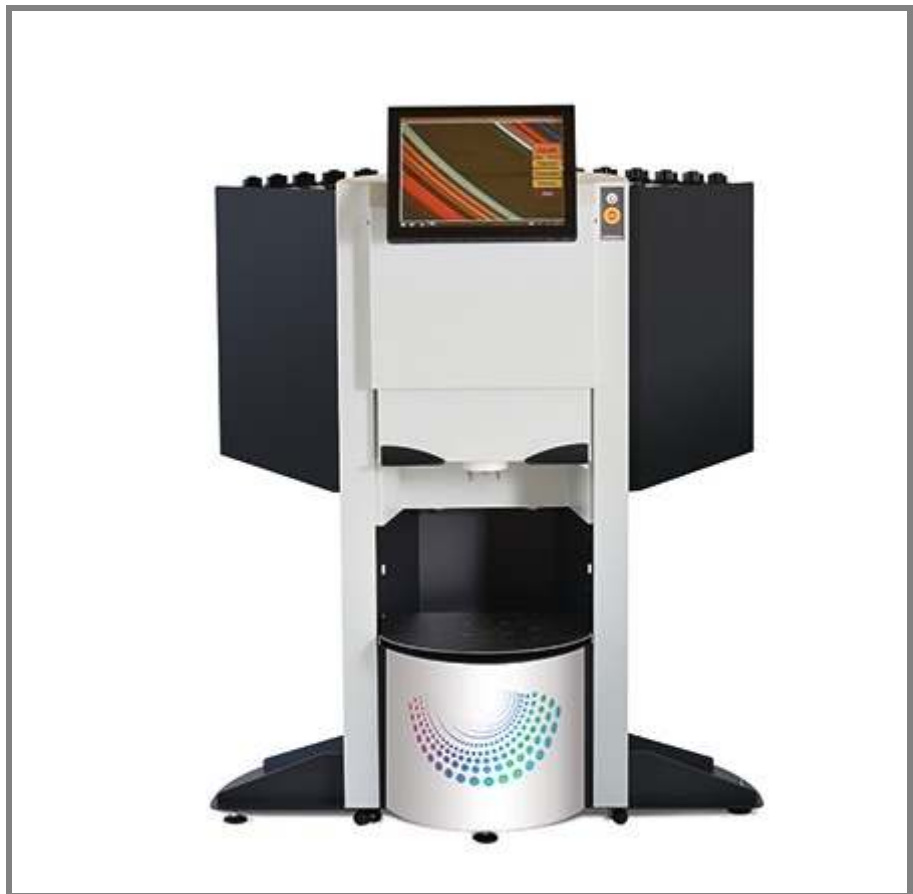


TINTA Color Dispenser



Make sure to read the operating instructions prior to initial use!

Always follow safety warnings!

Please keep for future reference!

This documentation is not subject to change management!

September – 2017-02

These operating instructions constitute a part of the technical documentation of the machine in accordance with the EC Machinery Directive.

These operating instructions correspond to the "Directive 2006/42/EC of the European Parliament and the Council for the Approximation of the Legal and Administrative Regulations of Member States for Machinery" (Machinery Directive), Appendix I, item 1.7.4.



These Operating Instructions are provided for the person in charge who must pass them on to the personnel responsible for connection, use, and maintenance of the machine.

The plant manager must ensure that the information contained in these operating instructions and in the accompanying documents has been read and understood.

The operating instructions must be kept at a known place that is easy to reach, and they must be consulted if there is the slightest doubt.

The manufacturer is not liable for injury to personnel, pets or damage to property or to the machine itself arising from improper/unauthorised use or as a result of disregarding or ignoring the safety criteria contained in these operating instructions or by altering the machine or by using unsuitable spare parts.

The copyright for the operating instructions lies solely with



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Dated: September – 2017

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1 Information about the document

1.1 Structure of the warnings

The combination of a signal with an icon classifies the respective warning. The symbol can vary depending on the type of danger.

 **THE WARNING IS PLACED UNDER A SIGNAL WORD WHICH INDICATES THE EXTENT OF THE DANGER.**






The first line after the signal word describes the type and source of the potential danger.

The next section describes the consequences of failure to adopt measures to avert the danger.

The last paragraph describes the actions to take in order to avoid the danger.

1.2 Signal words and signal colors

The following signal words are based on DIN EN 82079-1 and ANSI Z 535.4 and are used in this documentation. The safety colors were taken from the ISO 3864-1 standard.

Signal word	Usage	Explanation
	Warning notice	indicates a dangerous situation, which if ignored, results in death or severe injuries.
	Warning notice	indicates a dangerous situation, which, if ignored may result in injuries and damage to property
	Warning notice	indicates a dangerous situation, which, if ignored may result in minor injuries and damage to property
	Notice	indicates ease of operation and cross-references. It excludes danger of liability damages or risk of injuries.
	Safety instruction	Refers to certain safety-related instructions or procedures.

1.3 Symbols

Some of the following special safety symbols in accordance with DIN EN ISO 7010: 2011 are used at the corresponding passages in the text of these operating instructions and require special attention depending on the combination of signal word and symbol:


Symbol	Usage	Explanation
	Notice	Important information for understanding of the device and for optimised operating procedures.

Table 1 Icons

1.3.1 Mandatory action symbols


Symbol	Explanation	Symbol	Explanation
	Wear safety goggles		Observe and follow the manual
	Use gloves		Wear a safety helmet

Table 2 Mandatory action symbols

1.3.2 Warnings







Symbol	Explanation	Symbol	Explanation
	General warning sign		Warning - dangerous electrical voltage
	Warning - danger of slipping		Warning - hot surfaces
	Warning - falling loads		Warning - lasers

Table 3 Warning

1.3.3 Prohibitory signs




Symbol	Explanation	Symbol	Explanation
	General prohibition sign		Smoking prohibited
	Eating and drinking prohibited		

Table 4 Prohibition signs

2 Identification and notices

2.1 Machine description

TINTA Color Dispenser

Country of origin: Germany

2.2 Manufacturer



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2.3 Intended use

This automated tinting machine is used to dispense dyes from one or more TintOne modules into a container that is pre-filled with color paste to produce lacquers, paints, dyes etc. in a color that is selected using the control program linked to the machine.

Any other use of the machine or use beyond its intended purpose is considered to be unintended use and therefore improper. In this case, the safety and protective mechanisms of the machine may be compromised.

Collomix GmbH is not liable for damages resulting from such uses.

Intended use also includes the following:

- following all the operating instructions
- compliance with all warnings
- compliance with the maintenance intervals

2.3.1 Service life of the machine

The service life of the machine depends on the following factors:

- Ambient conditions of use
- Intensity of utilisation
- Compliance with the maintenance intervals specified by the manufacturer.

2.4 Reasonably foreseeable misuse

Reasonably foreseeable misuse, which could pose a danger to the user, third parties or the machine applicable to all operating modes, include:

- Filling the machine with the incorrect color paste (incorrect color, incorrect type)
- Replenishing the color paste without a paper funnel
- Filling the machine with the incorrect liquids
- Overfilling the TintONE canisters
- Disconnecting the equipment from the mains supply causing the nozzles to dry out
- Installing the equipment in an overly cold environment causing the color paste to become too viscous
- Using incorrect dispensing parameters resulting in unsatisfactory dispensing results
- A container beneath the dispensing head that has been overlooked
- Adding components that have shapes deviating from those intended for the machine
- Operating the system contrary to the specifications provided in the operating instructions with respect to warning notices, installation, operation, maintenance and servicing, set-up and faults.



