INDUSTRIAL DIGITAL PRINTING

User Manual

EN

AccurioShine 3600

Original instructions

AccurioShine 3600

Powered by MGI

Version 2.2

13/03/2025

Created by **MGI Digital Technology**
4, rue de la Méridienne
94260 Fresnes
FRANCE

If you have any comments or suggestions about this manual, feel free to report them to your local SSD organization (Technical Support), which will forward them to MGI. Thank you!

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1 REVISION HISTORY

The following changes have been made from the original version.

Version	Date	Comments
Version 1.0	*28/01/2022*	*Initial release*
Version 1.1	*11/02/2022*	*iFOIL One compatibility added*
Version 1.2	*21/02/2022*	*New LED error status added when the Hoya LED Type 2 is wired*
Version 1.3	*15/03/2022*	*UK Declaration of Conformity certificates (Printer + Universal Feeder)*
Version 1.4	*16/05/2022*	*Optional iFOIL One module described* *Optional CTS S Corona module described*
Version 1.5	*08/06/2022*	*Warning added about Workstation mouse cleaning after printhead cleaning*
Version 1.6	*17/01/2023*	*Front page logo changed* *4 error messages from orange to red status*
Version 1.7	*12/05/2023*	*EC certificates changed - Batch #1 & batch #2 introduced*
Version 1.8	*22/05/2023*	*New instructions about the MGI LED Flashlights – see page 22*
Version 1.9	*02/06/2023*	*Special substrates remarks added – see page 25*
Version 2.0	*20/09/2023*	*New MGI flashlight shipped with the equipment – new instructions how to use it – see pages 22-23*
Version 2.1	*23/10/2024*	*EC & UK Certificates updated – Batch #3 introduced*
Version 2.2	*13/03/2025*	*Important recommendation added - sticky substrates & Substrate thickness*

This manual covers the features of the equipment produced by MGI, from **September 2023.**

REMARK ABOUT THE COVER COLORS
The colors of the equipment cover (grey and blue) used in the manual does not always match the **colors of the covers of your own equipment**.

This does not change at all the quality and accuracy of these operating instructions.

2 CONVENTIONS AND REMARKS ABOUT THIS DOCUMENT

2.1 Conventions

This document uses the following conventions:

- **O**perator **S**ide = [O.S] or OS
- **M**aintenance **S**ide = [M.S] or non-operator side
- **F**eeding **D**irection = [F.D]
- **C**ross **D**irection [C.D] is perpendicular to the Feeding Direction
- AccurioShine 3600 = AS3600

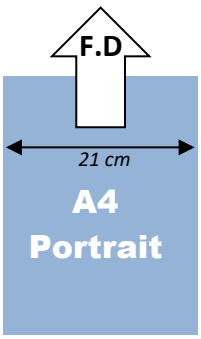
Useful reminder about Portrait & Landscape

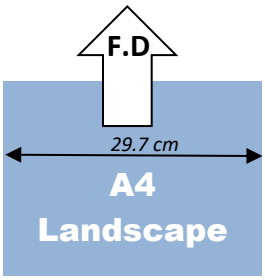
- **A4 Portrait** (or known also as **A4S**)

When this wording is used, it refers to the A4 paper size (21 x 29.7 cm = ISO format). **Portrait** means the leading edge is the **short** edge (21 cm).

- **A4 Landscape** (or known also as **A4L**)

When this wording is used, it refers to the A4 paper size (29.7 x 21 cm = ISO format). **Landscape** means the leading edge is the **long** edge (29.7 cm).





The same concept of Portrait and Landscape applies for all other ISO paper sizes (such as A3).

2.2 Symbols used in this manual

In this manual, each of three expressions « DANGER », « WARNING », and « CAUTION » is defined as follows together with a symbol mark to be used in a limited meaning. When using or servicing this product, the relevant works (cleaning, disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with most care.

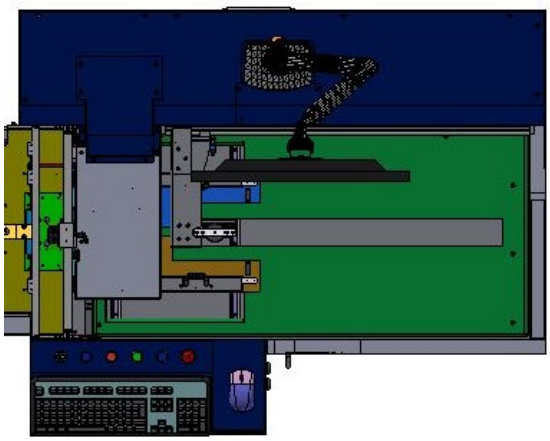
	DANGER	Indicates a hazardous situation that, if not avoided, will result in death or serious injury*
	WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury*
	CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury*

** using the ANSI Z535.5 definition*

2.3 Colors used in the CAD/CAM drawings

This document uses many CAD/CAM drawings. The colors used in those drawings ARE NOT corresponding to the real colors of the equipment and its related parts.

Example:



The blue, yellow and green colors are used to outlined specific parts and do not match the true colors found in the equipment.

3 SECURITY AND SAFETY RULES

3.1 Safety and important warning items

Read carefully the Safety and Important Warning Items described below to understand them.

3.2 Outline

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

3.3 Important notices

Because of possible hazards to an inexperienced person using this product as well as the risk of damage to the product, Konica Minolta oblige that only an operator trained by Konica Minolta or by a certified trainer, can use the machine.

Changes may have been made to this product to improve its performance after this manual was printed. Accordingly, Konica Minolta does not warrant, either explicitly or implicitly, that the information contained in this manual is complete and accurate.

The user of this manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this manual is intended. Therefore, this manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly. Keep this manual also for future service.

It is imperative to observe the following safety instructions!

1. Read these instructions before starting the machine!
2. Only trained and authorized persons may work on the AccurioShine 3600
3. The generally applicable accident prevention regulations have to be observed.
4. Any work on the electrical equipment may only be carried out by a skilled electrician.
5. Before connecting the AccurioShine 3600, the connected loads have to be checked!
6. Never render safety devices inoperable!
7. The AccurioShine 3600 should only be switched on if there is no risk to persons or objects.
8. Render the device inoperable and prevent any further operation in case of serious damage or malfunctions.

While working with the machine, wear close-fitting clothing and hair nets (for long hair) to prevent hair or clothing from getting caught in the machine in case of malfunction. **Don't wear a tie or a scarf.**

When adjustment and maintenance work is carried out, **there is a risk of injury** due to being caught in the moving friction belts, friction rollers and toothed belts.

As any machine using elements heating up to more than 70°C (158°F), this equipment shall have **a fire extinguisher** nearby – adapted to **electrical fires** (CO_2 or Powder extinguisher).

3.4 Security signs affixed on the equipment

3.4.1 Descriptions for safety and important warning items

When residual risks are present, symbols for safety and important warning items are used on the equipment as follow:

High Voltage

Caution to be taken against high voltage. Electrification may cause fatal or serious injury. Handling of the product is allowed only for the qualified service engineer.
Make sure to open the covers only after disconnecting the corresponding electric supply line.

Optical Radiation (UV)

Protect your eyes and skin from UV radiation. Exposure to UV radiation may cause serious eye or skin injury.

High Temperature

Risk of burn when touched. Never remove the safety cover while the product is in operation.
Maintenance work should be conducted only after confirming the power supply is cut off and the temperature reaches low and safe level.

Moving Parts

Risk of injury when hand or finger is caught by the moving parts. Caution to be taken not to pinch or to crush your hand or finger in the moving parts when working on the product.

Clothing

Caution to be taken so that any part of your clothing is not caught by the moving parts. It may cause serious injury to the body part involved.

Eye Protection

Wear eye/face protection such as chemical splash proof UV goggles or face shield.

Ear Protection

For continuous and all-day use at close proximity of the equipment, it is recommended to wear ear protection.

Skin & Hand Protection

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Barrier creams may help to protect the exposed areas of the skin; they should however not be applied once exposure has occurred. Use Nitrile rubber gloves. Do not use natural rubber gloves. Do not wear PVC gloves as PVC absorbs acrylates. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility, etc.) is noticed. When maintaining varnish or cleaning solution area, replace gloves every 30 minutes. Use only powder free gloves.

Foreign Materials

Do not introduce foreign materials or leave jigs in the product.
Do not put any weight on this part as it might damage it.

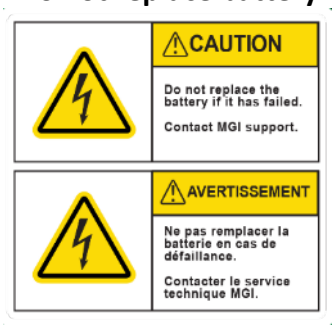
Disconnect power supply plug

Caution to be taken against electrical shock.
Disconnect all power supply plugs before servicing.

Earth connection

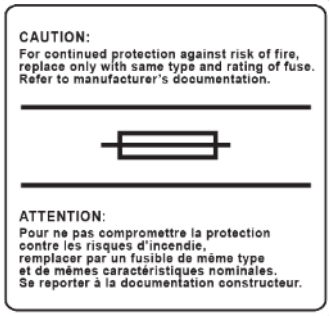
Caution to be taken against electrical shock.
Earth connection essential before connecting supply

Do not replace battery



Do not replace the battery if it has failed. Contact Konica Minolta support.

Replace fuse with same type and rating



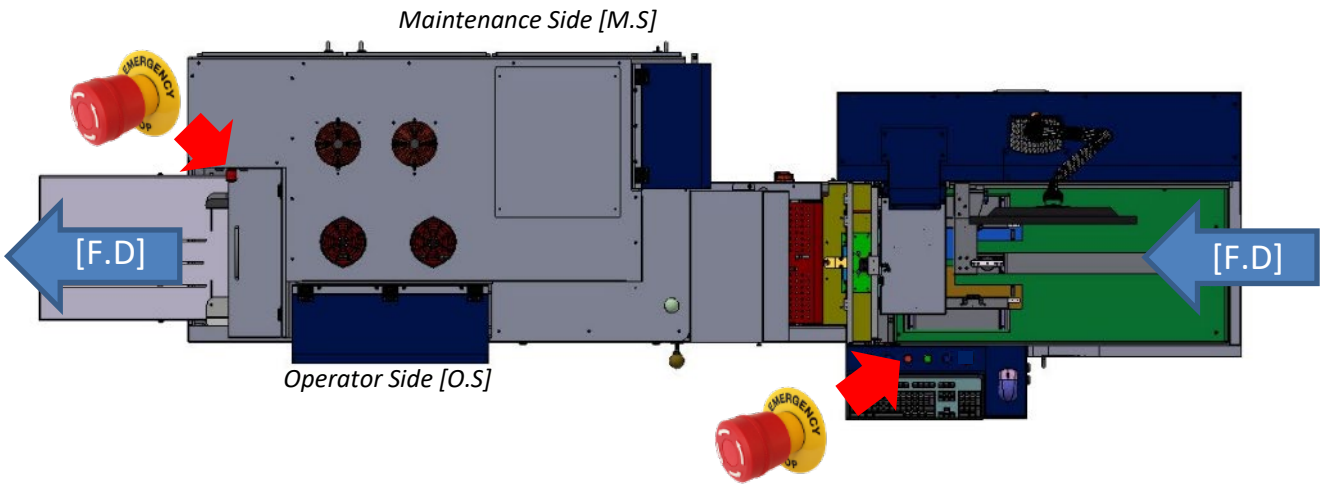
For continued protection against risk of fire, replace only with same type and rating of fuse. Refer to manufacturer's documentation.

Additional advice

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hand thoroughly with soap and water. End user must always be present while the machine is running.

3.5 Emergency stop button locations

The AccurioShine 3600 has 2 **Emergency Stop buttons**. Each one is located at each end of the equipment.



AccurioShine 3600 – Top view

- **To activate** an emergency stop button, just push it DOWN

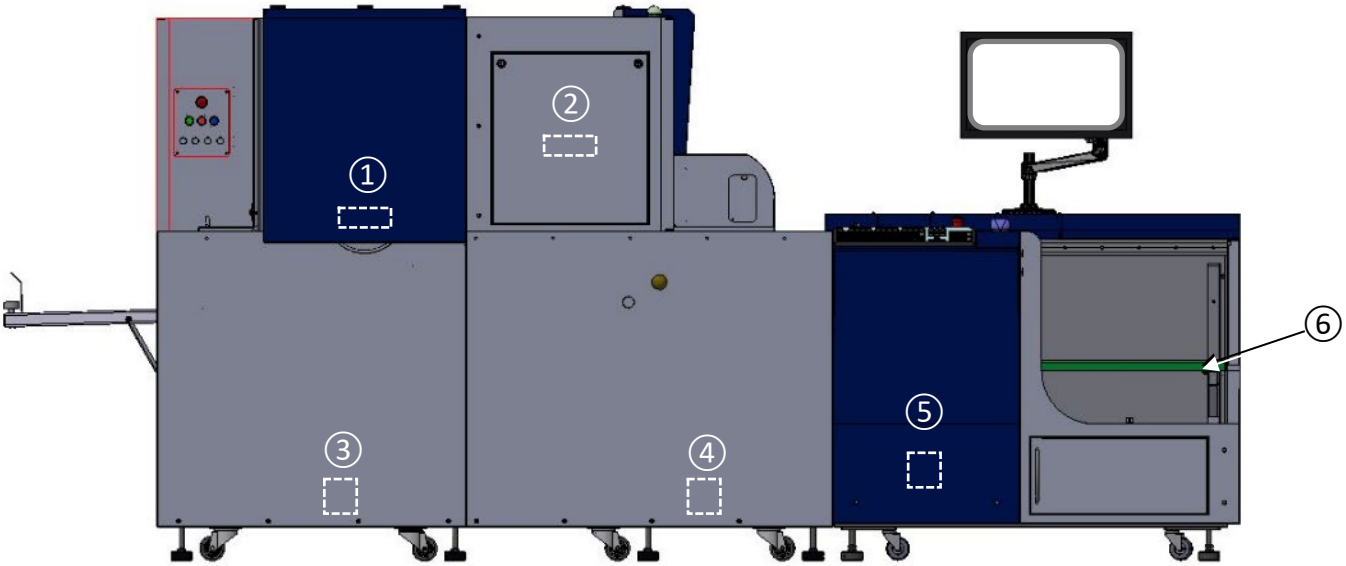
- **To release** an emergency stop button, turn it clockwise to lift it

- **To acknowledge** an emergency stop, or a door opening, release the emergency button or close the door and press on the Reset button.

