

3. INSTALLATION

3.1. CHOOSING THE ROOM

The machine must be installed in a manned room, complying with the requirements in chapter 1.

DO NOT INSTALL THE MACHINE OUTDOORS OR ANYWHERE EXPOSED TO WEATHER.

THE EQUIPMENT IS NOT SUITABLE FOR INSTALLATION IN AREAS WHERE WATER SPRAY COULD BE USED.

ONLY INSTALL ON SMOOTH, FLAT AND STEADY FLOOR, ABLE TO SUSTAIN THE MACHINE FULL-LOAD WEIGHT.

THE MACHINE MUST BE POSITIONED ON A HORIZONTAL SURFACE (FLOORING WITH A GRADE BELOW 2%)

INSTALLATION ON INTERMEDIATE FLOOR IS ALLOWED ONLY IF THE REQUIRED LOAD BEARING CAPACITY IS VERIFIED (>1000KG/SQ.M).

INSTALL THE MACHINE AT 5-10 CM FROM THE WALLS, AND ENSURE THAT THE ROOM EASILY ALLOWS YOU TO EASILY OPEN THE SERVICE COMPARTMENTS AND THAT THE CIRCUIT BREAKER CAN BE EASILY ACCESSED.

3.2. PRODUCT LABEL AND ELECTRICAL CONNECTION

Make sure that the system meets the electrical requirements specified on the machine nameplate, then connect the power cable to the socket.

- Model: machine model
- Type: machine type
- Vnom: power supply voltage
- Hz: mains frequency
- Imax: absorbed current
- SN: serial number
- Made in Italy: year of manufacture
- Fuse Rate: fuse value

The machine is equipped with a detachable power cable for connection to the mains.

Connect the machine to the mains using exclusively the cable supplied.

Always make sure that the voltage output from the mains is compatible with the nameplate specifications.



	USE ONLY LISTED DETACHABLE POWER SUPPLY CABLES NOT EXCEEDING 4.6 M. LENGTH, TYPE SVT OR SJT, 3X18 AWG 10 A, WITH GROUND CABLE.
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To ensure the correct machine operation and the highest safety level, it is essential that the machine is connected to ground. Make sure that the system is connected to a power supply with an efficient ground.

	WARNING: ONLY CONNECT THE MACHINE TO ELECTRIC SYSTEMS PROVIDED WITH GROUND CIRCUIT CONNECTION COMPLIANT WITH THE NATIONAL STANDARDS.
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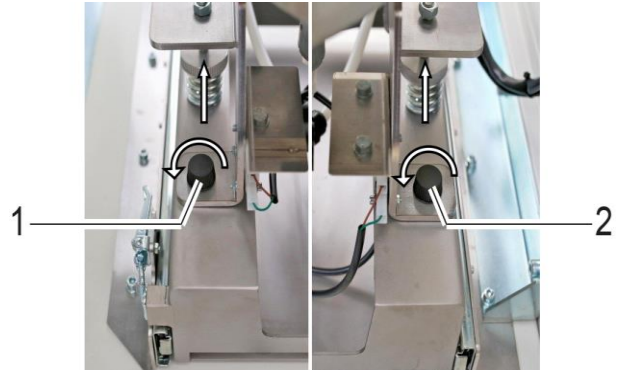
3.3. REMOVING THE MECHANICAL RETAINERS

Some mechanical retainers prevent movement of machine components to avoid damage during transport. After unpacking and before commissioning, remove all mechanical retainers as follows:

3.3.1. DYE TANK RETAINER REMOVAL

Tanks are fastened to the lower pull-out tank by means of screwed knobs.

- Remove the knob retaining the left tank (1) and right tank (2), so as to enable master reserve detection system.



3.3.2. MASTER TANK RETAINER REMOVAL

During transport, canister supports are fastened to the pump unit underneath.

- Each colorant group is fastened by means of the screw (4).
- Remove all retaining screws (4) from colorant groups, using a 4 mm Allen wrench.
- Remove also the polyurethane protection between the canisters.

