NOTE:** The cross element can be used to support a container when you leave it to drain. Do not overfill beyond the recommended level.

Base and semi-finished product tanks:

To top-up semi-finished product circuits, if any, proceed as follows:

- Extract the base/semi-finished product carriage from the Thor cabinet.
- Remove the cover of the tank/tanks to be topped up.
- Top up the circuits using the suitable product. Do not overfill beyond the level indicated by the end of the stirring blade (MAX LEVEL).

At the end of the top-up operations, close the lids of the filled circuits and refit the carriage inside the cabinet, then record the just carried out operation in the software (see next paragraph).



### 5.3. RECORDING THE OPERATION

After each top-up operation it is necessary to record in the software the product added quantity:

- Access the “Service” section and then “Diagnostic Mode”;
- In the “Add [cc]” field enter the volume in cc of the product supplied in the circuit, then press “+”.
- Repeat this operation for each topped-up circuit.
- Perform a reset to quit the DIAGNOSTIC mode.



### 5.4. MINIMUM AND RESERVE LEVEL

For each circuit it is possible to define a reserve level (that can be checked by means of the hardware sensor) and a minimum level (that can be checked via software).

If the product volume is lower than the reserve level (1) detected by the sensor, the system shows an alarm.

If the volume is lower than the minimum level (2) calculated by the software, the system disables the circuit and does not supply that product until the circuit is topped-up.

Every time a dispensing control is sent, the software calculates if the volume of each product in the machine is sufficient to perform the formula so that the residual volume is not lower than the minimum set one. In case even only one of the components of the formula is not sufficient, the system requires the operator to select another formula.



### 5.5. ADJUSTING MINIMUM LEVELS

Thor is not provided with minimum level sensors. Levels are only software controlled.

### 5.6. PRODUCT DISPOSAL

During the maintenance or repair interventions it may be necessary to empty canisters and tanks from the paints contained in the circuits.

Colorants and base must be disposed of in suitable collector tanks to be treated and disposed of in a suitable way.

It is forbidden to release the products in the environment or in the public sewers.

## 6. ORDINARY MAINTENANCE AND CLEANING





### 6.1. SCHEDULED MAINTENANCE

The following table indicates the scheduled maintenance recommended by Alfa.

SERVICE OPERATION	INTERVAL
Lubrication	none
Autocap cleaning and moisturising	weekly
Nozzle cleaning + Purge	daily
Machine external cleaning	monthly
Machine internal cleaning	monthly
Strainer cleaning	every 12 months
Changing fuses	If needed
Functional check of door and trolley sensors	weekly

This chapter describes the service operations required at regular intervals to ensure machine trouble-free operation.

**OPERATIONS DESCRIBED IN THIS CHAPTER REQUIRE ACCESS TO DANGEROUS SERVICE AREAS. ACCESS TO SERVICE AREA IS RESERVED TO TRAINED AND AUTHORISED STAFF (MAINTENANCE OPERATOR, SEE PARA. 0. – USERS AND ACCESS LEVELS).**

	<p>TO ENSURE CORRECT AND TROUBLE-FREE MACHINE OPERATION, IT IS NECESSARY TO PERIODICALLY CARRY OUT THE MAINTENANCE OPERATIONS BELOW AS PER THE MANUFACTURER'S INSTRUCTIONS.</p>
	<p>IF THE MAINTENANCE OPERATIONS ARE NOT CARRIED OUT IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED, ALFA SHALL NOT BE HELD LIABLE IN ANY WAY FOR ANY MACHINE PROBLEMS AND MALFUNCTIONS.</p>
	<p>ALWAYS TURN OFF THE MACHINE BEFORE PROCEEDING TO MAINTENANCE AND CLEANING.</p>
	<p>IT IS STRICTLY FORBIDDEN TO REMOVE COVERS AND SYSTEM PROTECTIONS.</p>

## 6.2. SERVICE EQUIPMENT

Below is a list of the required equipment for the service operations.