3.6 Safety & warning label locations – Operator Side [O.S]

Warning labels	Location areas	Remarks
	①	Inside the equipment open the blue door, first
	②	Inside the equipment open the grey cover, first
	③④⑤	Inside the equipment open the grey or blue cover, first
	⑥	Visible from outside

The area locations using a dotted line indicates a location inside the equipment

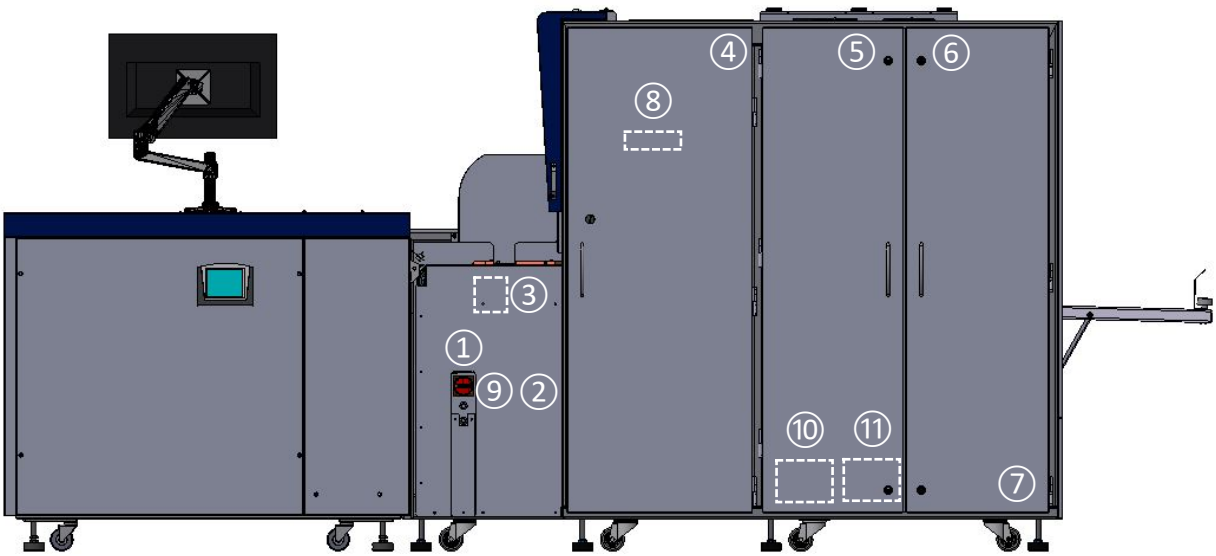


AccurioShine 3600 – Operator Side [O.S]

3.7 Safety & warning label locations – Maintenance Side [M.S]

Warning labels	Location areas	Remarks
MAIN SWITCH	①	Visible from outside
	②	Visible from outside
	③④⑤⑥⑦	Visible from outside or inside the equipment
	⑧	Inside the equipment – open the grey door, first
	⑨	Visible from outside
	⑩	Inside the equipment open the grey door, first
	⑪	Inside the equipment open the grey door, first

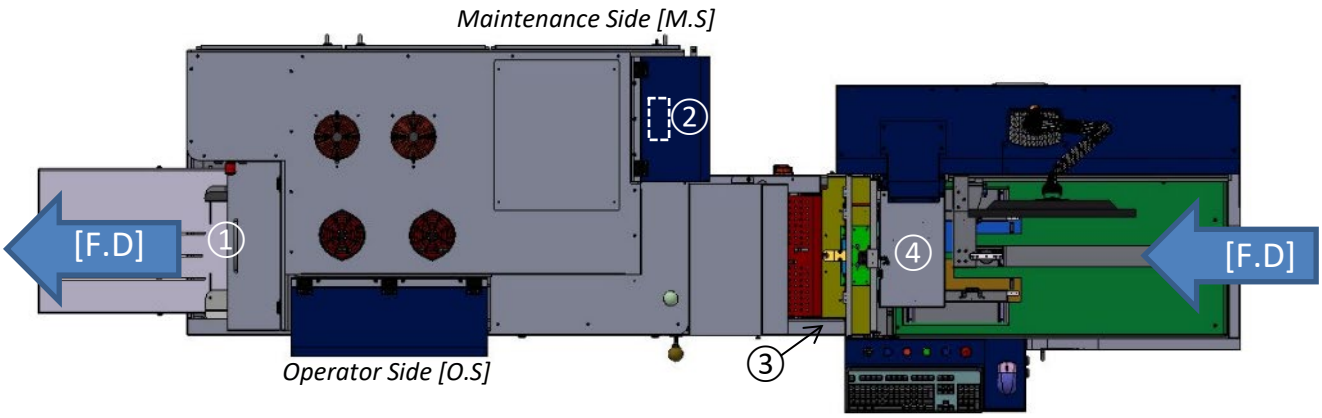
The area locations using a dotted line indicates a location inside the equipment



AccurioShine 3600 – Maintenance Side [M.S]

3.8 Safety & warning label locations – Top view

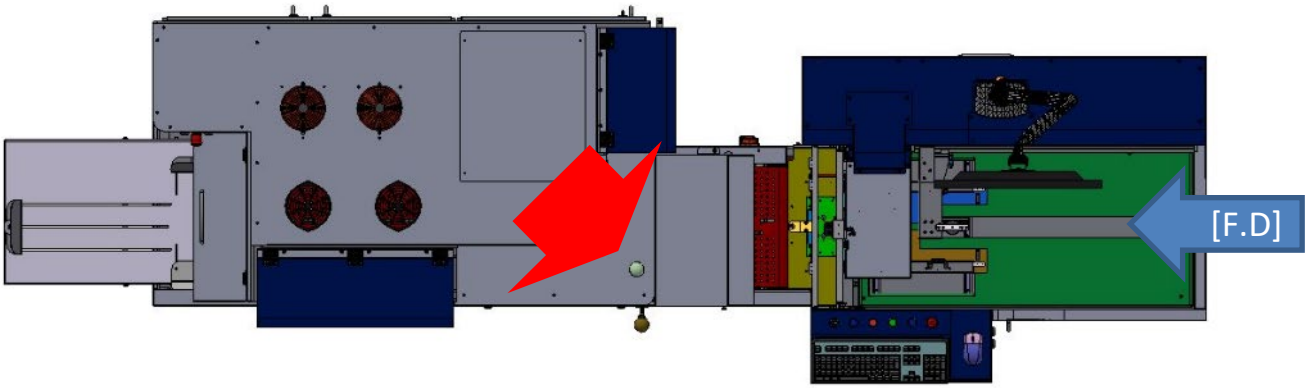
Warning labels	Location areas	Remarks
	①	Visible from outside
	②	Inside the equipment open the blue door, first
	③	Visible from outside
	④	Visible from outside



AccurioShine 3600 – Top view

3.9 Beacon

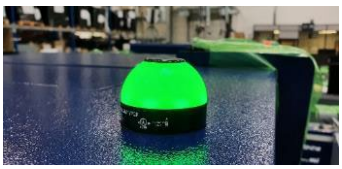
The AccurioShine 3600 has a 3-color beacon on the roof on the equipment (top view)

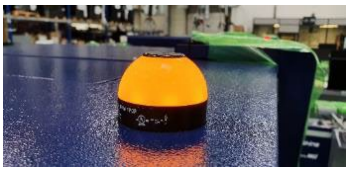


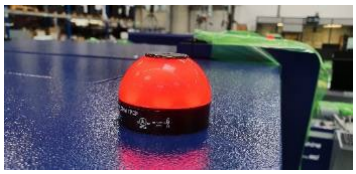
Operator Side [O.S]

The beacon can be lighted in 3 colors:

- GREEEN
- ORANGE
- RED







The beacon color codes are the same as the message colors displayed in both the JVTI status message box and the Pilot

Red message through the Pilot

Beacon & JVTi/Pilot message color coding	Color meaning
RED	**There is an error** and the equipment cannot continue. The operator is expected to do something
ORANGE	**There is a warning**, but the equipment keeps working or the equipment is in progress
GREEN	**This is information**. Operator has nothing to do, the equipment is OK

3.10 AccurioShine 3600 Safety Instructions

General operating rules	For safety reasons, always disconnect power connectors prior to performing any maintenance or repair operation. Any person authorized to intervene shall be called for any important setting or repair operations, especially for electrical repair purposes. Handling UV varnish and cleaning agent require the following rules to be complied with in order to prevent any risks to health: Refer to MSDS – Material Safety Datasheet: Steps 2 - 7 - 8 - 15, delivered together with the consumables.
Rules related to presence of UV system	The use of UV systems may entail a few risks. These risks are eliminated when these systems are used under normal circumstances. The risks to humans when using UV systems are the following: • Skin and eye exposure to UV radiation. • Contact between skin, eyes and UV varnish. • As regards the environment, two elements have to be taken into account: UV varnish and UV LED.
UV radiation	Exposure to UV radiation causes skin and eye injury. High doses cause sunburns. As eyes are the most sensitive to UV radiation, it is recommended to not directly look at a UV LED. The symptoms are actinic conjunctivitis and snow blindness. Although such disorders may be very painful, they disappear without leaving permanent damage. A good UV system features a device which masks direct radiation of the lamp or reflectors through protective plates and narrow beam.
UV varnishes and cleaning agent	UV varnish and the cleaning agent bearing a safety sign which warns that eye and skin irritation may occur upon any contact.
Waste treatment	Residues of UV varnish are chemical residues which shall therefore be transformed by a specialized company. Do not discharge into drains or watercourses Waste and packaging waste must be treated in accordance with federal, state and local environmental regulations.
Fire extinguisher	As any machine using elements heating up to more than 70°C (158°F), this equipment shall have **a fire extinguisher** nearby – adapted to **electrical fires** (CO_2 or Powder extinguisher).
Tips and tricks	"Post curing" (that could be termed delayed drying) is a well-known phenomenon in UV printing processes. It is recognized that, regardless of the power of the UV LED used for drying, the polymerization reaction is not complete. It is therefore better to wait for 24 hours prior to performing any finishing (cutting or scoring) or lamination operation. As regards glossy varnishes, it is also better to wait for 24 hours before delivery in order to prevent any fingerprints during handling.
Legislation	Industrial safety legislation concerning control of hazardous materials makes the user fully responsible for safety during use and application of inks; this includes by-product treatment and waste disposal. The ink supplier's responsibility consists in transmitting Material Safety Data Sheet (MSDS) relating to products or groups of products; the latter contains information in condensed form.

Safety perimeter	For more safety, a 60 to 100cm perimeter around the AccurioShine 3600 is recommended, as a rule, the freer the direct area around the machine, the less substantial the risks in terms of both pallet size and chemical products. It is prohibited to place chemical products inside the machine, except at the specific locations (replacement of ink container).
Recommendations	It is highly recommended not to have flammable materials around the machine; 1-meter clearance all around the machine allows for safe working. For user convenience, it is recommended to have an air renewal system. As a matter of fact, the AccurioShine 3600 operates together with UV LED which release heat, and the ambient temperature may rise at the end of the day.
	Do not let the machine operate alone When operating, the AccurioShine 3600 uses heating elements - up to more than 70°C - even though sensors are present to prevent all risks, it is prohibited to leave the AccurioShine 3600 in unattended operation.
Wearing protective gloves and safety goggles	Varnish is an irritating product - see MSDS attached to each product - and cleaning agent dry skin. It is mandatory to observe the usual precautions: • Wear appropriate protections such as gloves, goggles and gown before handling. • Avoid skin contact. - Use synthetic material gloves • Change any contaminated clothing. • In case of skin contact, immediately wash with water and soap. • Never use UV cleaning agent to clean hands! • Should there be any risk of varnish or cleaning solution splashes into eyes, wear protective goggles. • In case of contact with eyes, immediately wash with plenty of water, and seek medical advice. • Use a hand barrier cream. • In case of varnish splashes, immediately clean. • Dispose of all cleaning materials in containers provided for this purpose.
Machine precautions	Hold the printing unit doors closed. The varnish was specially developed for the AccurioShine 3600; it can harden through the action of UV LED; nevertheless, varnish left in the open may polymerize under the effect of solar radiation or neon tubes. Holding the printing system as far away as possible from direct light guarantees longevity of the components in contact with varnish.
Caution relating to products	Any product having started a polymerization phase cannot be used as severe damage to the AccurioShine 3600 may occur, thus jamming the print heads. It is mandatory to dispose of any product having suspicious looks.
Dust and environment	The room where the AccurioShine 3600 is located shall be as clean as possible as any dust deposited on sheets before varnish drying is "encapsulated" Varnish and cleaning agent storage Preserve inks and varnish in the original containers and cartons closed and sealed, away from light. - See MSDS datasheet. Store in a cool and dry place.
Varnish shelf life	**Konica Minolta varnish has a shelf life of 14 months** Please refer to the date printed on each varnish canister. Using a varnish after the expiration date written on the canister label, could damage the print heads and spoil the overall job quality. The storage place temperature shall be between 15°C and 35°C.

Printhead cleaning flush liquid shelf life	**For cleaning the print heads, use exclusively the following reference:** JET Series – PRINTHEAD CLEANING FLUSH LIQUID – 5 Liters (PN 8484S) Please refer to the date printed on each flush canister. Using a flush after the expiration date written on the canister label, could damage the cleaning quality and efficiency. The storage place temperature shall be between 15°C and 35°C.

3.11 LED Flashlights used nearby the UV Printheads

When the Operator needs to perform some maintenance operations inside the UV Print Engine, it might be convenient to use a Flashlight to better see inside this cabinet.

The MGI LED flashlights are the only authorized light sources to avoid any polymerization problem within the Printheads and/or the Varnish circuits. **Any other lights are prohibited** (Smartphone, Maglite, …).

MGI delivered several Flashlight models over time:

- Original LED Flashlight (V1) delivered until June 2022 (see picture #1).

Picture #1 – MGI LED Flashlight V1

- From September 2022, MGI changed to another LED Flashlight (see picture #2).

Picture #2 – MGI LED Flashlight V2

- From mid-2023, due to a sourcing issue, MGI changed to this LED Flashlight (see picture #3).

Picture #3 – MGI LED Flashlight V3

MGI is continuously modifying the varnish formulas to comply with stricter environmental regulations and to improve overall varnish performances. These chemical changes introduced a greater sensitivity to the UV radiations. After recent tests, MGI Chemical Department demonstrated the MGI LED Flashlights could emit enough UV radiations to have an impact on the varnish polymerization.

To avoid a varnish polymerization generated by a MGI LED flashlight, we are giving you the maximum exposure timing and distances to respect. Any polymerization damage occurred by a not authorized usage, will not be covered by the manufacturer or the Service Contract.