WARNING

Danger of injury due to unauthorised modifications

Unauthorised modifications to the machine and the use of spare parts from external manufacturers (no original spare parts) may cause dangerous situations to arise.

Do not allow any unauthorised or other modifications to the machine without prior approval of Collomix GmbH.

2.5 General information

2.5.1 Liability and Warranty

The "General Terms and Conditions of Sale and Delivery" of Collomix GmbH shall apply. Your rights in the event of any essential improvements can be found in our general terms of delivery. You can find them on our website www.collomix.de. We are happy to send you our general terms of delivery on request.

Warranty and liability claims in the event of personal injury or property damage are excluded if they arise from one or more of the following causes:

- Improper use of the machine
- Improper assembly, commissioning, operation and maintenance of the machine
- Operating the machine with defective safety equipment
- Disregarding the information in the operating instructions
- Unauthorised modifications to the construction near the machine
- Deficiencies in doing the maintenance work prescribed
- Disasters caused by external influence or force majeure conditions

Read the operating instructions carefully before initial start-up or using the machine. The operating instructions should familiarize the user with the handling of the machine and instructs the user in the details regarding the function and maintenance.

The operating instructions must be made accessible to the personnel at all times and must be kept ready at hand near the machine. The instructions provided in the operating instructions on maintenance and operational safety must be observed and followed. For further questions that go beyond the scope of this operating manual, please contact Collomix GmbH at any time.

2.5.2 Objectives of the Operating Instructions

These operating instructions serve as an aid and contain all necessary instructions that must be followed for general safety, transport, installation, operation, set-up, maintenance, storage and disposal.

These operating instructions with all warning notices (as well as all additional documents relating to the assemblies provided by external suppliers) must be:

- followed, read and understood by all persons working on the machine; this is especially true of the warning notices
- freely available to all personnel
- consulted in case of slightest doubt (safety)

Objectives:

- Preventing accidents
- Increasing the service life and reliability of the machine
- Reducing the costs of production downtime

2.5.3 Target Group of the Operating Instructions

At different life cycles of the machine, personnel with varied competences comes into contact with the machine.

Tasks	Operating personnel	External technical personnel
Transport		X
Commissioning	X	X
Operation	X	X
Cleaning / maintenance	X	X
Repair		X
Decommissioning	X	X

Table 5 Target group

Trained operating personnel:

A person who has been trained by a specialist in the tasks assigned to him, the possible dangers of improper behaviour and the required safeguards and safety measures

- Trained sales personnel at the building supplies store

External qualified personnel (Collomix GmbH)

The external technical personnel is specially trained with the products of the manufacturer and familiar with each phase of the machine's life cycle. The external technical personnel usually completes phases like transport and transfer to the operator.

3 Safety information



⚠ WARNING	
Danger of injury or damage to property	<p>Ignoring the operating instructions and all safety instructions it contains could result in dangerous situations.</p> <p>Read the operating instructions carefully before start-up. Meet and observe the required safety conditions. Observe the general warning notices as well as special warning notices in the other sections.</p>

The machine has been constructed according to state-of-the-art technology and recognized safety regulations. To prevent any risk to life and limb of the operator or third parties, or damage to the machine, the machine must be used only according to its intended purpose and in an evidently safe and fault-free condition.

Property damage and personal injury resulting from non-compliance with the instructions specified in the operating instructions are the responsibility of the company operating the machine or the persons assigned by the same.

3.1 Obligations

⚠ WARNING	
Danger of injury due to negligence	<p>Despite protective devices, dangers may arise in connection with the machine due to negligent behaviour/working methods.</p> <p>Always work with great care and caution on the machine. Disregarding or ignoring warning notices results in loss of any compensation claims for damages.</p>

The following circumstances could increase the potential hazards of the machine:

- Failure of important functions of the machine
- Errors in prescribed maintenance and repair methods
- Endangering of persons through mechanical influences
- Faults that may impair the safety during operation

SAFETY INSTRUCTION If faults are identified that may impair safety while operating the machine, the machine operation must be interrupted immediately and the faults identified must be eliminated. Resume operation of the machine only if the faults identified have been eliminated, safe operation of the machine is possible and the protective and safety devices are once again completely intact.


3.1.1 User obligations

SAFETY INSTRUCTIONS All persons working in the area of the machine have an obligation to contribute to safety and health protection at the workplace. They must be conversant with the use of and the operating conditions of the machine.

The machine must be in a safe condition and used safely to ensure safe operation. For this reason, the company operating the system is obligated to ensure that the following points are adhered to:

- Ensure that the machine is only operated by authorised personnel.
- Forbid unsafe and/or dangerous work procedures. If necessary, check the actions of personnel.
- Ensure that a copy of the complete operating instructions is always kept close to hand near the machine.
- Check the operating instructions regularly for completeness and legibility.
- Pay attention to the safety instructions and hazard notices placed near the machine and ensure that they are kept in a legible or recognisable condition.




 WARNING
<p>Danger of injury caused by ignoring the instructions</p> <p>There are risks posed by unauthorized actions on the machine.</p> <p>Observe and follow all instructions and warning notices provided. Do not carry out any activities for which there is no authorization available. Contact the appropriate qualified personnel with any questions.</p>

3.1.2 Obligations of the personnel

SAFETY INSTRUCTIONS All persons working in the area of the machine have an obligation to contribute to safety and health protection at the workplace.



 WARNING
<p>Danger of injury caused by ignoring the instructions</p> <p>There are risks posed by unauthorized actions on the machine.</p> <p>Observe and follow all instructions and warning notices provided. Do not carry out any activities for which there is no authorization available. Contact the appropriate qualified personnel with any questions.</p>

3.2 Safety devices

The machine is equipped with various safety devices (e.g. protective enclosure). These devices serve to protect individuals working on the machine from any danger to life and limb arising from electrical and mechanical actions and to limit material damage to the machine.

3.3 Dangers caused by forms of energy

3.3.1 Dangers caused by electrical energy



DANGER

Danger to life due to dangerous voltage

There are risks posed by electrical residual energy remaining in lines, equipment and devices after the machine is switched off.

Only allow qualified electricians to work on the electrical supply system.

Disconnect the machine from the mains supply before working on the electrical components of the machine. Secure the main switch against being switched on without authorization with a lock. Keep the key at a safe place. Keep the control cabinet locked at all times. Access is permitted only to authorized personnel.

Check the electrical equipment of the machine regularly. Inspect all moving cables for damage regularly in the course of the repair and maintenance work. Replace singed or defective cables. Tighten loose connections.

SAFETY INSTRUCTION Inform all operating personnel about the hazards posed by electrical energy.

3.3.2 Dangers due to laser radiation



WARNING

Dangers due to class 2 laser radiation

The accessible laser beams are dangerous to the eye when the duration of exposure to the radiation is significant (more than 0.25 sec.).

Do not look at the beam itself or the reflected beam. If a laser beam makes contact with your eye, close your eyes and move your head away from the beam immediately. Making changes to the direction of the laser is not permitted. Do not aim the beam in the direction of other persons, or areas where other persons may be present. Do not remove the protective covers of the laser. Maintenance work should be carried out exclusively by trained and authorized personnel. Comply with the operating manual of the laser.

3.4 Dangers due to operating materials

The operating personnel must protect themselves against materials that are hazardous to health. With this in mind, the manufacturer's safety data sheets relating to the individual color pastes must be made available at the machine.