To make access to units easier, it is recommended to remove the upper panel located on machine back side, and refit it once the operation has been completed.



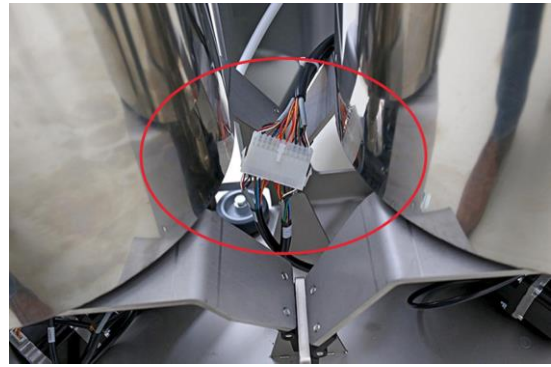
3.3.3. CONNECTING THE MASTER CIRCUITS

If the machine is equipped with master circuits, the installation must be completed by performing the electrical and hydraulic connections for the pull-out trays.

There are two semi-finished product circuits for each tray, with a maximum of two trays in the machine. Each circuit consists of a delivery pipe (identified by an "M") and a recirculation pipe (identified by an "R"). Connect each pipe to the relevant circuit, then make sure that the relevant valves (4) are open.



Finally, connect the electrical component using the dedicated connector.



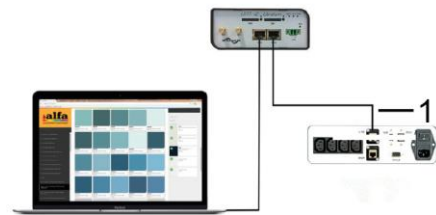
After having completed the above operations, reposition the trays inside the cabinet and lock them in place by engaging the wheel brakes.

Close the doors when finished.

3.3.4. CONTROL PC INSTALLATION

Connect the PC to a suitable power socket. If AUX sockets available on the Alfa tinting machine are used, check the electrical characteristics on the data plate.

Then connect the PC Ethernet plug to the machine Ethernet socket (or to LTE modem, if any) using the cable supplied with the machine. For the first setup of the machine or to retrieve the DHCP IP address assigned by the network to a machine connected to the LAN, it is necessary to connect to the “0.100” (1) port of the machine.



If an LTE modem router is used, refer to the next paragraph.

Connect the accessories required, such as monitor, mouse, keyboard, and printer if necessary.

DISCLAIMER

Alfa machines are set for local network communication with third party devices and for access to services via internet (alfa-cloud, alfa-service in VPN, etc.) using Ethernet or wireless interfaces.

These systems are NOT designed to be directly used online, as they do not ensure the necessary cyber security protection.

Direct exposure of network interfaces to the internet network without a firewall or similar protection system poses a cyber security risk, that must be avoided with a suitable configuration at the time of installation and for which Alfa srl is not responsible.

3.3.5. CONTROL SOFTWARE

To control the dispenser, Alfa makes the web-based interface called AlfaTint available to all its customers.

In case you wish to apply your own software, Alfa provides a series of calls (API Rest) allowing interfacing the machine with any third-party software.

For more details on the API Rest, please refer to the technical manual or contact Alfa Service Department.

In the following, we will refer to AlfaTint interface commands.



3.3.6. LTE ROUTER MODEM INSTALLATION (OPTIONAL)

LTE modems supplied by Alfa are always configured to provide router-machine communication at the address 192.168.0.100.

In case the router is used, it will be necessary to start VPN connection by using the specially provided certificate and to connect to the router IP by setting the last digits of the IP address to 100 (see technical manual for more detailed information).

Different LTE Routers may be supplied, depending of the destination market of the machine.

With reference to the figure on the side, the upper model (1) is suitable for North American markets (Mexico, USA, Canada), whereas the lower model (2) can be used elsewhere in the world. Further models can be used in specific areas where special type-approval requirements are necessary (e.g. Australia).