- **MGI LED Flashlight V1**

Varnish Types	MGI LED Flashlight V1
MGI **3D** varnish families (LED & UV)	DIRECT EXPOSURE (worst case) **Max. 1 min. at 20 cm away** from the PrintHeads

- **MGI LED Flashlight V2**

Varnish Types	MGI LED Flashlight V2
MGI **3D** varnish families (LED & UV)	**ALWAYS use the 50% power position on the Flashlight** **(Press *once* the ON/OFF button)** DIRECT EXPOSURE (worst case) **Max. 8 min. at 20 cm away** from the PrintHeads

- **MGI LED Flashlight V3**

Varnish Types	MGI LED Flashlight V3
MGI **3D** varnish families (LED & UV)	**ALWAYS use the yellow color position on the Flashlight** **(yellow = warm color)** **(Press TWICE the ON/OFF button).** If you keep depressed this button, the light intensity is progressively reduced. DIRECT EXPOSURE (worst case) **Max. 8 min. at 20 cm away** from the PrintHeads **DO NOT USE THE FRONT LIGHT** (activated by the 2nd smaller ON/OFF button)

Reminder
To order the authorized MGI Flashlight, use the PN **5254** (currently, the MGI Flashlight V3 from mid-2023).

4 ACCURIOSHINE 3600 SPECIFICATIONS AND CONFIGURATIONS

4.1 Machine specifications

For the machines produced from April 2021 – S/N ≥ 186

Printing technology	Konica Minolta's exclusive inkjet engine technology
	Drop-on-Demand (DoD) technology
	Konica Minolta piezoelectric inkjet printheads
	Single pass printing
	Flexible printing architecture
Varnish thicknesses	Depending on your file, the printed material, the CYMK printing technology and/or finishing technology used, the coating thickness can vary from 21 µm up to 116 µm for 3D raised effects and a tactile finish. When activating the dithering mode, the varnish thickness can be as low as 7 µm, **if the substrate permits**.
	The minimum varnish thickness over toner (for AccurioPress) is 36 µm in order to have optimum printing quality. *Under certain conditions, this thickness can be reduced down to 21 µm when the CTS Corona module is installed and activated. LED#1 should be off and tested/validated applications and substrates should be used.*
Production speeds	Up to 2,077 A3 per hour at 21** µm Up to 1,468 A3 per hour at 43** µm ***NOTE*: *Printing speeds are given to indicative information and may vary according to printing substrate, number of drops set on the data file and under full operator responsibility. See the above table to learn more*
Registration	Automated registration using AIS SmartScanner system. Overall registration of ± 200 µm
Formats	Min: 21.0 x 29.7 cm / 8 x 11.8". Feeding direction restriction applies on A4 paper size when the CTS Corona option is installed
	Max: 36.4 x 75 cm
Max. print width	35.2 cm or 352 mm
Substrate thickness	Min: 135 Gsm and not less than 150 µm after printing & lamination
	Max: 450 Gsm and not more than 450 µm before printing & lamination
	Motorized height-adjustment print heads
Substrates	Printing on most matte or glossy laminated surfaces, with or without aqueous coating, layered paper, plastic, PVC and other coated materials
	Printing directly on most digital prints (i.e. Bizhub C1070/C1060, C1100/C1085, or C3080) with no lamination or coating required
UV coating container capacity	10 liters/2.6 US gal. tank capacity
Automatic paper feeder	Vacuum belt feeding system
	Able to handle a paper pile up to ±28* cm high
	All paper formats from A4 up to 36.4 x 75 cm
Paper exit tray	Tray able to handle a paper pile up to 15 cm. Automatic tray full sensor
	All paper formats from A4 up to 36.4 x 75 cm

In-line LED UV dryer	"On-the-fly" drying & curing via an eco-friendly LED (ozone free)
	Spot Coated sheets can be immediately finished or handled
Front end system	Dedicated PC; CPU + 22" LCD screen + keyboard/mouse
	Ethernet connection 10/100/1000 BT (RJ 45)
Built-in application software	Comprehensive job queue management
	Predictive printing cost calculator (varnish consumption)
	Dedicated image editor to do local and fast image editing prior to production
Maintenance & remote technical support	Daily maintenance completed in less than 10 minutes
	Majority of procedures are automated
	Automatic cleaning system
	From cold start to production in less than 10 minutes
	Remote troubleshooting & support via included video/web camera (high speed internet connection required)
Pilot panel	Integrated LCD touch-screen
Options	*-Digital hotfoiling module (iFOIL One)* *-Automatic PDF File Converter (using RIP PC-C1)* *-VDP barcode camera* *-AIS SmartScanner Lighting for metallized substrates* *-CTS S Corona option* *- optional CTS Ozone filter*
Dimensions (L x W x H) & weight	4.02* x 1.2 x 1.80 meter **no paper extension available*
	1 meter / 3.3' clearance required on all 4 sides
	± 1,068 kg (uncrated)
Electrical requirements	For Europe and the majority of the world* 7.5 kW (32 A) at 220-240 Volts 50/60 Hz - 2 plugs CEE/IP44 32A (1P+N+PE) For USA/CAN only* 7.5 kW (30A) at 208-240 Volts 50/60 Hz - 2 Nema plugs L6-30P (30A 250V, 2P 3 Wires) **Please refer to the product site survey to learn more about the electrical requirements*
Operating environment	Temperature: 18 to 30°C / 64 to 86°F
	Relative Humidity (RH): from 30 to 50% (no condensation) Optimum 22°C and 40% RH
Average Yearly Duty Cycle	±600,000 pages in 36x52cm format (1 shift work)

4.2 Remarks about special substrates

Operators are warned about the color of the sheet used. While the AIS Scanner has enough features to overcome issues about special substrates, internal sensors may have unexpected behaviour when meeting special substrates.

Special care should be taken when the color of the sheet is *from very dark to black*. The frequent issue is to have a paper jam, somewhere in the equipment.

Operators are invited to test the compatibility with 20-50 sheets prior to committing for an entire production. A possible retrofit kit is under investigation to address this range of colors. When this will be available, this User Manual will detail how it works.

Same precaution should be taken with *metallic or highly reflective papers*. The internal sensors may be in error due to the light reflection.

Same precaution should be taken with *translucent to perfectly transparent sheets*. The internal sensors may be in error with the background underneath the paper sheet.

When the color of the paper is far away from a regular white paper, **operators are invited to test the compatibility with 20-50 sheets prior to committing for an entire production.**

4.3 Important recommendation – Sticky substrates

For using foil stamp, make sure to **not** use sticky substrate. Substrate sticks to foil film and be carried with foil film. In the worst, foil film with substrate rushes into stamp roller heater and get ignition.

Example of the sticky substrate are

- Incorrect lamination sheet (**fig1**)
- Lamination sheet with excess glue on the edge (**fig2**)
- Any other sheet that has sticky material on the surface (**fig3**

fig1

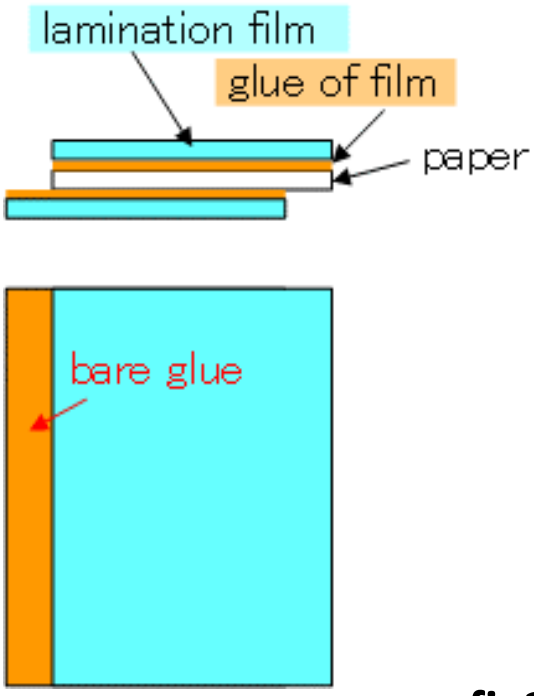


fig2

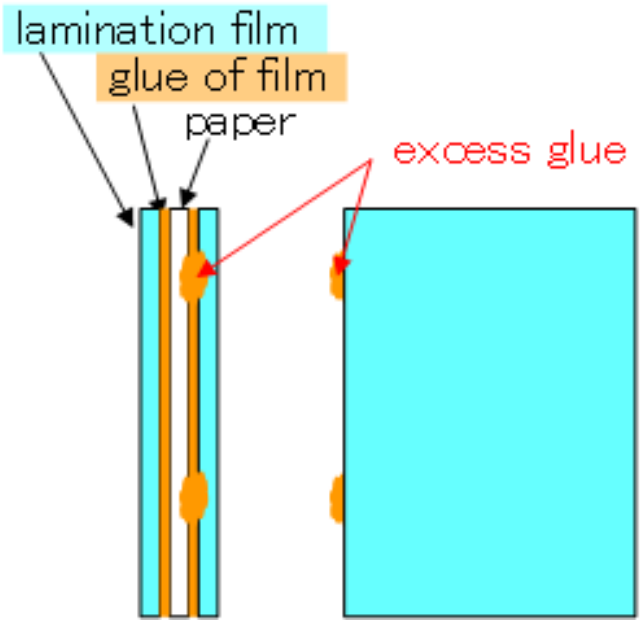


fig3

4.4 Production speeds

The expected AccurioShine 3600 production speeds are the following:

- **AccurioShine 3600 with 1 print bar (no possible upgrade)**

Varnish thickness (in µm)	Number of drops	Production Speeds S1/S1' in meter per second (m/s) S2/S2' in A3 landscape pages per hour (A3/hour)			
		Print Speed Reduction OFF (print speed @ 100%)		Print Speed Reduction ON (print speed @ 50%)	
		S1	S2	S1'	S2'
21	3	0.300 m/s	2 077 A3/hour	0.150 m/s	1 038 A3/hour
29	4	0.280	1 938	0.140	969
36	5	0.240	1 662	0.120	831
43	6	0.212	1 468	0.106	734
51	7	0.182	1 260	0.091	630
58	8	0.159	1 101	0.080	550
65	9	0.141	976	0.071	488
73	10	0.127	879	0.064	440
80	11	0.116	803	0.058	402
87	12	0.106	734	0.053	367
94	13	0.098	678	0.050	346
102	14	0.091	630	0.050	346
109	15	0.085	588	0.050	346
116	16	0.079	547	0.050	346

Explanations

When the global page varnish coverage is really high or when one or several print heads are really overloaded with large varnished areas, there is a risk to create varnish starvation within the manifold(s) and/or print heads. This leads to print quality problems.

An Automatic Printhead Protection System (APPS) is activated to detect these cases. This automatically reduces the print speed by 50% allowing the manifold(s) and/or print heads a complete varnish replenishment.

When the APPS is detecting a risk of varnish starvation, the user is warned by a clear popup message on the JVTi and the print speed reduction is activated. The operator is free to change the .TIFF graphic file to come back to a full print speed situation.

The print speed table is using the following assumptions:

- Gap between two sheets = 10 cm when arriving on the printing belt
- Sheet size (L x w) = A3 landscape = 29.7 x 42 cm

NOTE: Printing speeds are given as an indicative information and may vary according to printing substrate, number of drops set on the data file and under full operator responsibility.

You will notice that the current AccurioShine 3600 has two technical limits. The upper limit where the AccurioShine 3600 cannot go faster than 0.3 meter per second. The lower limitation where the AccurioShine 3600 cannot go slower than 0.05 meter per second.

With the AccurioShine 3600, it is not possible to print in less than 3 drops, equivalent to 21 µm of varnish thickness. Only the dithering mode can enable this by using a halftoning technique. It allows spraying less varnish, but the substrate and the CYMK ink should support this low varnish coverage.

Dithering mode

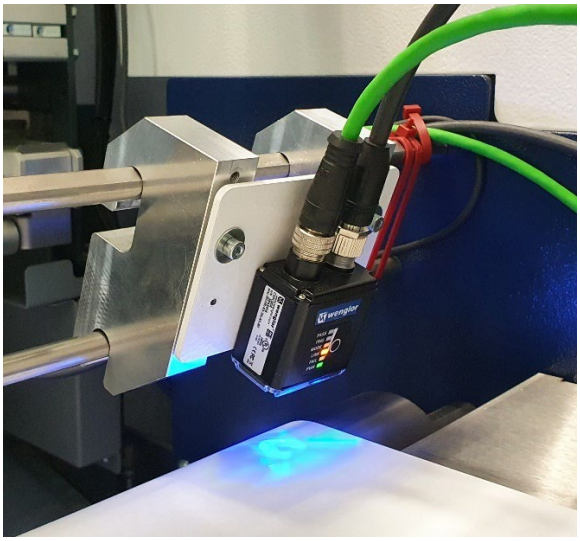
When using the dithering mode, this never influences the speed of the AccurioShine 3600. It remains at the speed corresponding to the original thickness sets in the JVTi. It is only acting on the varnish image creation using AccurioShine algorithms.

Examples:

- A3 print speed @ 21 µm without dithering = 2,077 A3/hour
- A3 print speed @ 21 µm with dithering and areas at 33% of grey level = 2,077 A3/hour for a theoretical thickness of 7 µm

4.5 Machine configurations & options

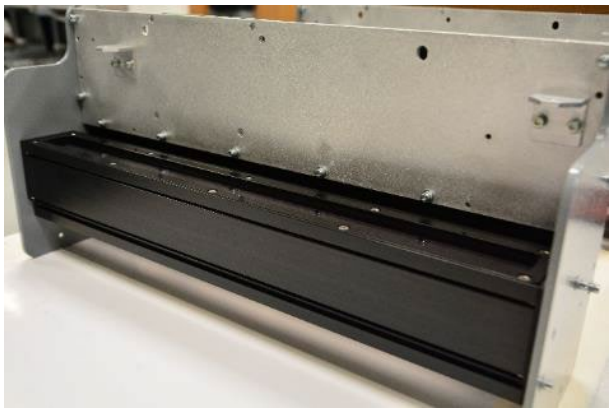
	AccurioShine 3600 • **STANDARD FEATURES** -Paper Feeder -Main body with the IJ Print Engine -Single print bar (not upgradable) -AIS SmartScanner -Performance Workstation Computer to run the JVTi software (Graphical User Interface) + keyboard/mouse
	• **OPTION 1** **iFOIL One** This module brings the capability to do on-line Digital Hot Foiling. The varnish layer applied by the AccurioShine 3600 is used to determine where the foil film will be transferred onto the paper sheet. Refer to the "iFOIL One *User Manual*" to discover more about this module.
	• **OPTION 2** **Automatic PDF File Converter (using RIP PC C1)** This automatic PDF converter is using a powerful PC to transform the PDFs into .TIFF files. This format is expected by the AccurioShine 3600 to process the varnish production. Once installed on the network and properly setup, the PC acts as a black box (or as a RIP) and converts automatically on-the-fly all the incoming files.