WARNING

Notes/instructions for safe handling

Eating, drinking and smoking are prohibited at the machine and when handling equipment. Provide adequate ventilation at the machine.

Do not inhale fumes. Avoid skin and eye contact.

Protect yourself using personal protective equipment PPE (gloves, respiratory protection).

SAFETY INSTRUCTION

It is imperative that the manufacturer's information and safety data sheet / specification of the utility are followed before it is used.

3.5 Residualrisk

Despite taking all precautions, there may still be residual risks that are not immediately apparent.

You can reduce the existing residual risks by observing and following the warning notices and intended use of the machine.



DANGER

Danger to life due to dangerous voltage

There are risks posed by electrical residual energy remaining in lines, equipment and devices after the machine is switched off.

Only allow qualified electricians to work on the electrical supply system.

Disconnect the machine from the mains supply before working on the electrical components of the machine. Secure the main switch against being switched on without authorization with a lock. Keep the key at a safe place. Keep the control cabinet locked at all times. Access is permitted only to authorized personnel.

Check the electrical equipment of the machine regularly. Inspect all moving cables for damage regularly in the course of the repair and maintenance work. Replace singed or defective cables. Tighten loose connections.

3.6 Additional information

As a matter of principle, the provisions of the accident prevention regulations of the employer's liability insurance association are applicable to all forms of work on the machine.

In addition, observe and follow the

- applicable and binding accident-prevention regulations
- applicable and binding regulations at the place of use
- recognized technical regulations for safe and professional working methods
- existing environmental protection regulations
- other applicable regulations

The employees must receive training concerning the dangers and the suitable protective measures at regular intervals - at least once a year.

Occupational health and safety requires operating instructions to be prepared by the operating company.

These instructions for use, in addition to the operating instructions, must be followed in full by the operating personnel.

4 Design and function

4.1 Technical data

Technical data of the machine	
Name:	TINTA Color Dispenser
Mains connection:	100 – 240 V
Tolerated voltage fluctuations:	up to 10 %
Frequency:	50 / 60 Hz
Permissible frequency variations:	up to 1 %
Mass:	TINTA 16: 134 kg TINTA 24: 142 kg TINTA 32: 150 kg
Machine dimensions (excluding the protective / service area / screen):	TINTA 16: 1080 x 805 x 1255 mm TINTA 24: 1235 x 805 x 1255 mm TINTA 32: 1220 x 925 x 1255 mm Width x depth x height
Height of the filling port:	1220 mm
Dispensing flow:	Simultaneous
Pumps:	3 oz piston pumps
Pastes:	Water-based
Canister:	POM
Canister volume:	2.5 l (optional: 5 l)
Cycles:	1 ... 32 cycles
Housing:	16 / 24 / 32 canisters
Valves:	Ceramic shim valves
Minimum dispensing volume:	1/768 fl. oz. (0.04 ml)
Dispensing head:	CoolNOZ
Container handling:	MoveNOZ, Dispensing head is routed to container
Maximum container height:	450 mm
Maximum container diameter:	380 mm
Height of the filling port:	1220 mm
Electromagnetic compatibility:	In accordance with the EMC guidelines and the valid EMC standards for use in industrial applications

Table 6 Technical machine data

4.2 Complete diagram – overview



Figure 1 Complete diagram

- | | | | |
|---|--|----|----------------------------------|
| 1 | Screen | 6 | Container sensor |
| 2 | STOP button | 7 | Container shelf |
| 3 | MoveNOZ (height-adjustable dispensing head unit) | 8 | Machine base (height-adjustable) |
| 4 | Handle for height adjustment | 9 | Transport castors |
| 5 | CoolNOZ (dispensing head) with positioning laser | 10 | TintOne (canister unit) |

4.2.1 Tasks of the operating personnel

The following activities must be carried out by the operating personnel during automatic operation in order to guarantee a smooth, error-free operating process:

- Positioning and removing the container
- Setting the desired color and selecting the process
- Identifying faults and notifying service personnel as needed

4.3 Structure and function of the machine

4.3.1 Components of the machine

The machine consists of the following components:

- Welded base frame with four height-adjustable feet
- Control panel with stop button
- TintONE module (canister unit)
- CoolNOZ (dispensing unit)
- MoveNOZ (height adjustment for dispensing unit)

4.3.2 Functional description

The operator places a container (e.g. paint pot) on the container shelf. Next, the operator must adjust the height of the dispensing head unit to suit the height of the container. The dispensing process can be started as soon as the height sensor has detected the container. The desired composition can be selected on the control panel. Once the operator has pressed the start button, the color pastes are dispensed in accordance with the program. The color pastes are dispensed simultaneously because each color paste or TintOne has its own dispensing nozzle.



Figure 2 All required color pastes are dispensed simultaneously

Once the dispensing process is complete, the operator pulls the dispensing head unit up and then removes the container.

4.3.2.1 TintONE

Depending on the Tinta model, the machine could contain 16, 24 or 32 TintOne modules. The key component of the TintOne module is the self-contained color paste circuit. Each TintONE module is a compact and complete system unit with a canister for color pastes, an integrated piston pump, a multiway valve and a control element. The color paste circulates in the air-tight, sealed canister and remains in an ideal processing state at all times. The canister is sealed in an air-tight manner to prevent the color paste fluid from evaporating. A special-purpose lid valve allows air to enter but prevents it from escaping.

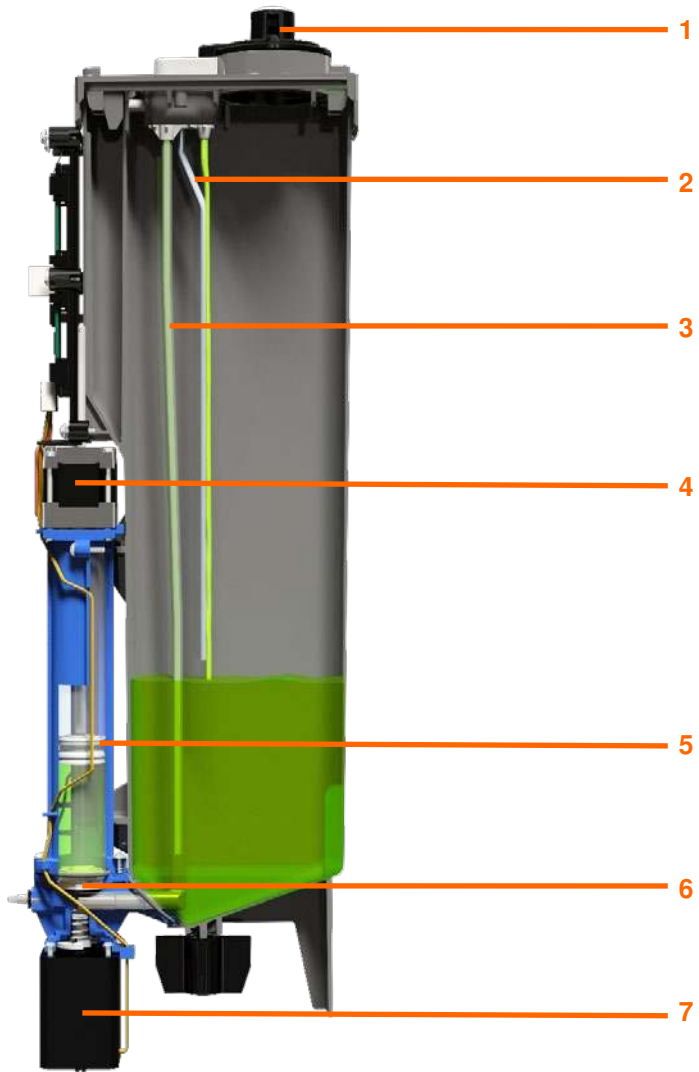


Figure 3 TintOne module

1	Canister lid	5	Piston pump
2	Discharge member	6	Ceramic valve
3	Recirculation tube	7	Ceramic valve servo motor
4	Dispensing pump servo motor		

The TintONE technology with its integrated pumping process keeps the paste in the storage tank in perpetual motion. The circulatory operation ensures that the paste is in an ideal processing state at all times.