- Connect the machine Ethernet 0.100 plug to one of the two Router Ethernet sockets and the PC Ethernet plug to the other Router Ethernet socket;
- Connect the power cable present inside the router box between modem PWR connector and 24Vdc socket available in the internal power supply unit. As an alternative, it is possible to use the power supply unit included in the package, to be directly connected to an external mains socket.
- Screw the antenna supplied (3) to ANT threaded connector;
- Insert a data SIM into SIM1 slot, taking care to previously check that no PIN is enabled (before inserting the SIM into the router, insert the SIM into a telephone and disable the PIN if necessary).

NOTE: In some types of modem, SIM1 slot can be located in the rear part of the modem.



Check that the accessory kit includes:

- Modem
- Network cable
- No. 2 antennae

If necessary the antenna equipped with cable and magnet can be used.



3.4. SWITCH-ON AND INITIALISATION

Connect a PC to the machine Ethernet “0.100” socket using the supplied Ethernet cable, then proceed as described.

- Update the PC network configuration so that the IP address is within the same subnet as that of the machine (see the adjacent example).
- The machine default IP address is 192.168.0.100.
- For more information on how to modify your PC's IP address, contact your IT administrator.
- Turn on the machine by turning the on switch to its “I” position.

MACHINE:

IP: 192.168.0.100
NETMASK: 255.255.255.0

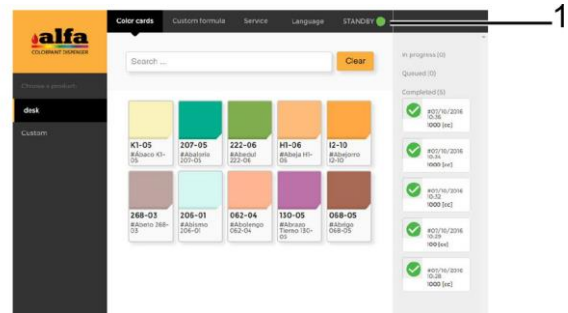
PC:

IP: 192.168.0.XXX
NETMASK: 255.255.255.0

xxx = free subnet address

i 192.168.15.100 ☆

- Open the Alfa TINT control interface on the Internet browser (preferably Chrome or Mozilla Firefox) and enter the address indicated in the figure.
- When the interface displays the window shown in the figure, the machine is ready to be commissioned and used.
- If the window is not displayed, check the Ethernet connection.



On top right you can always see the machine (1) status. Upon switch-on, the machine is in ALERT status (red status indicator). To use the machine it is necessary to perform a RESET. When the operation is completed, check that the STAND-BY status is displayed.

If the machine shows alarm or error warnings, check type of alarm and take the required steps to restore proper operation (see Chapter 8 - Trouble Shooting).

If machine does not switch on, check that power voltage is correct and fuse is not blown. For further details on malfunction issues, please refer to Chapter 8 "Trouble Shooting".

WARNING: if you are unable to communicate with the machine via the web browser, turn off the machine and contact the manufacturer's technical support service.

3.5. SWITCH-OFF

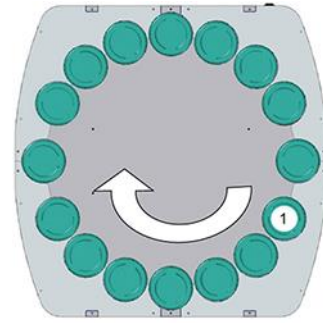
In order to switch off the machine, turn the main switch to its “O” position and disconnect the power cable from the socket.

WARNING: in order to disconnect the machine, the operator must not rely exclusively upon the power switch, but must also unplug the machine power cable.

3.6. COMMISSIONING - PREPARATION

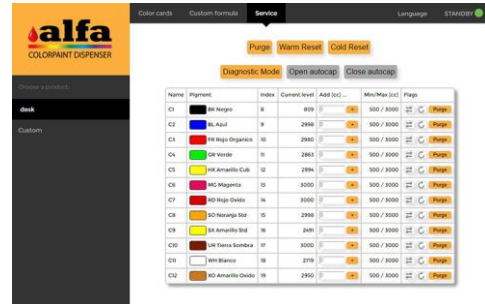
3.6.1. DYE CANISTER LOADING

Each colorant group is matched to a hardware address. By convention, colorant order is as shown in figure below. The canisters are always marked with labels from C1 to Cn, according to the actual number of present circuits.