- **OPTION 3**
  VDP barcode camera

The barcode camera allows to read the preprinted barcode on each sheet and then, selects the corresponding .TIFF file already stored on the PC Performance Workstation.

NOTE
To enable a full VDP system for on-the-fly variable varnishing capabilities, the 2 following options are both necessary:
-Automatic PDF File Converter
-VDP barcode camera



- **OPTION 4**
  AIS SmartScanner Lighting for metallized substrates

The AIS SmartScanner has already a built-in lighting system for the vast majority of the preprinted substrates. When it comes to very specialized metallic substrates, the AIS SmartScanner needs an optional coax lighting system which prevents the scanner from being blinded by the reflection of the light.

- **OPTION 5**
  CTS S Corona module

The CTS S module is an in-line module inserted after the Paper Feeder module and before the Printer module. The CTS S Corona module is used to either increase the wettability of the inks/substrates, and/or to improve the varnish adhesion over these inks/substrates.

	Option of the option 5: **External Ozone Filter** The CTS S Corona module can also receive an optional Ozone Filter to filter the ozone emissions of CTS module when an external air extraction is not possible. Refer to the "*CTS S Corona User Manual*" to discover more about the CTS S module.

4.6 Working Conditions

CAUTION

It is your responsibility to guarantee the settings of the different terms of this document in order to have the equipment working according to Konica Minolta specifications.

4.6.1 Installation

The machine needs to be installed on the flat stable floor to reduce noise and vibration. The machine is provided with mounted feet to stabilized and level it. Please refer to the technical manual for installation instructions.

4.6.2 Electrical Tension

Standard: 2x220-240V 32A 50/60 Hz -*Please refer to the product site survey to learn more about the electrical requirements*
It is mandatory to be sure that the tension will not drop when all the machines are switched on. The AccurioShine 3600 must always be connected to the 220-240V power due to the ink circuit depression system.

4.6.3 Temperature & Humidity

The UV coating is applied using an UV inkjet system. It is important to ensure its viscosity is adequate. So, the machine needs an operating environment between 18 – 25°C (65 – 77°F).
The humidity needs to stay in the range of RH 35-55% without condensation. To optimize the quality of the prints, and avoid damage to the heads, it is highly recommended to work in a dust-free environment. Finishing equipment produces a lot of dust and should not be in the same environment as the AccurioShine 3600.

4.6.4 Sun

The machine cannot be directly exposed to the sunlight. There is a risk of polymerization of the varnish inside the various internal tubing up to the print heads. Applying an anti-UV film on windows receiving direct sunlight is a valid solution.

4.6.5 Workplace

The operators must have a workplace for consumables cleaning and all the recommended tools for maintenance operations (information given during the training).

4.6.6 Storage

- **Varnish**

The AccurioShine 3600 coating should be stored at ambient temperature (18-30°C), in particular 4 to 8 hours before being loaded in the machine.

- **Paper storage**

To ensure good production conditions, Konica Minolta recommend you to store your paper prior to production following the conditions below:

- The paper to be spot coated should be stored flat to avoid any deformation and curling. They should stay also with their original packaging until the last moment prior to printing.

- The paper should be stored within a room where the temperature never deviates from 20-25°C (68°-77°F). The relative humidity (RH) should be kept in the range of 35-55% without condensation. Do not hesitate to use to use air humidification system when the quality of the air is to dry, or if humidity in the paper storeroom or print shop is too low. The material releases moisture into the room. This leads to unwanted changes in the dimensions of the paper. The paper then is no longer perfectly flat and cannot be processed efficiently. Double sheet feed, registration differences, wrinkling and distortion are difficulties frequently encountered as a result of low humidity. If paper is too dry during processing at low humidity, electrostatic charges are created. The paper sticks together and stops running smoothly through the printing press. This also applies even more dramatically to synthetic materials such as PVC or polypropylene.

- An air conditioning system is also a good solution to keep the air dry when there is too much humidity (RH). Do not hesitate to ask your paper supplier about the best storage conditions for its substrates.

- **Acclimation before production**

The paper should reach the production room to be acclimated. The paper should stay 24-36 hours in the production room prior to production, but keep it away from the heater or a cold wall. Same parameters apply when printing (ambient air 20-25°C and RH 35-55%).

4.6.7 Precautions when handling varnish

The AccurioShine 3600 varnish is a skin irritant. Any manipulation in its liquid form needs to be done using gloves (one box of gloves is provided with the machine), and glasses/goggles provided with the equipment (PN: 4004C). Protective clothes (such as a lab coat) are also recommended.
During fill up and cleaning, it is recommended to have the use of a table, a trash can and paper towels. Konica Minolta also provides a cleaning solution (PN: 8484S). After drying, the varnish can be handled with no issue. **After any varnish/flush handling, please clean the Workstation mouse in case of varnish/flush contamination on this device.**

4.6.8 Precautions against the UV rays

The AccurioShine 3600 emits UV rays during production. Those rays are contained within the equipment by the protective covers, and thus do not present a risk to the operators. However, during maintenance and adjustment operations, it is imperative that UV filtering goggles to be worn.

4.6.9 Internet Access

It is mandatory to have access to the internet network on the PC WorkStation (CWS) in order to activate the consumables licenses & the use of the remote access.

4.6.10 Prohibition of the Use of Expired Consumable

We hereby inform you that it is strictly forbidden to use any expired consumable on our Konica Minolta equipment. As you already know, consumables as varnish are made of chemical component which cannot be used after its lifetime (14 months).
Despite our warnings if you are using varnish in Konica Minolta equipment on which the expiration date has been exceeded, it will damage the print heads and all the ink circuit system (pumps, filters, etc.) and therefore the electronic boards.
Such damages are not covered under the warranty or by any maintenance agreement.
Likewise, using a new varnish will not eliminate the consequences generated by the use of varnish which has expired on the AccurioShine 3600. A full cleaning and control of machine is required to verify whether the electronic circuits and other components were not damaged.

4.6.11 Fire protection

We hereby inform you that the AccurioShine 3600, like any machine using heating elements, needs to have an adapted fire-extinguisher for electrical fires (CO_2 or Powder) near the equipment. We also strongly recommend avoiding the storage of flammable products around the equipment. Please comply with your local rules about fire protection.

4.6.12 Running the machine

The AccurioShine 3600 in running mode uses heating elements (over 100°C). Despite the use of safety sensors to minimize risk, it is forbidden to run the machine without CONTINUOUS human monitoring!

4.6.13 AccurioShine 3600 varnish

CAUTION

It is strictly forbidden to use any other varnish than the one provided by Konica Minolta. Any damage incurred to the equipment due to the use of another varnish will immediately void the manufacturer's warranty and the user will be held responsible for all damages.

4.6.14 Noise emissions

Machine running in stand-by: 62 dB (A)
Machine running in printing: 72 dB (A)
For continuous and all-day use of the equipment at close proximity, it is recommended to wear ear protection.

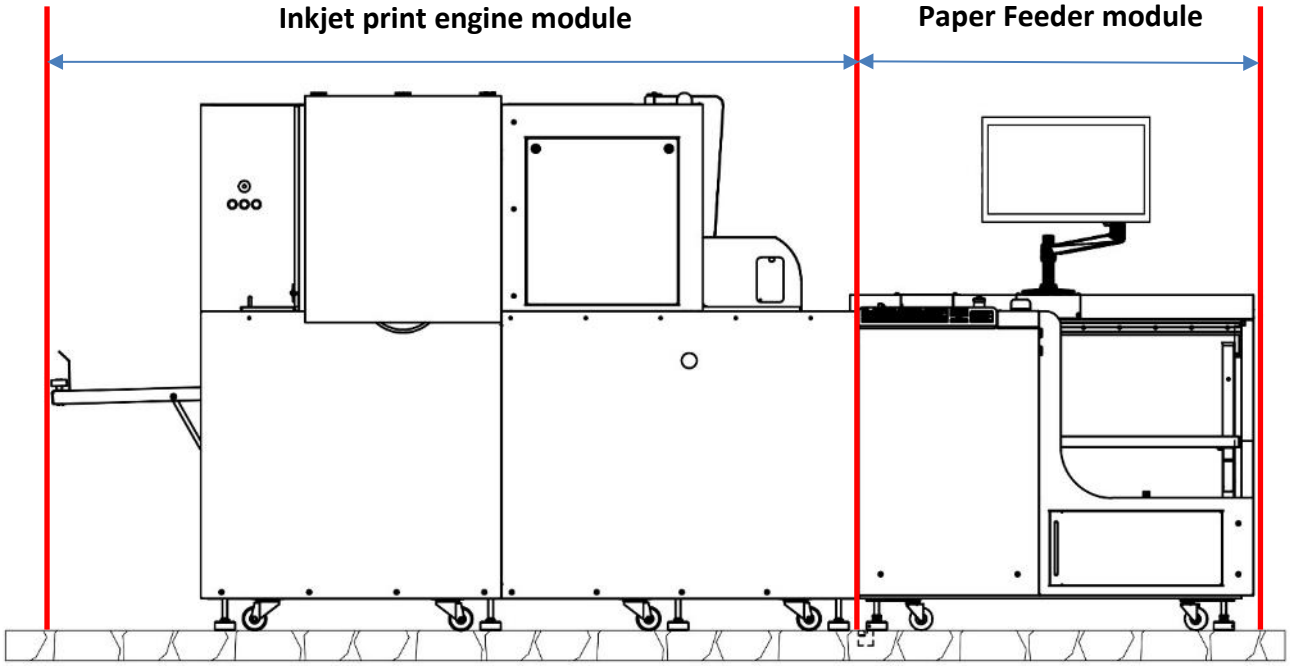
4.6.15 Risk of sliding. stumbling of fall

To avoid an operator slipping, stumbling or falling on electrical cables on the floor between the machine and the power supply, the installation of over floor trunking is recommended.

5 OVERALL DESCRIPTIONS

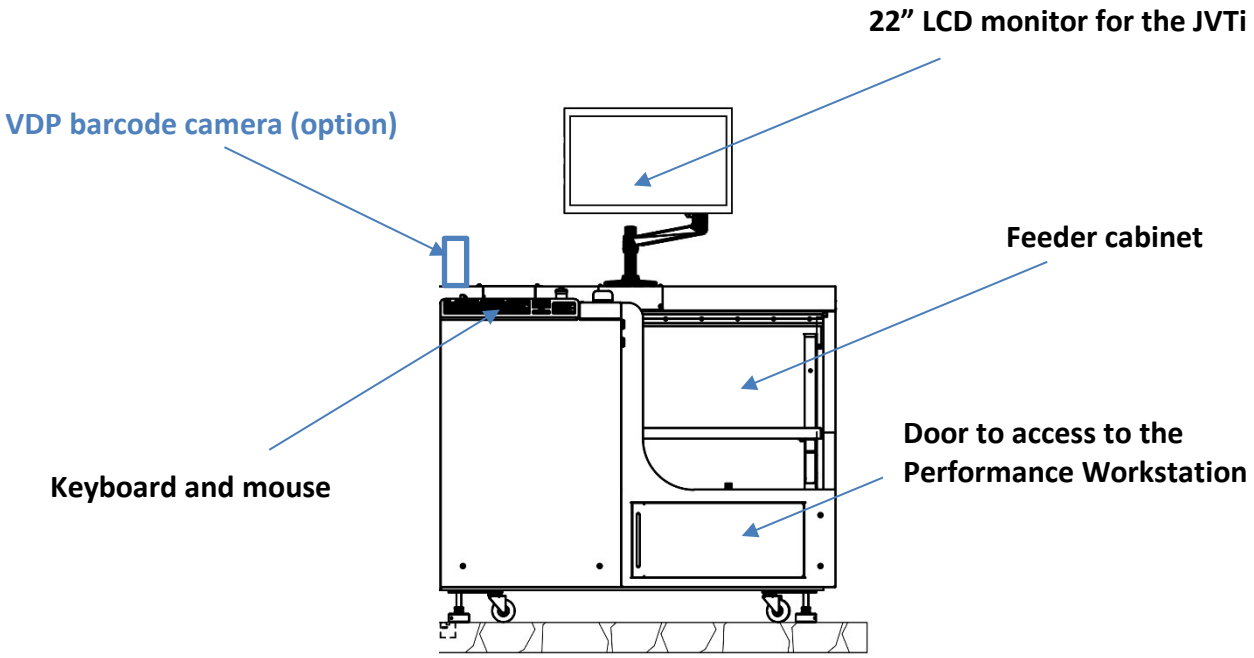
The AccurioShine 3600 comes with two distinct modules:

1) The Paper feeder module
2) The Inkjet print engine module or the printer module



Each module contains sub-elements which are described below. When a device is available only as an option, it is colored **BLUE.**

5.1 The Paper Feeder module



5.1.1 Paper Feeder

The Paper Feeder is able to feed different paper sheet qualities from a stack of paper. The sheets are fed from the top of the pile by a vacuum system. For perfect sheet separation, the feeder features an air knife system. The approximate loading capacity is ±28 cm of paper height.

Formats	Min: 21.0 x 29.7 cm / 8 x 11.8” (in portrait mode i.e. long side first)
	Max: 36.4 x 75 cm
Max. print width	35.3 cm or 353 mm

5.1.2 Monitor

The Graphical User Interface named “JVTi” is running on a 22” LCD monitor. Associated to this monitor, a handy shelf hosts the built-in keyboard and a mouse.

5.1.3 The Pilot

Installed on the [MS] of the Paper Feeder module, the Pilot is a smaller touch screen mainly for the technician and also for limited operator day-to-day actions.

The operator can perform the following actions:

- Set the paper feeder parameters
- Activate or deactivate the double sheet sensor
- Set the printing belt speed
- Set the vacuum power of the printing belt
- Move the head plate
- Activate or deactivate the machine dryers for further printing
- etc.

The pilot is also used to display important information such as:

- Appearance of error messages on the printing system
- Precise location of the reason for any machine problem
- Number of files sent by the JVTi, number of remaining files to be printed, and number of already printed files
- Air system status values
- Varnish system status
- etc.