The ceramic valve allows the color pastes to be moved in different ways: suction, dispensing or recirculation. As such, the ceramic valve allows for a precise, calibration-free and simultaneous dispensing process.



Figure 4 Ceramic valve

4.3.2.2 LidDetection

Each TintOne module has a lid that allows the color paste to be replenished. Each lid is equipped with LidDetection. The color paste can only be prevented from drying out, thus maintaining its optimum processing properties if the canister lid is completely sealed. A light signal will warn you if the lid is not closed correctly.



Figure 5 Lid with light signal

4.3.2.3 CoolNOZ dispensing head

The dispensing nozzles can be found on the dispensing head. The dispensing nozzles are connected to the individual TintONE units by way of a tube. This means that there are as many dispensing nozzles as there are TintONE units. The different colors are dispensed into the container (e.g. paint pot) via the dispensing nozzles. The dispensing unit is equipped with CoolNOZ technology. The CoolNOZ technology in the tip of the dispensing nozzle provides for a balanced microclimate.

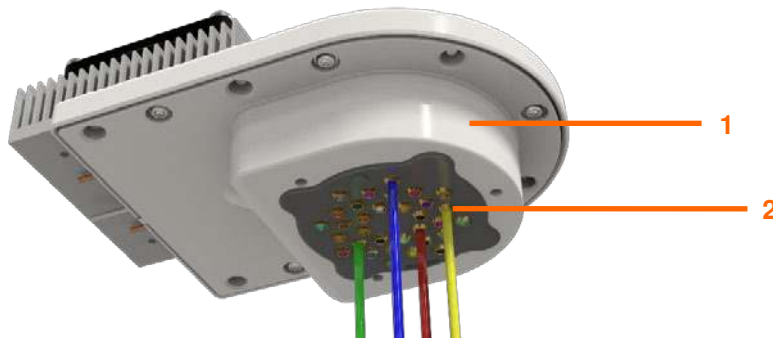


Figure 6 CoolNOZ dispensing head

- 1 Dispensing head
- 2 Dispensing nozzles

The CoolNOZ technology records the ambient temperature, the air humidity and the dispensing head temperature. The dew point is calculated using this data. The temperature of the dispensing head is then adapted to the dew point. This prevents the color paste from drying out, keeping it moist and free-flowing at all times.

Thanks to the CoolNOZ technology, it is not typically necessary to purge the dispensing nozzles before starting work. This keeps color paste wastage to a minimum.



Figure 7 Dew point technology

4.3.2.4 MoveNOZ

The height-adjustable dispensing head unit MoveNOZ is used as a splash guard when dispensing the color paste. Before the dispensing process can begin, a container must be placed underneath the dispensing head unit. Next, the height of the dispensing head unit must be adjusted to suit the height of the container. A sensor on the height-adjustable dispensing head unit will detect the container if the height has been adjusted correctly. Only then can the dispensing process begin. The enclosure around the dispensing head unit and the container prevents the color paste from spraying outwards when it is dispensed into the container.



Figure 8 MoveNOZ

4.4 Design and function of the safety devices

Safety device	Function
Control panel	<ul style="list-style-type: none"> Faults are displayed as plain text and the machine is driven to the corresponding safety position
Stationary safety covers	<ul style="list-style-type: none"> prevent intervention in the danger zone of the machine

Table 7 Safety devices

4.5 Components – Electrical system / Controller

⚠ DANGER Only allow qualified electricians to perform work on the electrical supply system. In order to protect the modules of the controller from discharge of static electricity, personnel must electro-statically discharge themselves before opening the control cabinet and other electrical equipment.

Electrical operating equipment is designated with the following symbol on its housing:



Figure 9 Symbol dangerous electrical voltage

4.5.1 Machine lighting

The machine is not equipped with its own lighting. The machine must be integrated into the operating company's existing hall lighting at the installation site.

5 Transport

5.1 Warning notices for transport



⚠ DANGER

Danger to life caused by falling loads

Human misconduct and inadequately secured loads pose dangers.

Allow only those individuals who have been specially trained to perform transportation work. Never step below raised loads. Secure the load against changing its position.

For in-house machine transport, please use a forklift or another industrial truck, whose lifting capacity is equivalent to the weight of the machine components. Place non-slip rubber mats on the fork so that the machine cannot slip. During transport, pay attention to the position of the centre of gravity of the machine.

Secure the machine for transport by heavy goods vehicle on the loading surfaces by suitable means.

Observe and follow the matching values for lifting and carrying machine components.



⚠ WARNING

Risk of injury due to unsecured transport routes

There is the risk of stumbling or slipping while transporting the machine.

Arrange for proper illumination of the routes, ramps and steps over which loads are moved. Remove obstacles and stumbling points.

5.2 Transport procedure

This is additional text in the operating instructions:

The machine must be moved with suitable loading equipment (forklift). Use suitable ropes, chains or belts for unloading or loading according to the load/weight of the machine.

The following points must be observed and followed while transporting / unloading the machine:

- Pay attention to the centre of gravity of the machine.
- Only transport the machine with a forklift. Observe the load capacity of the forklift.
- Check the slings for signs of damage.
- Check the delivered parts for completeness, damage or any other abnormalities.
- Observe the applicable safety and accident prevention regulations (BGV D6, D8) during transportation.

5.2.1 Unloading the machine

- ➡ Put the ramp in position and attach it.



Figure 10 Detailed view, putting the ramp in position

- ➡ Remove the cardboard box and take out the optional accessories.



Figure 11 Detailed view, removing the cardboard box

- ➡ Remove the transport restraint



Figure 12 Detailed view of transport restraint

Screw in the front and rear machine feet.



Figure 13 Detailed view of machine feet

- ➔ Rotate the machine through 90° and move the machine down the ramp. Please note that the machine is particularly top-heavy, i.e. the centre of gravity of the machine is in the upper section of the machine. This causes the machine to tilt forwards slightly. Never push the machine down off the Euro pallet on your own!

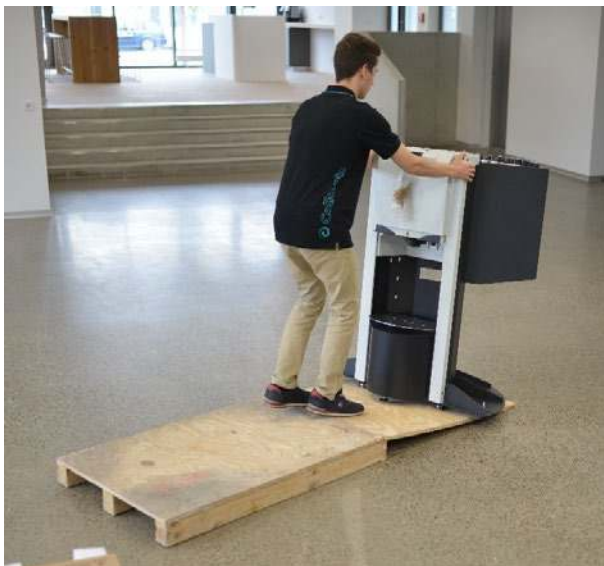


Figure 14 Detailed view, moving the machine downwards

5.2.2 Disposal of transport and warehouse packaging

The transport and storage packaging must be disposed of according to the local disposal regulations and the procedures provided by the environmental laws of the operating company's country.