Blotting paper, clean cloth/sponge



Plastic spatula



Thin metal wire or clip (to clean colorant nozzles)



Thin tip tool or 2.5 mm flat screwdriver (for cleaning master nozzles)



22 mm open wrench



Funnel (for humidifier top-up)



## 6.3. LUBRICATION

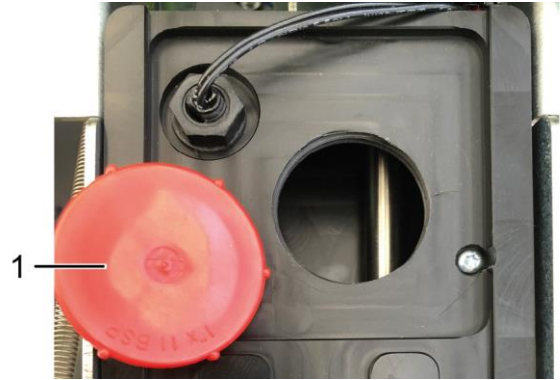
In terms of ordinary maintenance, the machine requires no scheduled lubrication by the MAINTENANCE OPERATOR.

## 6.4. AUTOCAP CLEANING AND MOISTURISING (IF ANY)

### Humidifier level refilling

In case of low level:

- Extract the base/semi-finished product carriage from the cabinet.
- Refill by loosening the red cap (1) and adding distilled water.
- Screw the cap again to prevent evaporation phenomena.
- Refit the carriage inside the Thor cabinet.



### REFILL WITH DISTILLED WATER ONLY

During refilling, it is recommended to use a funnel to prevent the risk of water spilling outside the tank. In case of accidental water spillage during refilling, thoroughly dry the wet parts with blotting paper.

### Autocap sponge cleaning

It is recommended to periodically clean the sponges present inside the autocap cover, as described below:

- Open AlfaTint Service tab in DIAGNOSTIC mode (refer to chap. 4 - SERVICE ADVANCED FUNCTIONS), then press button “Open Autocap”.
- Remove the sponges (1), if necessary use a metal wire. Wash them with running water.
- Refit the sponges to their original positions.
- Press Alfatint “Close Autocap” button to close autocap, then reset to exit DIAGNOSTIC mode.



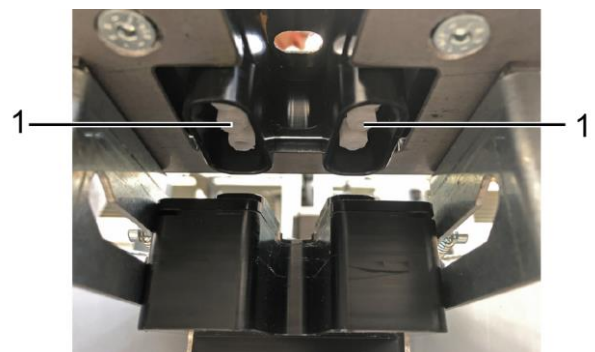
## 6.5. NOZZLE CLEANING

It is recommended to periodically make sure nozzles are free of scale, deposits or colorants settled and dried up. **WARNING:** The problem might be made worse by insufficient moisturising of the autocap unit.

Visually inspect nozzles every day, before starting up the machine.

To inspect and clean the nozzles proceed as described below:

- Open AlfaTint Service tab in DIAGNOSTIC mode (refer to chap. 4 - SERVICE ADVANCED FUNCTIONS), then press button “Open Autocap”.
- Clean the dispensing nozzles using a tool with a thin metal tip to remove any dry residues from the outlet channel.
- Press Alfatint “Close Autocap” button to close autocap, then reset to exit DIAGNOSTIC mode.



After this procedure, always perform a purge cycle (see the following paragraph).

**NOTE:** The maintenance operator does not have to clean colorant group nozzles.

## 6.6. PURGE

This function consists in dispensing a small quantity of product from one or several circuits, so as to ensure proper cleaning of the dispensing circuits and prevent settling or drying out issues that could compromise machine operation. During purge, products are unloaded into a can, which must be properly placed under the dispensing nozzle.

From the diagnostics interface, the MAINTENANCE OPERATOR can execute the command to purge the individual circuit, as well as an automatic purging operation, which dispenses a small amount of colorant from all the circuits present on the machine.

To force a machine purge command, proceed as follows:

- Access the Service interface (see Chapter 5 and access “Diagnostic Mode”);
- Place a can under the dispensing nozzle;
- Start the purge cycle by pressing the relevant control (“Purge”);
- Wait for the machine to complete the cycle, and check to make sure that no alarms have been generated;
- When the cycle is completed, remove the previously-positioned can.
- Reset the machine.

## 6.7. EXTERNAL CLEANING

The machine requires no special precautions for cleaning.

Clean external surfaces using a cloth wetted with water, degreaser, or denatured alcohol at 90%.

Do not use solvents or abrasive products.

Do not use water jets to clean the machine.