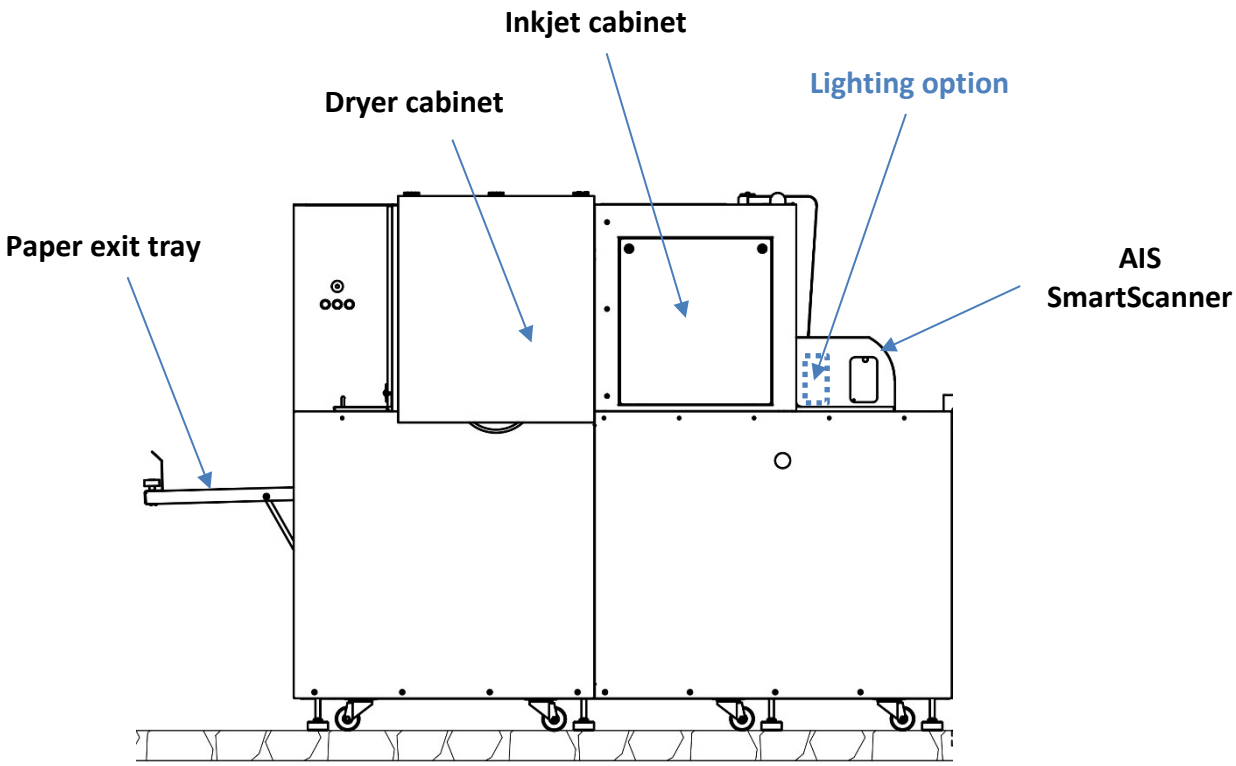
5.1.4 The Performance Workstation

Under the equipment covers (and not visible on the previous graphics) in the Paper Feeder cabinet, a powerful Workstation is installed to drive the internal and external communications (IP protocol) between all the devices and to run the JVTi software.

5.1.5 VDP camera option

When this option is installed, it allows to read the preprinted barcode on the paper sheets and automatically associate the corresponding varnish file.

5.2 The Printer module



5.2.1 Inkjet cabinet

The Inkjet printer is the heart of the machine. This module is equipped with a vacuum belt to transport the sheets under the print heads. In the head plate are embedded the electronic boards which drive the heads through the computer and PLC connections.

5.2.2 Dryer cabinet

The dryer cabinet contains 2 eco-friendly UV LED systems (LED 1 and LED 2) to dry and cure the freshly printed varnish.

5.2.3 AIS SmartScanner

The AccurioShine 3600 is equipped with the state-of-the-art system for a perfect sheet-to-sheet registration (± 200 µm). The AIS SmartScanner reads each sheet and if a registration defect is detected, the varnish file is automatically adapted.

5.2.4 Lighting option

As an option, the AIS SmartScanner can receive an additional lighting system to ensure the best lighting conditions when running production on metallic substrates. This option is not visible unless you remove the AIS SmartScanner cover. This option can be added on the equipment at any time.

5.2.5 Paper exit tray

The AccurioShine 3600 comes with a paper exit tray which can stack up to 15 centimeters of paper and all supported formats from A4 (21x29.7) up to 36x75 cm included. This paper exit tray can receive a positive or a negative tilt angle to accommodate all possible situations to ensure a reliable stacking.

5.3 Automatic PDF converter (option)

A standalone PC, available as an option, can achieve two different tasks:

a) Automatic PDF converter
If you are an intensive PDF user due to your internal workflow or by personal choice, this automatic PDF converter uses a powerful PC to transform PDF files into TIFF files. This format is expected by the AccurioShine 3600 to process the varnish production. Once installed on the network and properly setup, the PC acts as a black box (or as a RIP) and converts automatically on-the-fly, all the incoming files without human interaction. This option can be added on the equipment at any time.

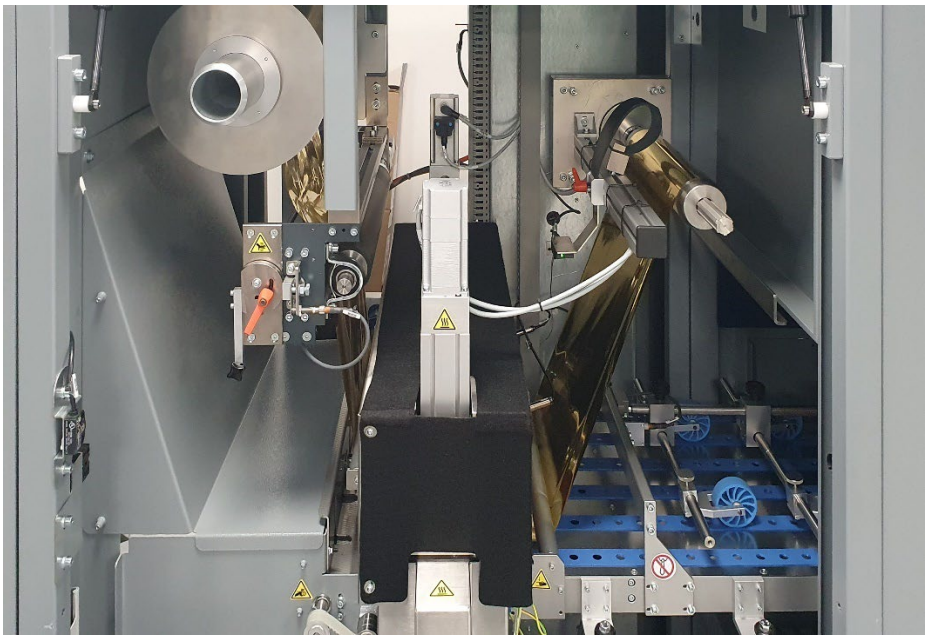
b) VDP processing – with additional hardware
When the **optional VDP barcode camera** is associated to this **Automatic PDF converter** then, you can start doing powerful Variable Data Printing with digital varnish.
This barcode camera reads the preprinted barcode on the paper sheet and the system selects automatically the correct digital varnish files. Each page can receive a unique varnish mask and this is a completely automated process during varnish production.

5.4 Digital hot foiling – iFOIL One module (option)

As an option, the AccurioShine 3600, can be fitted with the iFOIL One module to add digital hot foiling capabilities. It is an in-line module inserted after the UV dryer and just before the Paper Exit Tray. It is activated on-demand and when not used, the paper sheets are going through in by-pass mode.

The iFOIL One uses foil rolls as consumables. The foil pigment is transferred only on the areas which received a varnish layer from the AS3600 print engine. This is pure digital process which eliminates the need to create a brass die and can deliver foiled jobs for quantities ranging from 1 to several thousands.

The iFOIL One associated with the AS3600 can create foiled static printouts as well as variable data foiled jobs.



iFOIL One – internal view with a gold foil loaded

5.5 Corona Treatment – CTS S module (option)

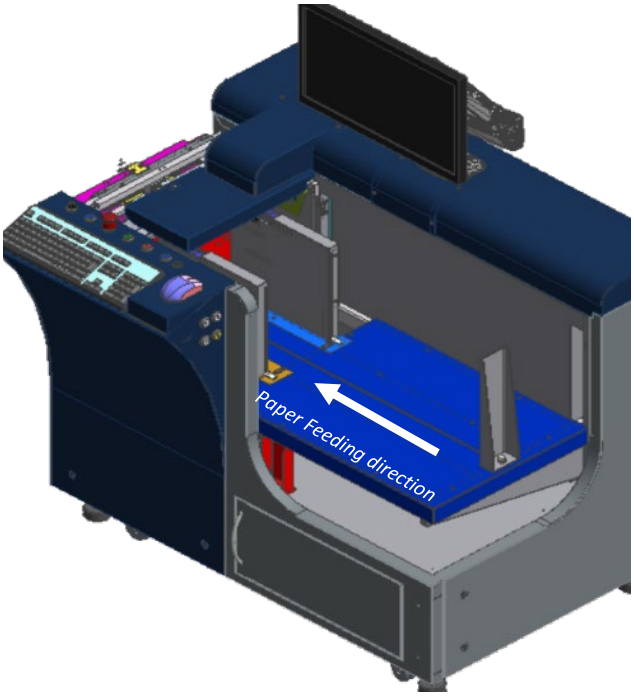
As an option, the AccurioShine 3600, can be fitted with the CTS S module to offer in-line corona treatment capabilities. It is activated on-demand and when not used, the paper sheets are going through in by-pass mode. The CTS S module is installed after the Paper Feeder and before the AIS SmartScanner.

Basically, the corona treatment is necessary when the pre-printed substrates require either to raise the wettability to a higher level or to improve the adhesion of the UV varnish over the substrate. It can be one or the two combined effects.

6 FUNCTIONAL DESCRIPTIONS

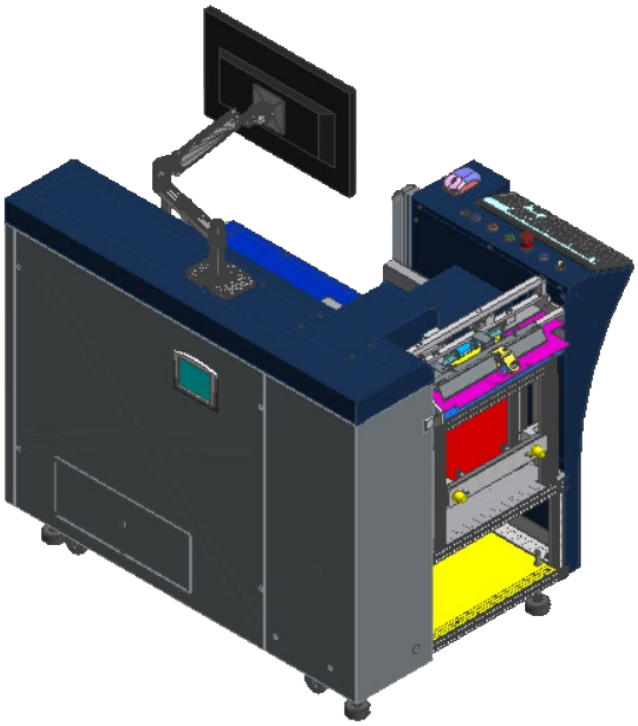
6.1 The Paper Feeder

6.1.1 Global views

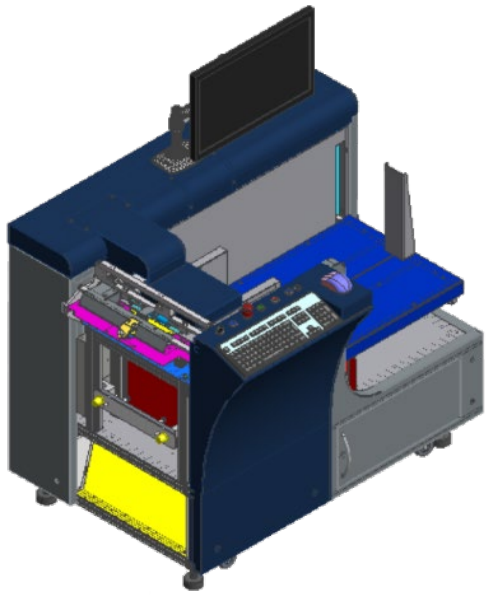


Paper Feeder - Operator Side [OS]

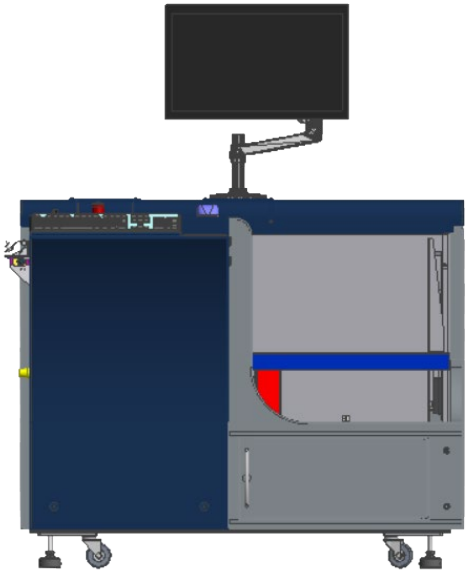
REMINDER: *The colored parts on this drawing are for indication only and do not represent the actual colors of the parts.*



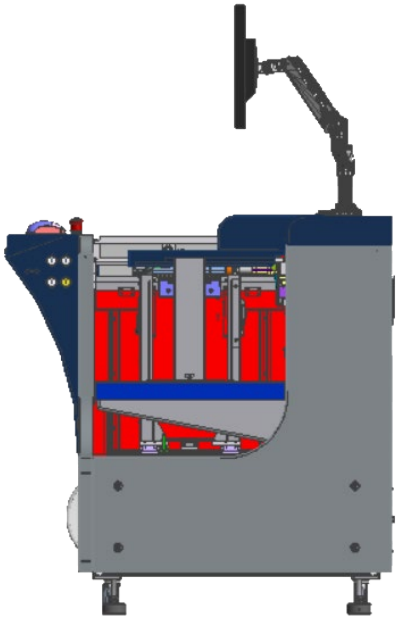
Paper Feeder – Maintenance Side [MS]