The position-colorant association can be viewed by accessing the special software section.

Such associations can be modified by qualified TECHNICAL personnel. For further information, refer to the Software manual.



Upon first installation, the technician must set the proper tinting system and fill the tanks according to the proper sequence.

To load the products refer to chapter 5.

WARNING: Do not overfill the tanks.

Then, trigger the circuits and leave them in recirculation mode for the time needed (see chapter 3 - RECIRCULATION).

The tinting system loaded on the machine can be changed, as well as the colorant software indexing. These operations are reserved to authorised technical staff.

To see or change the positions associated with each colorant, please refer to machine configuration (ref. "Software manual").



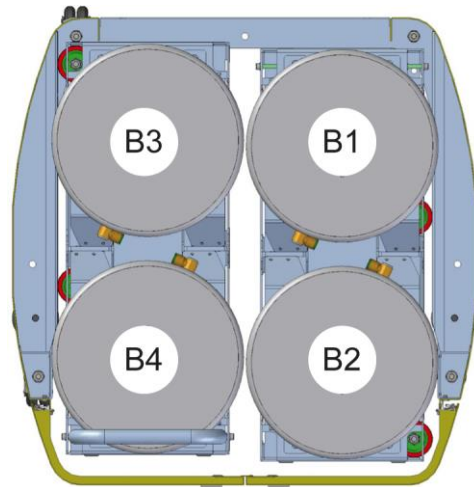
3.6.2. SEMI-FINISHED PRODUCT LOADING

The semi-finished products must be loaded into the 22-litre stainless steel tanks present in the lower part of the machine.

- Fill as follows:
- Open the machine front doors and extract the master trays (after disengaging the wheel brakes).
- Position any washable containers or collection sheets to be used underneath the tanks.
- Remove the covers and fill the tanks with the product indicated by the software.

WARNING: Tank capacity is 22 litres each. Do not overfill the tanks. Refer to paragraph 5.2 for the correct filling methods). If you accidentally spill some product outside of the tank, remove and clean the relevant removable collector tanks.

- The standard configuration requires the use of neutral paint in the left tank and white paint in the right tank.



Acknowledge loading of colorants and masters through the software

3.6.3. HUMIDIFIER

The humidifier unit, if any, is used to produce vapour inside the autocap in order to keep nozzles moistened. It works both with closed and open autocap, preventing or reducing product drying on nozzle terminal parts.

The system is composed of a distilled water tank that must be periodically filled, a pump and a vaporiser.

Safety function

A level sensor allows detecting when the tank is empty and allows the machine to disable moisturising function until the liquid level is restored. At software level no alarms or errors are shown.

Operation intervals

The machine periodically activates the humidifier according to factory preset and programmed timings, as shown in the table below.

Time in seconds	Closed autocap	Open autocap
Vapour dispensing	1	2
Repetition interval	1200	30

Intervals are parametrised and can be changed by authorised operators (see technical manual and/or software manual).

When switching on the machine, perform the autocap moisturising as described in chapter 6 – AUTOCAP CLEANING AND MOISTURISING.

3.6.4. SEMI-FINISHED PRODUCT CIRCUIT OPENING

Under the tanks there are the relevant pumping units provided with shut-off valves (1). Upon commissioning and before testing the circuits, check that the valves are open.