5.3 Operating conditions

Physical operating conditions	
Ambient temperature:	approx. 17°C to 35°C (follow the color paste manufacturer's instructions)
Air humidity:	5 % to 85 %
Pollution:	No heavy pollution caused by dust, acids or corrosive gases
Particular issues:	<ul style="list-style-type: none"> ▪ Protect from direct sunlight ▪ If the work area is insufficiently illuminated, workplace lighting must also be provided around the system! ▪ Sufficient ventilation of the workroom (stress on the operator) ▪ Machine has no explosion protection

Table 8 Operating conditions

Lighting in accordance with ASR A3.4:

The technical regulations for industrial workplaces (ASR) are provided by good engineering practices, occupational medicine and industrial hygiene as well as other safe ergonomic findings for installing and operating industrial workplaces. The values given in the table are the intensity of illumination on the reference area for visual tasks that may be horizontal, vertical or inclined.

Lighting requirements (general areas, jobs and tasks)		
Working rooms, workplaces, jobs	Minimum value of the lighting intensity In lx	Minimum value of color rendering Index Ra
Assembly work		
<ul style="list-style-type: none"> ▪ Medium-fine work 	500	80

Table 9 Lighting requirements for general areas, jobs and tasks

6 Commissioning

6.1 Warning notices for commissioning



⚠ WARNING	
Danger of slipping due to escaping operating materials	<p>After operation or in the event of equipment malfunctions, there may be dirt on the floor close to the machine, which can cause danger of slipping.</p> <p>Pay attention to soiled areas on the floor near the machine. Clean the soiled areas immediately after soiling occurs.</p>



⚠ DANGER	
Danger to life from electrical, thermal, and specific residual energy	<p>Despite shutting down the energy supplies, there may still be dangerous residual energy remaining in lines and machine components.</p> <p>Make sure that the machine is never operated unattended. Before turning the machine on, make sure that no one is endangered and that only authorised personnel are working on the machine. Prohibit the presence of third parties at the system.</p> <p>Specify that work on the electrical supply of the machine should be carried out only by qualified electricians.</p>

6.2 Erecting the machine

The location provided for the machine must be stable and even.
 Recommendation: level, concrete floor for machine buildings.

- Pay attention to the exact specification of the installation dimensions provided in the schematic diagrams of the plant.
- Observe the required load bearing capacity of the foundation. See chapter "Technical Data - weight".

6.3 Setting up and aligning the machine

6.3.1 Erecting the machine

- ➡ Extend the machine feet.



Figure 15 Detailed view, extending the machine feet

- ➡ Align the machine using the spirit level.



Figure 16 Detailed view, aligning the machine

- ➡ Secure the machine feet with the lock nut.

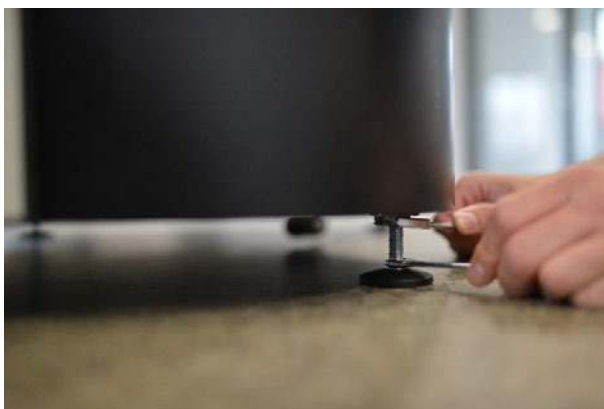


Figure 17 Detailed view, securing the machine feet

6.4 Connecting the machine (energy supplies)

An electrical connection is needed to operate the machine:

- Lay the connection cables of the machine in such a way that they are without tension to prevent the creation of danger zones.
- Insert the mains plug into a socket.
- Check that the supply voltage specified on the machine is the same as that of supply voltage available at the electrical connection to operate the machine; see the chapter "Technical Data - mains connection".
- The earth conductor and connection cable must have the same cross-section.



Figure 18 Mains connection for the machine

6.4.1 Switching the machine on

The machine does not have a main switch. As soon as the machine has been connected to the socket, the control PC boots and the machine starts up.

IMPORTANT
<p>Do not switch the machine off!</p> <p>The machine requires power to circulate the color paste and cool the dispensing nozzle. Otherwise, the TintONE modules, the tubes and dispensing nozzles may become unusable if the color paste dries out.</p> <p>Do not shut the control PC down. Do not pull out the mains plug.</p>

6.5 Filling the TintONE modules for the first time/replenishing

The TintONE modules are filled for the first time and replenished using the magnetic filling adapter and the single-use paper funnel.

- ➔ Open the lid of the TintONE module.
- ➔ Place the filling adapter on the opening of the TintONE module.



Figure 19 Filling adapter

- ➔ Place a paper funnel in the filling adapter.



Figure 20 Paper funnel

- Fill it with the required color paste.



Figure 21 Filling the canisters for the first time / replenishing


- 1** Paper funnel
- 2** Magnetic filling adapter

- Remove the filling adapter.
- Dispose of the used paper funnel.
- Close the lid of the TintONE module.

7 Operation

7.1 Warning notices for operation



 WARNING	
Danger of injury caused by intervention of unauthorised individuals	<p>There is enhanced risk of injury by wrong operation if unauthorized individuals work on the machine. Collomix GmbH shall not be liable for any damages and their consequences arising from this.</p> <p>The machine may only be operated by authorised and trained operating personnel. This personnel must have read the operating instructions of the machine and of the machine components and have understood the contents thereof before they can start working.</p>

7.1.1 Operating the machine

The machine is operated using the dispensing software on the control panel. The machine is always in its normal position.

7.2 Control panel

Using the control panel all functions of the machine can be controlled in manual mode. The stop button on the control panel is active even in automatic mode.

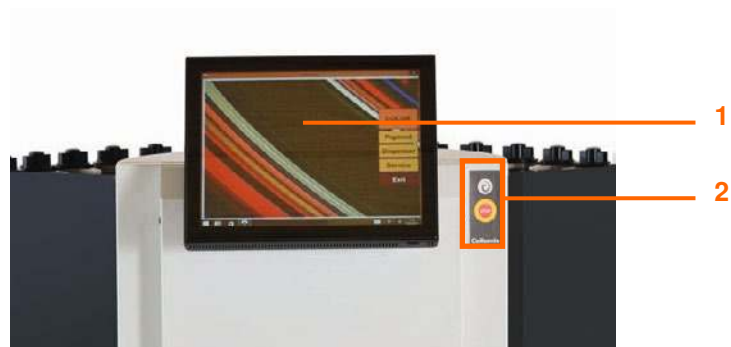


Figure 22 Detailed view control panel

1 Control panel

2 Stop / repeat button

7.2.1 Stop button / repeat button

The repeat button repeats the last dispensing process. This button can be used when repeating several identical dispensing processes.

This stop button interrupts the dispensing process. **⚠ WARNING** It is only the dispensing process that is stopped. The stop button is not an emergency stop button. The voltage supply is not switched off.