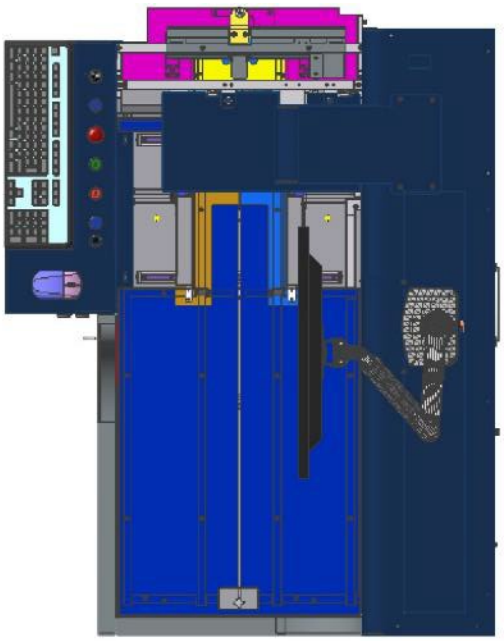
Operator Side view



Front view



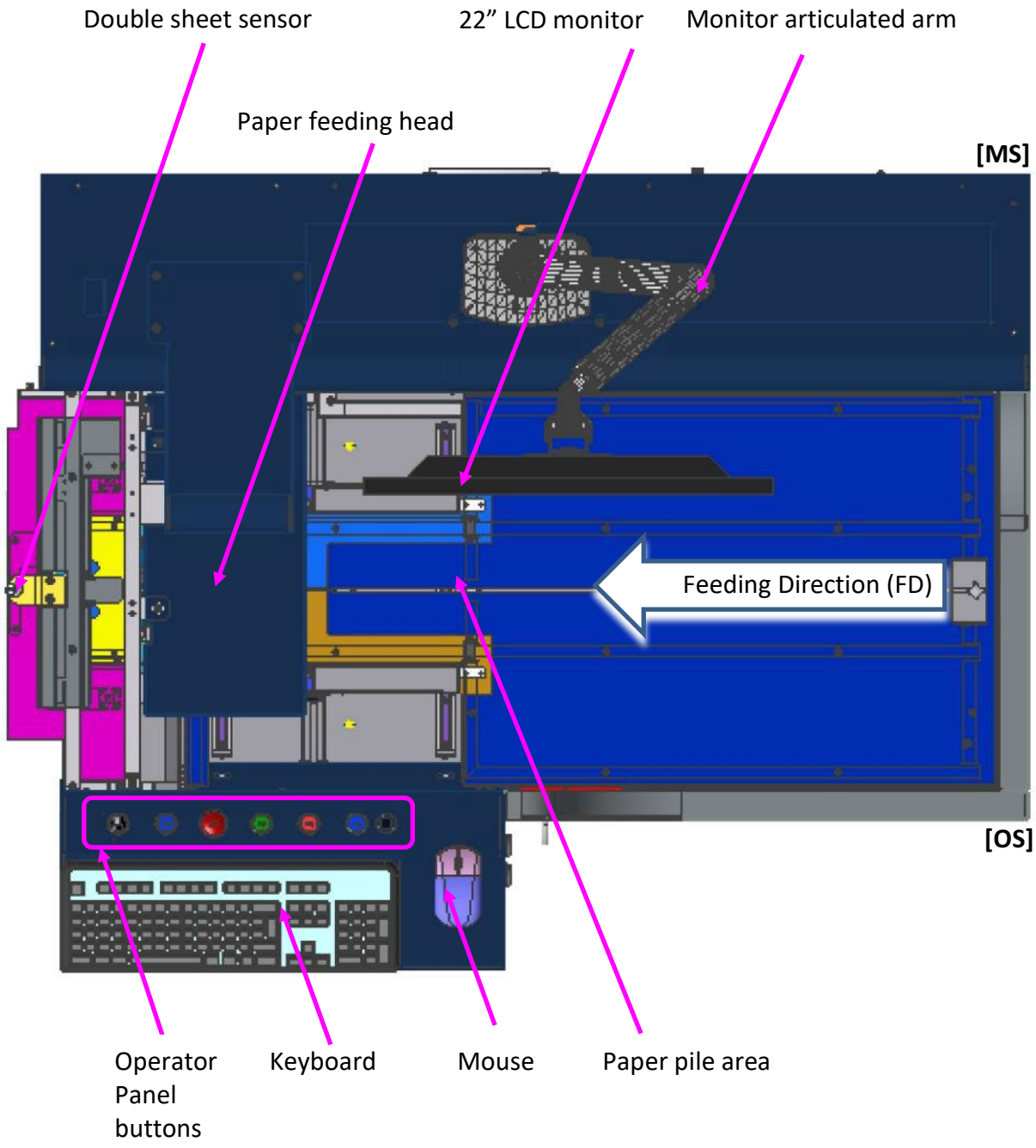
Side right view



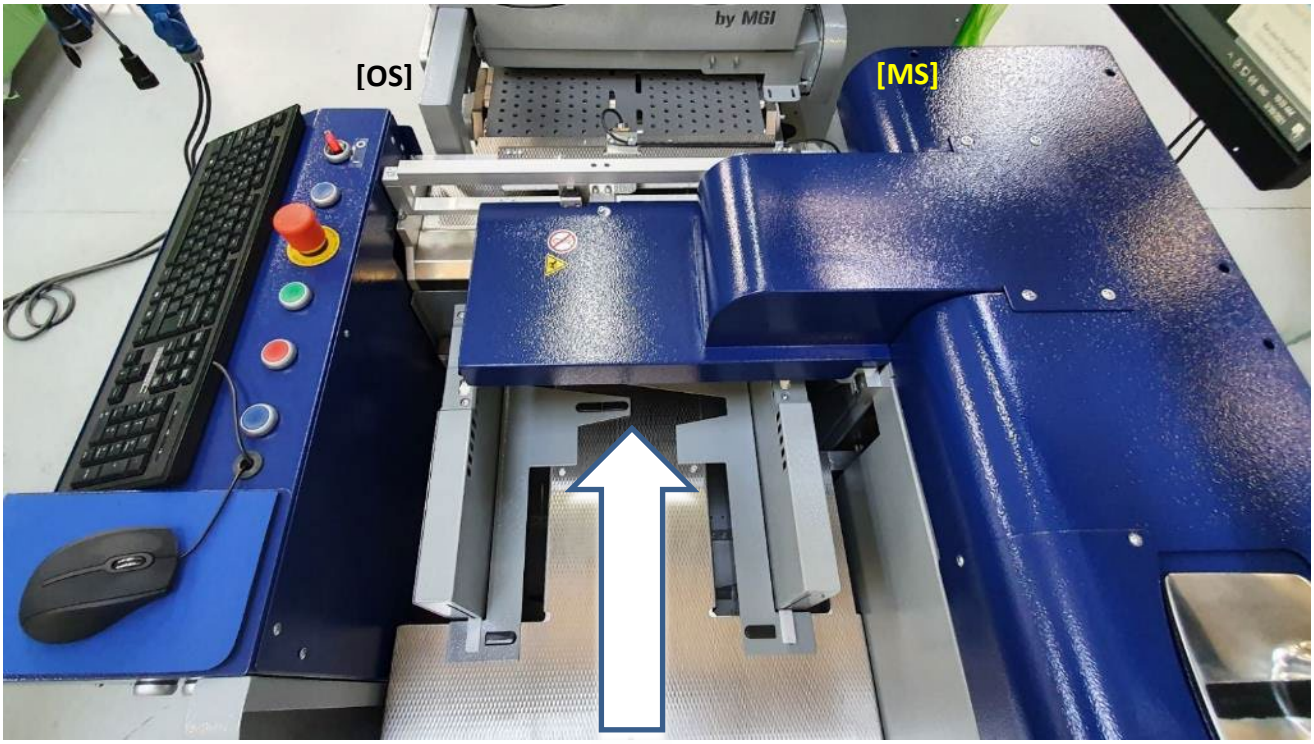
Top view

6.1.1.1 Paper Feeder main components

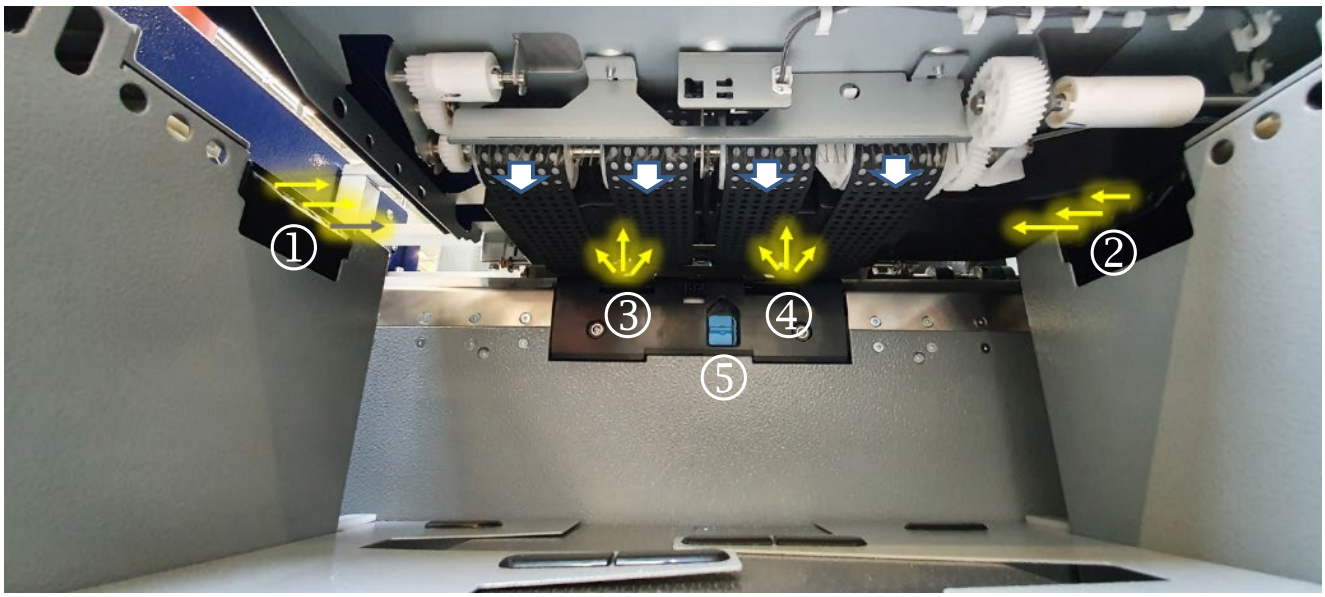
CAD-CAM drawing



Paper Feeder Top View



Paper Feeder Top view



The airflow system – working principle

The Paper Feeder is using 2 types of controlled airflows:

- the side airflows ① and ②, created by the **Side fans** blowing through **Air Nozzles**
- the central airflows ③ and ④, created by the **Central fans** blowing through **Air Nozzles**

⑤ The top of pile sensor switch having 2 positions – low and high. The factory default position is low (as shown on the picture). Push the blue lever to move it from low to high position.

These airflows can be regulated both in power and in flow orientation.

Feeding principle:

a. The **Side** and **Central fans** are blowing air accordingly to the JVTi settings.

b. The airflow is isolating 2 or 3 top sheets from the paper pile and make them flying above an air cushion.

c. The top flying sheet is captured using an air suction system generated by the **Paper feeding head**.

d. When a sensor is detecting the top sheet moving up, the airflow of the Side fans is immediately stopped. The Central fan airflow is taking a +45° angle orientation to help the top sheet sticking to the 4 belts. This same airflow, by reflection, is pushing back the flying sheets to land on the paper pile. This overall principle is very efficient to prevent a double sheet feeding.

e. While the top flying sheet is captured by the air suction, it is moved by the 4 top belts which are running forward (white arrows).

6.1.2 Paper Feeder specifications

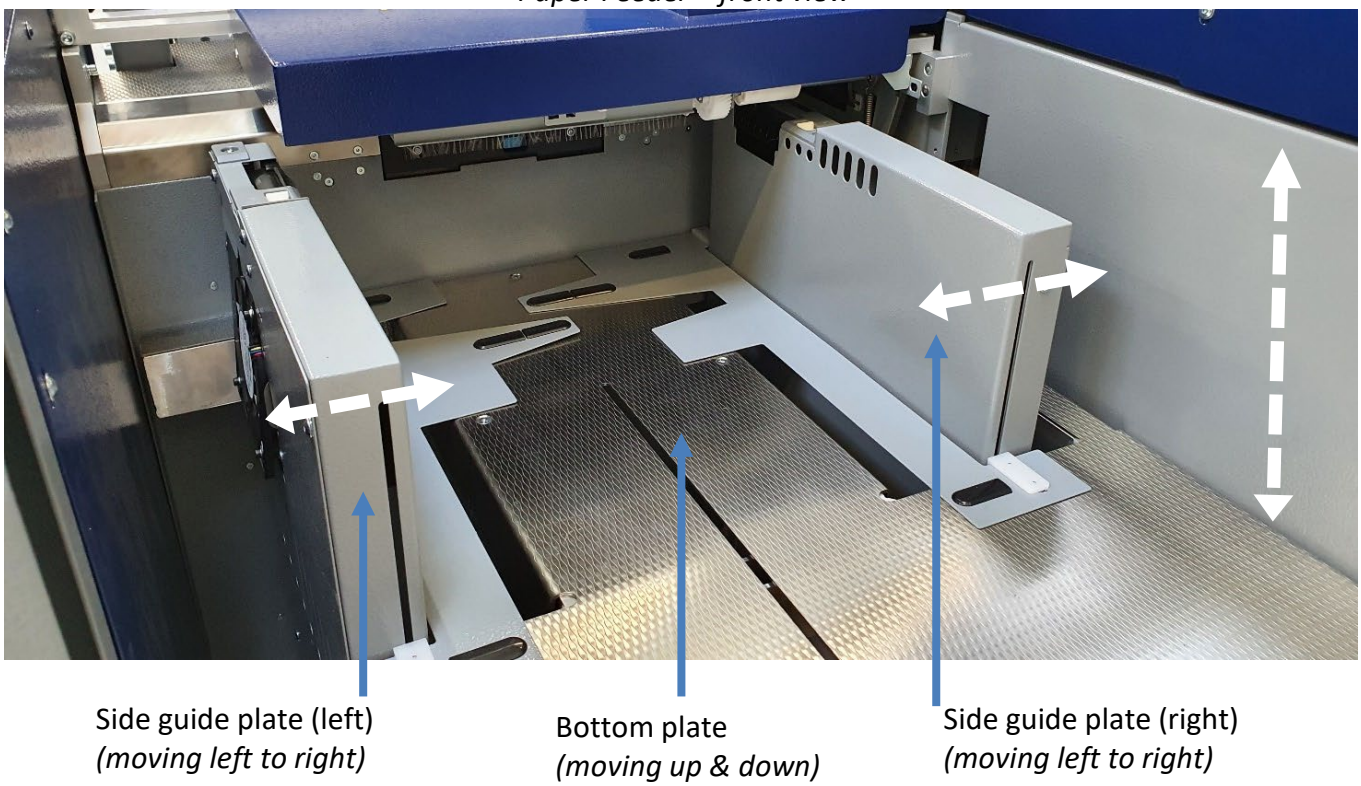
The AccurioShine 3600 Paper Feeder has the following specifications.