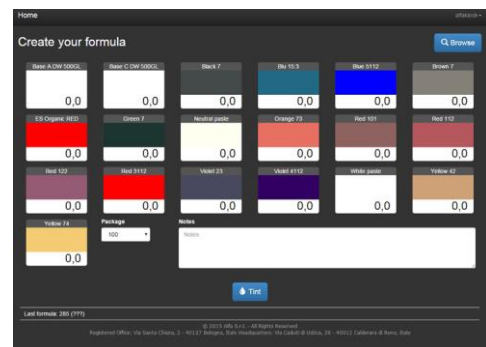


3.6.5. SWITCH-ON AND INSPECTION

After completing the above steps, the machine can be switched on using the main switch located on the back panel (see para. 1.4.2). Remove covers and fill the tanks with the product indicated by the software.

Once the boot process has been completed, after about one minute it will be possible to access the machine as described under point 3.4.

If the machine is not experiencing any errors or malfunctions, the screen shown in the figure will be displayed (run Lab application).



If the machine shows alarm or error warnings, check type of alarm and take the required steps to restore proper operation (see Chapter 8 - Trouble Shooting).

If machine does not switch on, check that power voltage is correct and fuse is not blown. For further details on malfunction issues, please refer to Chapter 8 "Trouble Shooting".

3.6.6. CIRCUIT TRIGGERING AND RECIRCULATION

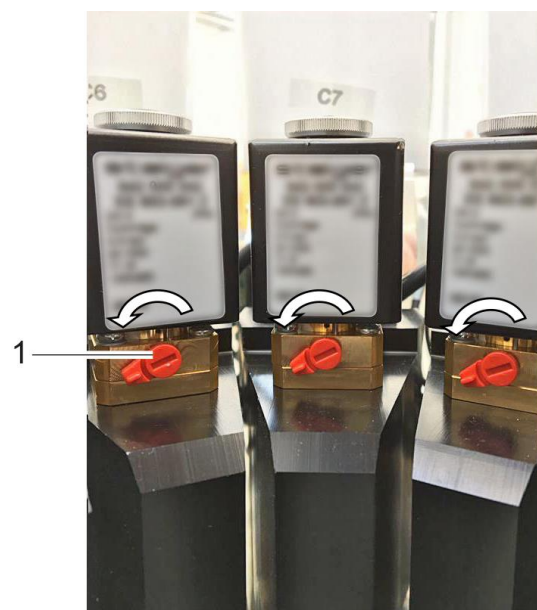
Before using the machine, trigger circuits and leave them in recirculation mode for at least 12 hours.

To remove air from the colorant circuit pump, it is recommended to manually drive the valve of each circuit and wait that the colorant, thanks to the head pressure, fills the pump until it spills out of the relevant nozzle.

Therefore it is recommended, in this order, to:

- Open the autocap;
- Position a container with proper capacity under the dispensing nozzle;
- Remove canister lids;
- Open valves (1) of the colorant circuit to be triggered;

At the end of the operation, close the valves, clean the nozzle with a dry and clean cloth taking care not to cross contaminate the nozzles, and close the autocap again.



Finally, it is recommended to leave the machine in stand by mode for at least 12 hours, a period of time usually sufficient to remove residual air from circuits.

3.6.7. SETUP OF CIRCUITS

The machine is now ready to be initialised or for producing the first sample.

Typically, the machines leave the factory with all circuits already characterised and ready to be used with the colorants of the tinting system specified in the order.

When using dyes that are not yet characterised on a software level, the circuits need to be set up first.

An incorrectly characterized machine can cause significant color production errors. Circuit setup is a procedure reserved for expert technicians so, if necessary, contact Alfa-authorized Technical Service. Circuit setup execution modes are described in the Software Manual.

Once the recirculation and setup stages are completed, the machine is ready for dispensing a test sample and commissioning.

Refer to "How to produce a sample" to perform a test production run.

3.6.8. USING THE SCALE

If a scale needs to be interfaced with the machine, use the RS-232 port on the back panel.

The machine is compatible with Mettler-Toledo scales with the SICS protocol.

Connect the scale serial cable to the PC, then position the scale under the dispensing nozzle.

RS- 232 configuration parameters for the Mettler scale:

```
HOST
9600
8/NO
STOP 1/B
SYNCHRO OFF
FLR-TX:CR
```

See the software manual for more information regarding the functions for managing the readings.