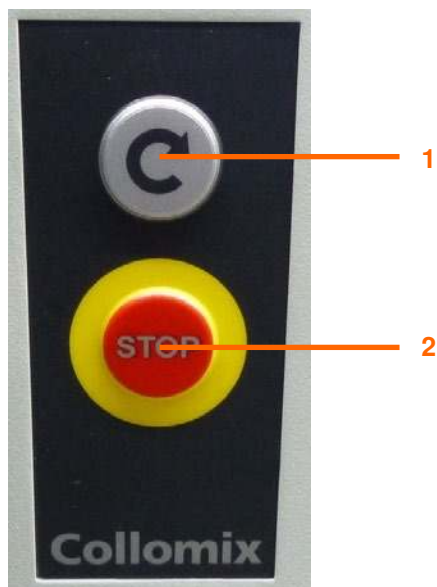


Figure 23 Detailed view of the buttons

1 Repeat button

2 Stop button

7.2.2 Function of the control panel (optional)

The machine is equipped with a control panel, which has a touch screen that can be operated by finger touch. The machine also features a control PC. There is also the option to operate the machine using the control software of Collomix GmbH.

This optional control software has six main menus. The following menus can be selected:

- Color
- Refill/Purge
- Statistics
- Diagnostics
- Settings
- Users

Essentially, each menu has the same layout.

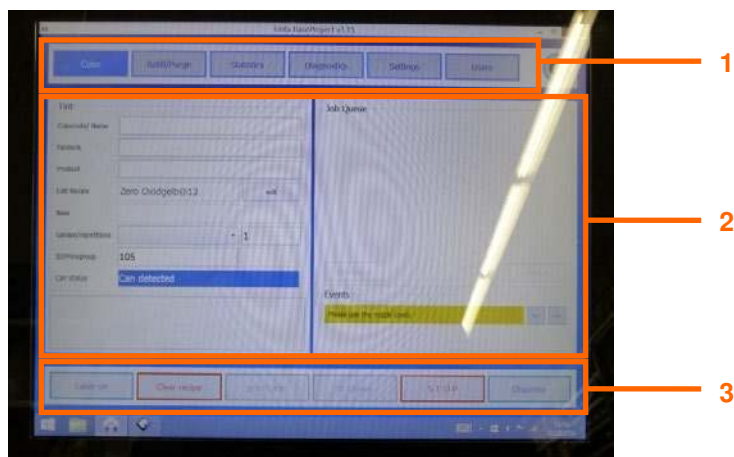


Figure 24 Color menu

- 1 Main menu selection
- 2 Menu-dependent display area
- 3 Sub-menu selection

7.2.3 Color

The desired recipe can be selected in the color menu. The dispensing process can also be started and stopped. The laser is used to position the container.

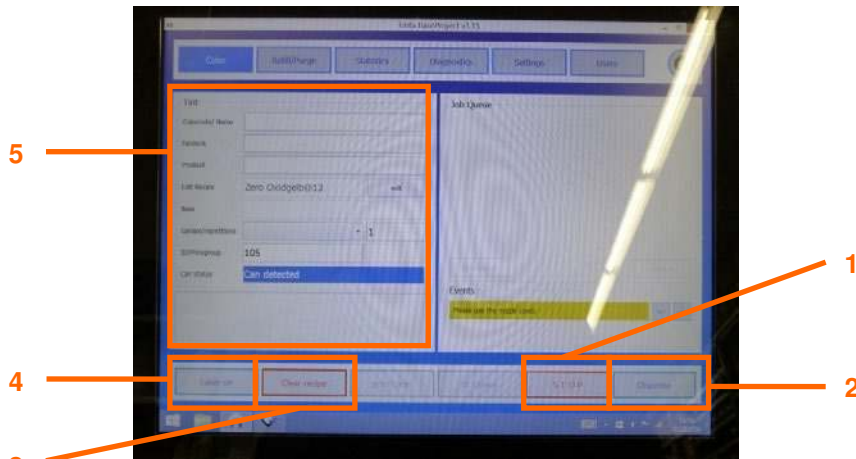


Figure 25 Color menu

- 1 Stop dispensing process
- 2 Start dispensing process
- 3 Delete a recipe
- 4 Switch laser on/off
- 5 Select a recipe

7.2.4 Refill/Purge

The refill / purge menu displays the current fill level of the individual TintONE modules. It is also possible to purge a single dispensing nozzle or all of the dispensing nozzles.

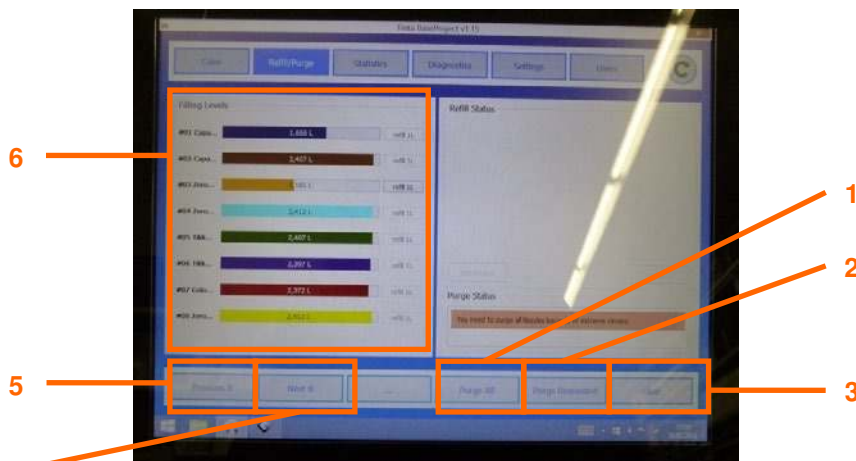


Figure 26 Refill / purge menu

- 1 Purge all dispensing nozzles
- 2 Purge requested dispensing nozzle
- 3 Delete
- 4 Display next fill levels
- 5 Display previous fill levels
- 6 Fill level display

7.2.5 Statistics

The values of the color paste consumption are displayed in the statistics menu and presented in a tabular format. These statistical values can be exported.

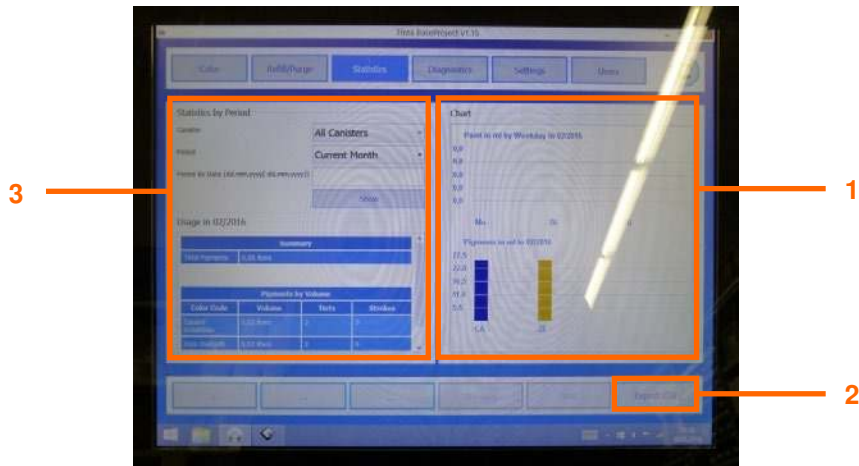


Figure 27 Statistics menu

- 1 Color paste consumption table
- 2 Export
- 3 Statistics according to time period

7.2.6 Diagnostics

The current status of the machine is displayed in the diagnostics menu. All of the recorded machine values are listed.