Minimum supported paper width **Maximum supported paper width**	Min. = 21 cm* Max. = 36.4 cm *But the system cannot accept a sheet size < 21x29.7 cm
Minimum supported paper length **Maximum supported paper length**	Min. = 21 cm* Max. = 75 cm *But the system cannot accept a sheet size < 21x29.7 cm Maximum sheet size: 36.4x75 cm
Production speed	Up to 0.3 m/s (meter per second) or up to 2,077 A3 sheets per hour
Substrate thicknesses	Min.= 135 gsm and not less than 150 µm after printing and lamination Max.= 450 gsm and not more than 450 µm after printing and lamination
Paper pile height	The Paper feeder can receive a pile up to 28 cm

Please note when the CTS optional module is installed, some restrictions may apply. The minimum paper format becomes **21 x 29.7 cm in portrait mode only (feeding direction).** In this case, **the leading edge is 21 cm.**

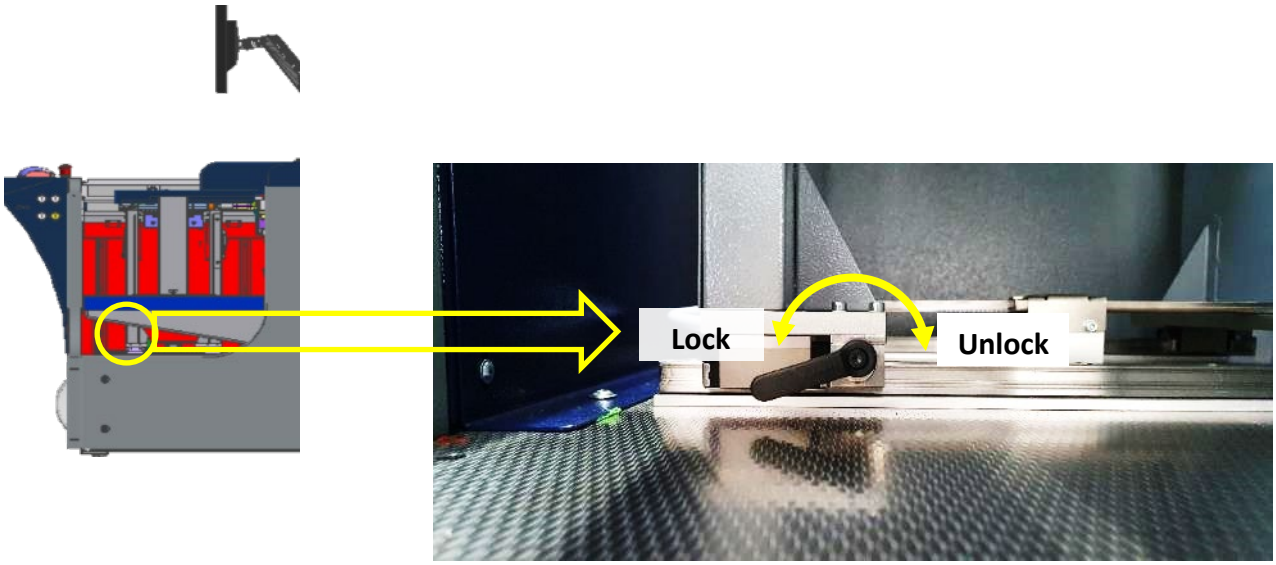
6.1.3 Paper adjustment components

Paper Feeder – front view



Paper width adjustment

To unlock the **Side guide plates** (left & right) which are linked together (mechanically coupled) for a perfect auto-centering of the paper pile, please unlock the underneath **Side guide plate lever**. Lock it back after setting the right paper width.



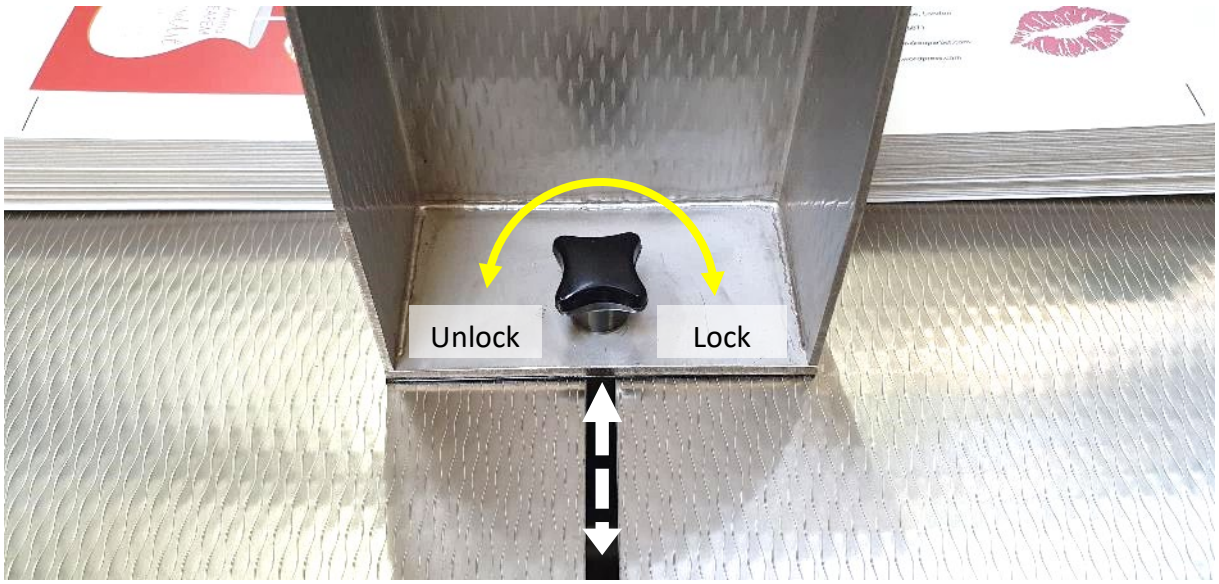
Side guide plate lever

Paper Feeder – front view

Rear guide plate
(moving back & forth)

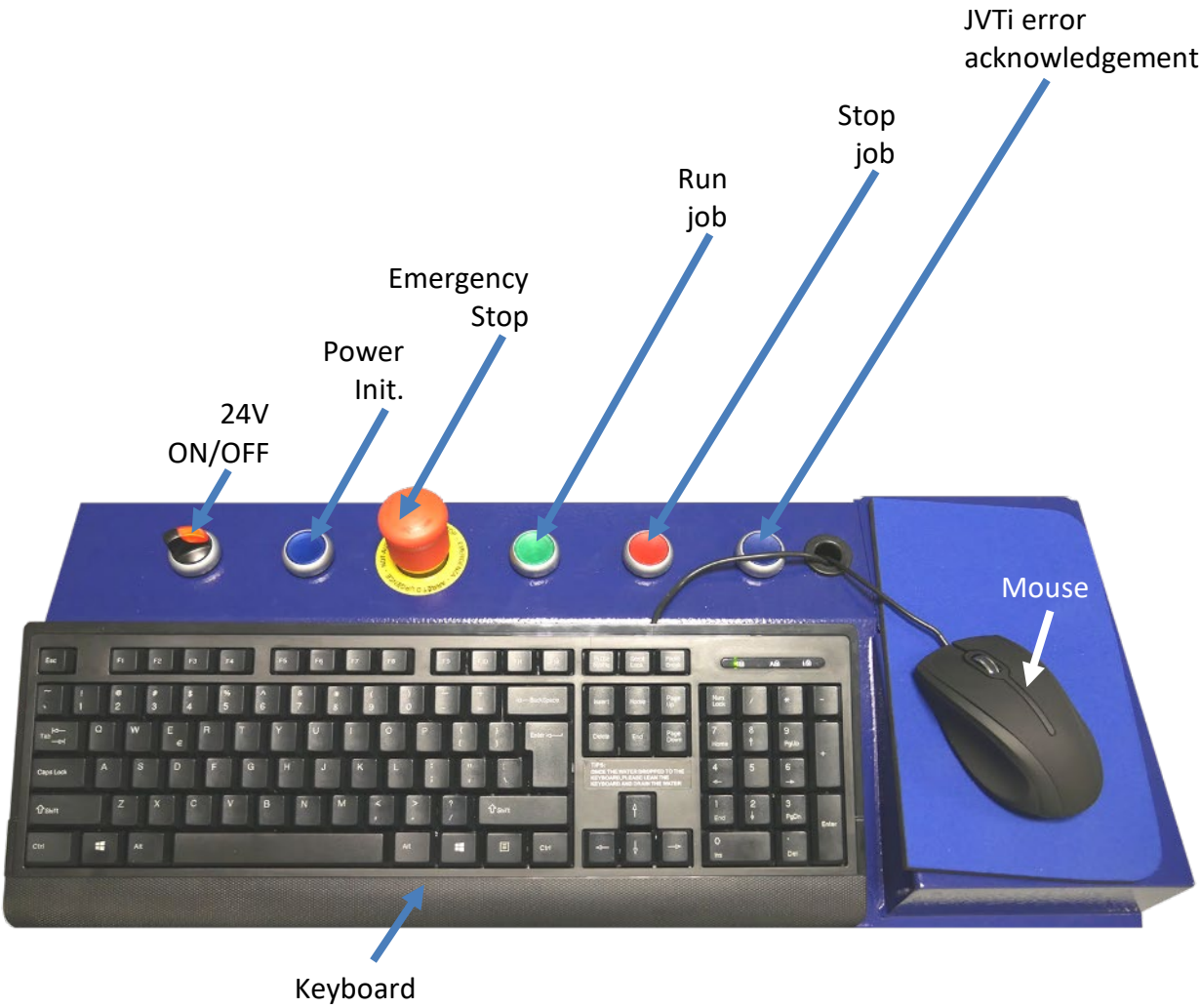
Paper length adjustment

To unlock the **Rear guide plate**, turn anti-clockwise the Rear guide plate black knob. Lock it back after setting the right paper length.

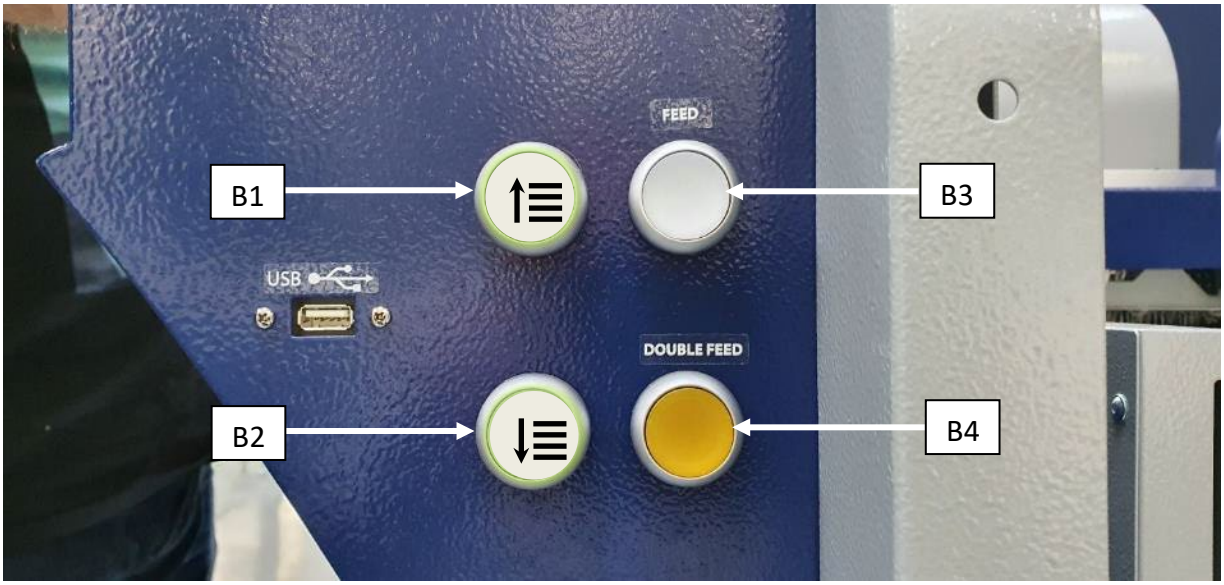


6.1.4 Mouse, keyboard and operator panel buttons

To operate the JVTI, the mouse and the keyboard are necessary. While for the overall AccurioShine 3600 day-to-day operations, the 6 buttons/switch have specific roles. This will be described later on in this manual.



6.1.5 Paper Feeder Control panel

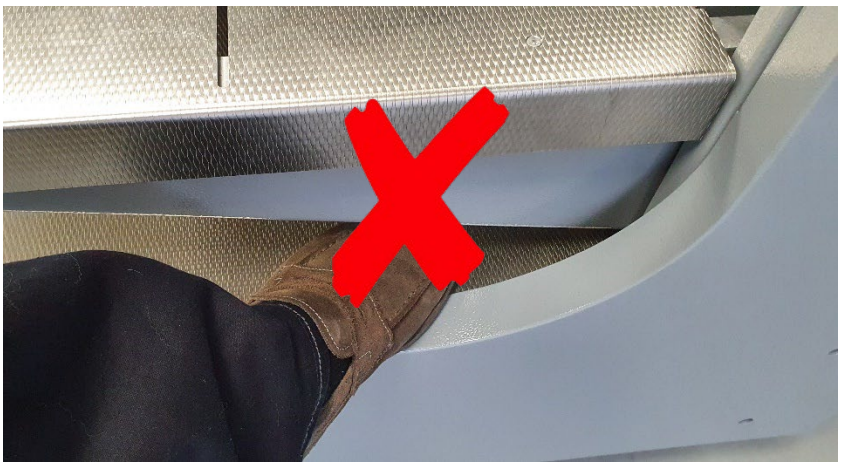


Paper Feeder Control Panel buttons

CAUTION

Never store any object (even a single sheet of paper) underneath the **Bottom plate** since this part is moving and could squeeze and damage the object and/or damage the up/down motor.

Same applies to any **body part**. Never leave your foot underneath the **Bottom plate** as it can be moved down.



The Paper feeder operator panel comes with 4 buttons, named B1 to B4.
Each button has the following names and possible lights:

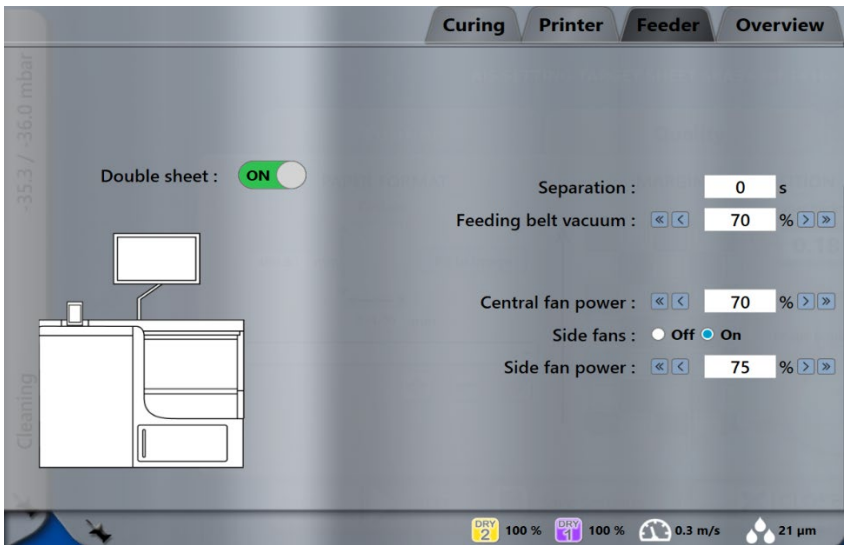
B1 = “Up”	(white light)
B2 = “Down”	(no light)
B3 = “Feed”	(no light)
B4 = “Double feed”	(yellow light)

B1
Bottom plate Up
When the white light is OFF and when pressing it continuously, it moves up the **Bottom plate** until the highest possible level. A safety sensor is here to detect any foreign object or to stop the plate when it comes at its highest level.