## 6.8. INTERNAL CLEANING

- Use a spatula to remove any dry residues from the surfaces.
- Clean machine inside by vacuuming dust and dirt. If needed, use a brush.
- Clean any surfaces that could not be cleaned with the above-described methods using a cloth (or blotting paper) wetted with water.

Be careful not to damage the electric parts and in particular the optic forks of the machine.

### 6.8.1. SPILLING OF COLORANTS OR PAINTS

Colorant or paint may be spilled during normal use or topping-up.

The best way to clean residues is to remove the dry product with a spatula.

Should you need to clean parts from liquid colorant spilling, use blotting paper, sponges or dry cloths, trying to remove as much product as possible without using water.

It is recommended not to use water or other liquids to rinse.

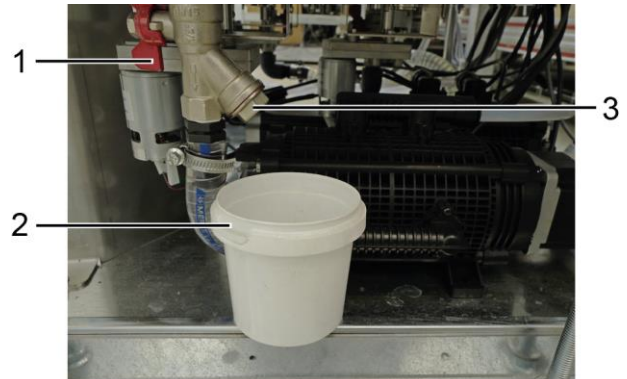
#### **DO NOT USE SOLVENTS OR ABRASIVE PRODUCTS**

Drain and wash the vessels in a suitable washing circuit for collecting colorant waste (DO NOT RELEASE IN THE ENVIRONMENT NOR IN THE CIVIL SEWER SYSTEM).

### 6.8.2. SEMI-FINISHED PRODUCT CIRCUIT FILTER

Upstream of the dispensing pumps, at the outlet of the tanks, there can be a combined valve including a tap and a filter. It is recommended to periodically clean the filter, since during use it tends to hold all impurities of the products. Have this operation performed by qualified TECHNICIANS. For filter cleaning, contact technical service every 12 months. Clean filter as follows:


- Close tap upstream of filter (1);
- Set a vessel under the filter bottom end (2);
- Loosen the filter holder cap using a 22 mm wrench (3);
- Remove filter and flush with fresh water to clean it;
- Refit filter and its screw cap, then work tap to open the circuit;




NOTE: A properly positioned can will prevent the product in the filtering compartment from falling and contaminating the surfaces below.

### 6.9. REPLACING THE FUSES

In case of mains malfunction or problems, the safety fuses could blow and cut power. Fuses are located in the fuse holder built in the plug with switch on the back panel (see chapter 1 - ELECTRICAL CONTROL PANEL). To change it, remove power plug and open fuse holder using a flat screwdriver to prise it open. Lift the fuse holder until it can be manually removed.

	<p><b>USE ONLY FUSES OF THE SAME TYPE AND THE NOMINAL RATING SHOWN IN THE PRODUCT LABEL (SEE PARA. 3.2).</b>  <b>Fuse requirements:</b>  <b>EU - IEC 60127 Approval</b>  <b>US - UL248-1 and UL248-14 Approval</b></p>
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	<p><b>WARNING</b>  <b>THE FUSE MUST BE REPLACED WHEN THE MACHINE IS SWITCHED OFF AND THE POWER CABLE IS UNPLUGGED FROM THE MAINS.</b></p>
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### 6.10. CHECK OF THE CORRECT OPERATION OF THE DOOR CONTROL SENSORS

Periodically, at least once a week, check the correct operation of the door opening and trolley extraction sensors. To carry out the check:

- open the upper door;
- check that the AlfaTint software detects the ALARM status, thus preventing the dispensing of a formula;
- close the door and reset the error;
- extract the trolley, checking again that the machine sets to ALARM status.

If an ALARM status is not detected, interrupt the production activities and contact the Service.

## STRAINER CLEANING

Clean the colorant filters as described below:

- Remove the lid of the colorant group with the filter to be cleaned.
- Lift the cross element located inside the colorant tank and release the filter by pressing the tabs (3) indicated in the figure.
- Lift the stirring blade (4), with the filter fixed on its bottom.
- Remove the filter and rinse it with running water paying attention not to damage it.
- Engage the filter back to the end part of the stirring blade and reinsert the components inside the tank by pressing on the central rod to engage the tabs.

Reposition the cross element and the colorant tank lid.