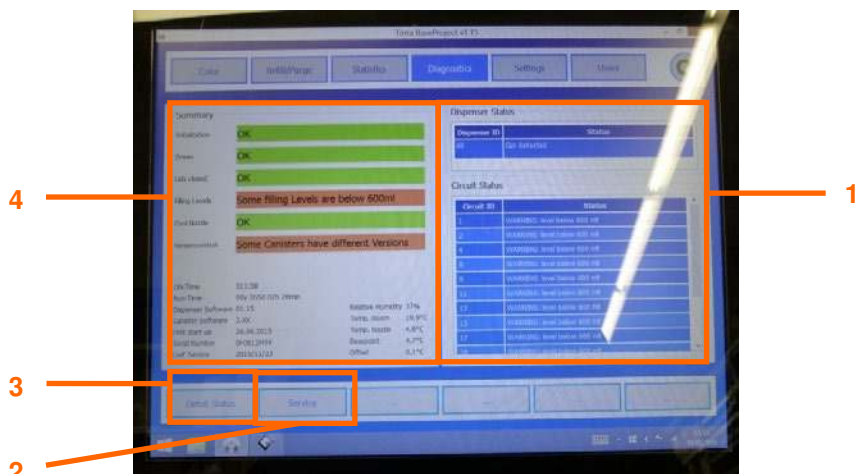


Figure 28 Diagnostics menu

- 1 Status of the machine and the TintONE modules
- 2 To the "Service" sub-menu
- 3 To the "Detail Status" sub-menu
- 4 Overall status of the machine

7.2.7 Settings

In the settings menu it is possible to set all of the machine parameters for the individual components of the machine. Save the data once the settings are made.

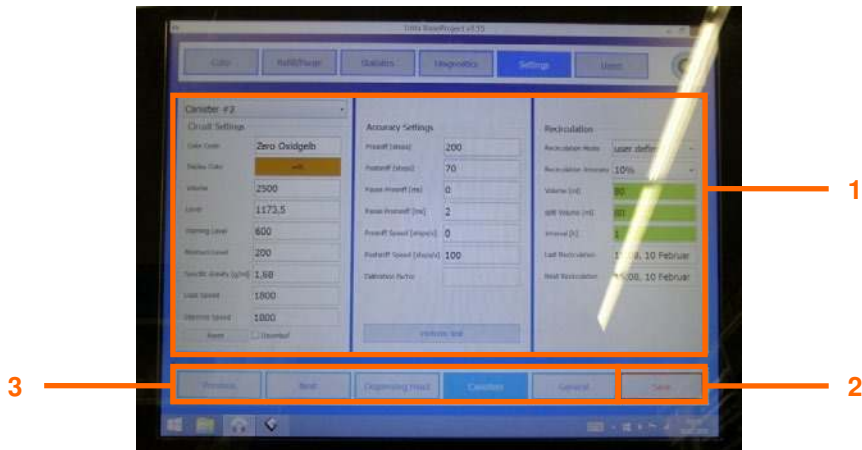


Figure 29 Settings menu

- 1 Settings screen
- 2 Save the set values
- 3 Select individual components

7.2.8 Users

Users and user levels can be created in this menu. These levels can be saved.

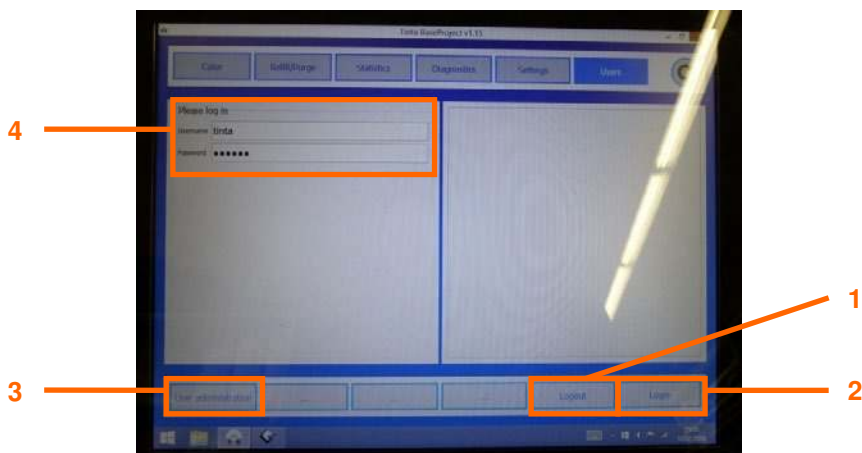


Figure 30 Users menu

- 1 Log out user
- 2 Log in user
- 3 Manage user
- 4 User login

7.3 Loading the container

The moveable nozzle head MoveNOZ is in the start position.



Figure 31 MoveNOZ in start position

➡ Push the MoveNOZ upwards.



Figure 32 Pushing MoveNOZ upwards

- ➔ Place the container on the container shelf as close to the middle as possible.



Figure 33 Positioning the container

- ➔ Move the MoveNOZ as close to the container as possible.

IMPORTANT The sensor must detect the container before the dispensing process can start.



Figure 34 Closing the MoveNOZ

- ➔ Start the dispensing process.

7.4 Faults and error displays

7.4.1 Fault and operating status messages

All errors are displayed in plain text on the control panel as fault or operating status messages. These messages must be acknowledged. The message text gives details of the associated input, if applicable.

7.4.2 Fault elimination

7.4.2.1 Machine-related faults

- Automatic mode is interrupted
 - The fault is indicated by warning devices
 - The type of fault is described on the screen/plain text display
 - The fault must be eliminated
- ➔ Please contact the manufacturer's customer service department if faults occur that cannot be rectified without additional assistance!

8 Tool change

8.1 General information

- Only use tools that are in perfect condition.
- Keep suitable containers ready for small parts that may have to be disassembled.
- Only use original spare parts approved by the manufacturer.

SAFETY INSTRUCTION Ensure that oils, greases and other hazardous substances do not enter the sewer system. Catch and collect waste oil and other environmentally harmful substances. Dispose of them properly.

- Pay attention to all notices on system components, e.g., nameplates and arrows indicating the direction of rotation etc.
- Tighten the screw connections that have been removed during retooling after the work is completed.
- Reattach disassembled safety equipment. Make sure that the safety equipment is working properly.
- Check the proper function of all safety devices.
- After completing work, remove any hand tools, screws, aids, or other objects from the working area of the system.

8.2 Tooling/Retooling

8.2.1 Adjusting the container shelf

The container shelf consists of a steel sheet with two attachment lugs. The height of the container shelf can be adjusted. The TINTA machine has various height increments for this purpose.

- Remove the container shelf. Keep in mind that the container shelf needs to be raised slightly and then pulled out. Do not use any excessive force to pull the container shelf out or if the container shelf is wedged.
- Insert the container shelf at the new height required. Ensure that the two attachment lugs are pushed into the height increments.



Figure 35 Adjusting the container shelf

8.2.2 Replacing the TintOne

IMPORTANT These activities may be executed by external skilled personnel only.

8.3 Technical support

- For contact information for the customer service of the manufacturer, refer to the chapter "Identification".

9 Maintenance and servicing

9.1 Warning notices for maintenance and servicing



⚠ DANGER

Danger to life due to electrical, thermal and special residual energies (pneumatic system)

Despite shutting down the energy supply, there may still be dangerous residual energy remaining in lines and system components.

Make sure that the machine is never operated unattended. Before turning the machine on, make sure that no one is endangered and that only authorised personnel are working on the machine. Prohibit the presence of third parties at the system.

Specify that work on the electrical supply of the machine should be carried out only by qualified electricians.

⚠ CAUTION Unauthorised conversions and modifications on the machine are prohibited. Only use those parts that have been approved by the manufacturer.



⚠ WARNING

Danger of injury posed by ignoring the manufacturer's specifications

The function of the machine may be impaired as a result of ignoring the manufacturer's cleaning instructions.

Maintain all environmental regulations while cleaning.



⚠ DANGER

Explosion hazard due to flammable cleaning agents

There is danger if petroleum ether is used for cleaning. Petroleum ether is highly flammable, can become electrostatically charged and may generate an explosive gas-air mixture.

Use a halogen-free cleaning solvent with a high flash point for cleaning.

9.2 General

- Follow the general accident prevention regulations and the regulations of the VDE (German Association for Electrical, Electronic and Information Technologies).
- Replace defective components as quickly as possible.
- Only use original spare parts approved by the manufacturer.

SAFETY INSTRUCTION Ensure that oils, greases and other hazardous substances do not enter the sewer system. Catch and collect waste oil and other environmentally harmful substances. Dispose of them properly.

- Isolate the electrical circuit before working on electrical components.
- Reattach the disassembled protective devices before initial start-up after repair. Make sure that the safety equipment is working properly.
- After maintenance or repair work, perform a functional test (test run).
- Check that all safety and protective devices are working properly.


9.3 Maintenance instructions

9.3.1 Cleaning

- Only perform cleaning tasks with a damp sponge.
- Do not use running water
- Do not use a high-pressure cleaner or water hose
- Remove all cleaning aids after performing cleaning work.
- Check the functionality of the cleaned area after cleaning.

9.3.2 Electrical equipment



 **DANGER**

Danger to life due to dangerous voltage


Improper work on the electrical supply system is life-threatening.

Before starting work on the electrical system of the machine, the complete machine must be disconnected from the power supply by turning off the main switch. Secure the switch with a lock against unauthorised operation. Keep key at a safe location. Always keep the control cabinet locked. Access is only allowed to authorised personnel.

Check the electrical equipment of the machine and examine all cables that have been moved for damage regularly in the course of repair and servicing work. Replace signed cables and tighten loose connections.

When carrying out maintenance work on the electrical system:

Before starting work on electrical equipment, take the following safety precautions.

- Disconnect the machine from the voltage supply by pulling out the mains plug.
-  **CAUTION** Only use suitable and insulated tools to do the maintenance work.

Replacing components:

- Use fuse inserts only as specified in the circuit documents with regard to size and current (see the electrical documentation in the chapter "appendix").


9.4 Maintenance lists

- Perform maintenance work that is not listed and described in the maintenance documentation (this includes, among others, the disassembly and assembly of drive and safety components) only after consultation with the manufacturer.


IMPORTANT The following maintenance instructions should be understood as manufacturer's recommendations. The operating company of the machine is obliged to document maintenance-related observations and to supplement and add specifications to the maintenance list in these operating instructions on its own. In addition, the maintenance instructions of the manufacturers of purchased parts must be observed!

9.4.1 Maintenance skills of the operating personnel

Interval: daily

Tasks to be completed	Measures
<ul style="list-style-type: none"> ➔ Check the machine for externally identifiable defects and mechanical damages. ➔ Perform a visual inspection of the control panel. 	<p> DANGER The machine should not be operated when faults occur or are identified during the function tests.</p>
<ul style="list-style-type: none"> ➔ Check the dispensing head and clean it if required. ➔ Check the container shelf and clean it if required. 	<p>Under no circumstances should you use running water, irritant cleaning agents or petroleum ether for cleaning.</p>

Interval: daily

Tasks to be completed	Measures
<ul style="list-style-type: none"> ➔ Clean the container sensor. 	<p> CAUTION Do not use any corrosive cleaning agents!</p>

Interval: quarterly

Tasks to be completed	Measures
<ul style="list-style-type: none"> ➔ Clean the surfaces of all sensors. 	<p> CAUTION Do not use any corrosive cleaning agent!</p>

Interval: annually

Tasks to be completed	Measures
<ul style="list-style-type: none"> ➔ Perform a visual inspection of the main power supply line. 	<p>Replace defective parts.</p>
<ul style="list-style-type: none"> ➔ Check the switching documents for completeness. 	<p>Contact the manufacturer if necessary.</p>
<ul style="list-style-type: none"> ➔ Clean the control cabinet housing and the electrical components. 	<p>Never use compressed air.</p>
<ul style="list-style-type: none"> ➔ Check information and warning signs. 	<p>Replace them if necessary.</p>
<ul style="list-style-type: none"> ➔ Have an expert inspect the electrical components of the machine at least once every 4 years. 	<p>Document this inspection.</p>

9.5 Information on defective components

9.5.1 Disassembly

- ➡ When components to be replaced are disassembled, adhere to the instructions in the manufacturer's documentation, whether the specific component can be returned to the manufacturer for refurbishment.

9.5.2 Recycling

- ➡ Dispose of recyclable components with the help of the national recycling system to protect the environment.
- ➡ Check whether the recycling of contaminated recyclables is possible or permissible.

9.5.3 Disposal

- ➡ Use the substances and materials properly and dispose of them in compliance with the local environmental regulations.

10 Decommissioning

10.1 Switching the machine off

IMPORTANT

Do not switch the machine off!

The machine requires power to circulate the color paste and cool the dispensing nozzle. Otherwise, the TintONE modules, the tubes and dispensing nozzles may become unusable if the color paste dries out.

Do not shut the control PC down. Do not pull out the mains plug.

10.2 Shutting down the machine (long period) / putting the machine into storage

Only ever switch the machine off or disconnect the mains plug if you would like to shut the machine down for a long period.

Emptying:

- ➡ Empty and clean all TintONE modules before switching the machine off.
- ➡ Empty and clean all tubes before switching the machine off.
- ➡ Clean the dispensing nozzles.
- ➡ Place the nozzle flap together with the moistening sponge on the dispensing head.



Figure 36 Nozzle flap with moistening sponge

Disconnecting the power supply sources:

- ➡ Shut down the control PC
- ➡ Pull out the mains plug

Storage:

- Cover the machine to protect it against contamination

Relocating:

- Screw in the height-adjustable machine feet
- Cover the machine to protect it against contamination
- Mount the machine on a pallet and secure the machine using the transport restraint

IMPORTANT Observe the instructions in chapter 5.2 Transport procedure.

10.3 Storing the machine

The storage area should be cool and dry in order to prevent corrosion on individual parts of the machine.

The room temperature at the storage location must be constant between 10°C and 25°C. The atmospheric humidity of the storage space should not be greater than 50 %.

- Package the system parts so that they are not damaged by external influences during storage.
- If necessary, use cardboard boxes and other packaging material.
- Safeguard the system parts against unintentional toppling or instability.

10.4 Disposing of the machine

- Dispose of packaging material in accordance with current national regulations.
- Dispose of cardboard packaging, protective packaging made of plastics and preserving agents separately and professionally.

The disposal of the machine (also system parts, operating supplies) should be performed in accordance with the local disposal regulations and environmental protection laws in the country where the machine is used.

If the machine has reached the end of its life cycle, ensure safe and professional disposal when dismantling the machine – particularly for the parts or substances that are hazardous to the environment. These include lubricants, plastics, and batteries.

- Have the machine disposed of properly by an authorized specialized company on account of the potential risk of environmental pollution!

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