When the plate has reached its highest position, Auto mode is activated. The B1 button remains lighted. The Auto mode is when it detects automatically its position and adjusts the height of paper for a perfect feeding.

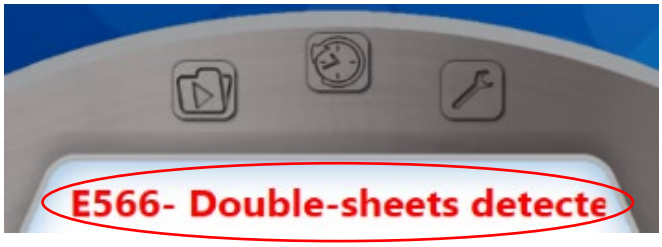
B2
Plate Down
When pressing continuously, it moves down the **Bottom plate** until the lowest possible level is reached. Watch out if any object is remaining underneath the Bottom plate before being squeezed.

B3
Feeding one sheet
When pressing continuously this button for more than 1 second, a sheet will be fed toward the AIS SmartScanner. It stops as soon as you release B1. It is a useful function when adjusting the Paper Feeder for a new substrate – new format, new thickness.
Turn the Paper Feeder in Auto mode and set the fans power correctly for this job (see pictures).



B4
Double sheet detected
When a double sheet is detected:

a) the JVTI and the Pilot display these error messages:



If there are sheets on the printing belt, the belt keeps moving to finish the printing, the drying and the storage on the paper tray. The belt stops when all the remaining sheets are cleared.

b) The “Double feed” B4 yellow button lights ON.

How to clear the double-sheet error

1. Press the yellow button continuously to automatically feed the faulty sheet(s) out of the feeder and remove them. Always pull the sheet(s) in the Feeding Direction.

2. Once the sheets are removed from the feeder, the yellow button flashes.

3. To reset the double sheet error, press on the flashing yellow button and it turns OFF.

4. The Paper Feeder automatically feeds the next pages, if the job is not finished.

Auto mode

The **Auto mode** allows the plate to be continuously adjusted at the right level for efficient paper feeding, at any time, regardless of the level of remaining the paper in the feeder.
This mode uses a sensor to detect the optimum distance between the top of the paper pile and the Paper Feeder belts. When the Auto mode is selected, the B1 button is lighted.

6.1.6 The USB port

When there is a need to import or export a file from the Performance PC Workstation, please use the USB port available on the Paper Feeder Control Panel [OS].

6.1.7 Operating instructions

Loading a new paper pile

Prepare the paper pile accordingly to printing good practices:

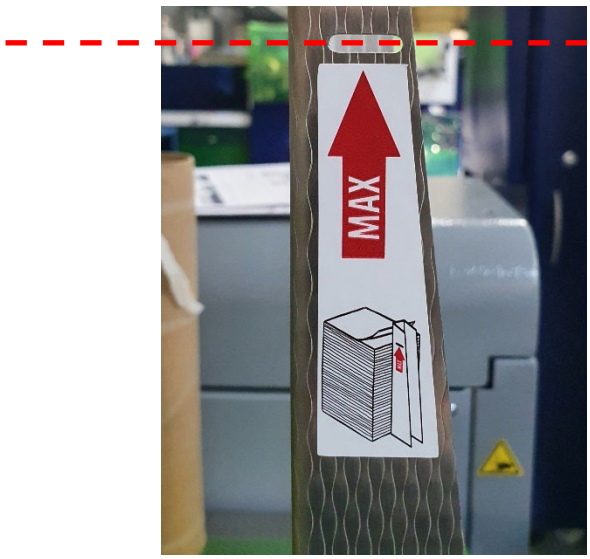
- acclimate the paper 24 hours prior to production into the AccurioShine 3600 room
- insert air into the sheets by shuffling the paper pile
- stack carefully the 4 edges of the pile

Do not load a paper pile **higher than 28 cm.**

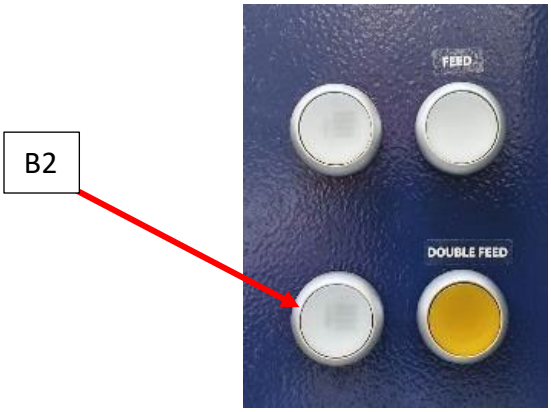
2 indicators are progressively introduced (from April 2021) to show you the maximum paper height limit:

1) on the right **Side guide plate** (see the picture and the max. level arrow)

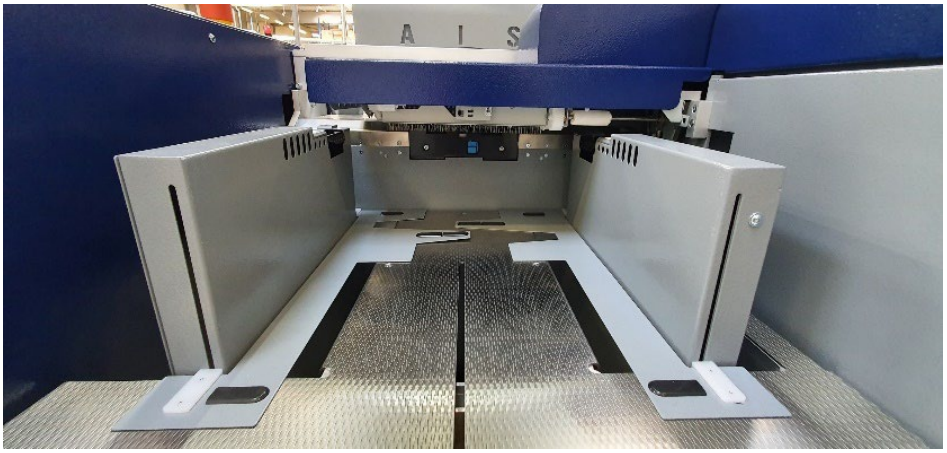
2) on the **Rear guide plate** (hole + message)
Only valid when the bottom plate is in the lowest position. In this case the sign can be taken into consideration to evaluate the maximum paper pile.



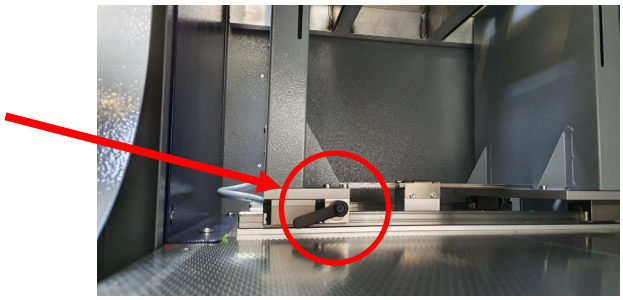
There is a safety sensor preventing the **Bottom plate** to go too high. The sensor stops the plate automatically and immediately.
When loading a new paper format (longer and/or larger), move down the **Bottom plate** by pressing the **B2** button.



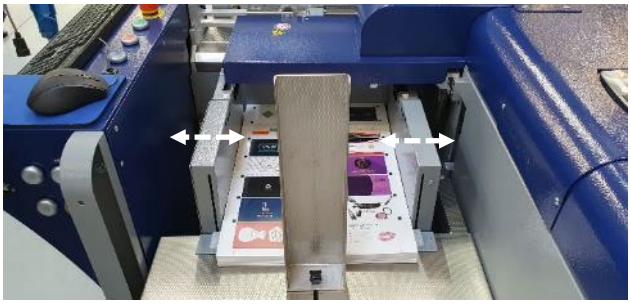
Remove all remaining sheets out of the Paper feeder.



Open the **Side guide plates** (right and left) by unlocking the **Side guide plate lock knob**.
There is only one. Push left to release the lock.

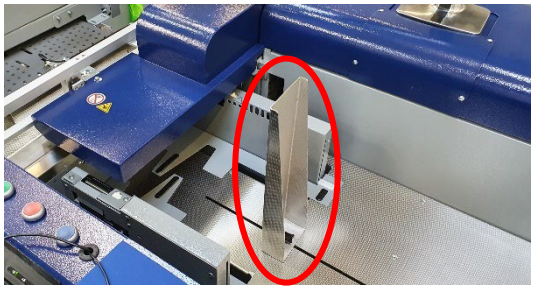


The **Side guide plates** move together and are mechanically coupled.
This offers an auto centering capability.
Create a space which is *slightly bigger* than the paper pile width



Adjust the **Rear guide plate** to be aligned to the rear edge of the loaded paper pile

To do so unlock and then lock the **Rear guide lock release lever** – push left to release the lock

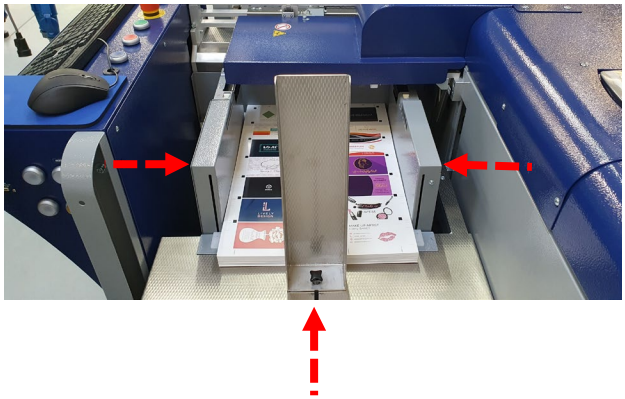


Put the paper pile on the **Bottom plate** and in the newly created space between the 3 guides, while you are standing on the **Operator Side [OS].**

When the paper pile is neat and well ordered, adjust the **Side guide plates** to gently touch the paper pile edges. Do not tighten too much, it will ensure a smooth paper pickup and feeding.

Same for the **Rear guide plate**. A gentle contact with the paper pile rear edge is enough.

Do not tight too much the paper pile with the 3 guides.
Leave some free space (1-2 millimeters) between the paper pile and the guides.



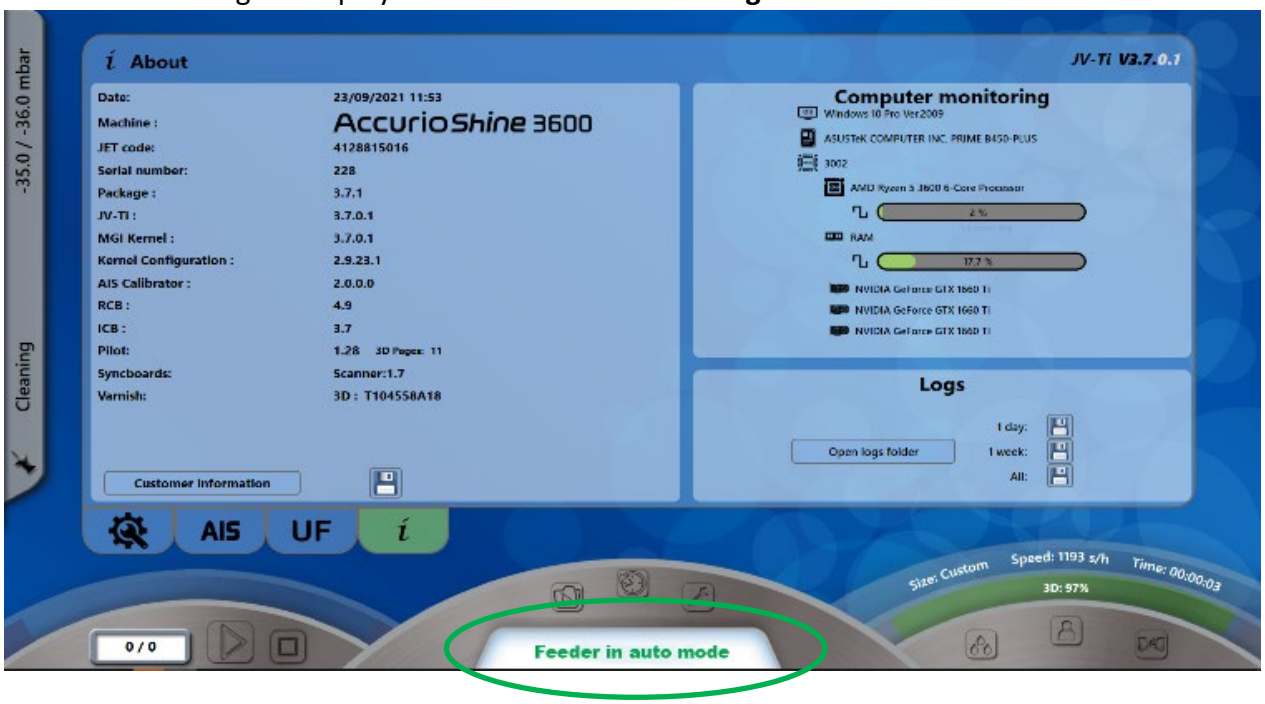
Lock the guides, when the paper pile is OK.

Move up the **Bottom plate** by using the **B1** Plate Up button.

When everything is OK, set the Paper Feeder in **Auto mode**:
Press **B1** continuously, to turn the Paper Feeder into **Auto mode** until **B1** lit (in white)

B1 lights up in white

Auto Mode message is displayed in the **JVTi status message box**



6.1.8 Paper Feeder settings through the JVTi interface

6.1.8.1 The Feeder tab

Screen capture from the JVTI version ≥ 3.7.0.1

[1] *Separation*.
This is the time expressed in second (s), where the paper feeder makes a pause between feeding 2 sheets. This timing defines the space between 2 consecutive paper sheets on the printing belt and a space of minimum 10 centimeters (0.1 meter) is considered as the minimal value.
Default value is = 0 seconds

Konica Minolta recommendations

Do not try reducing the average gap of 10 centimeters between 2 sheets, on the printing belt.

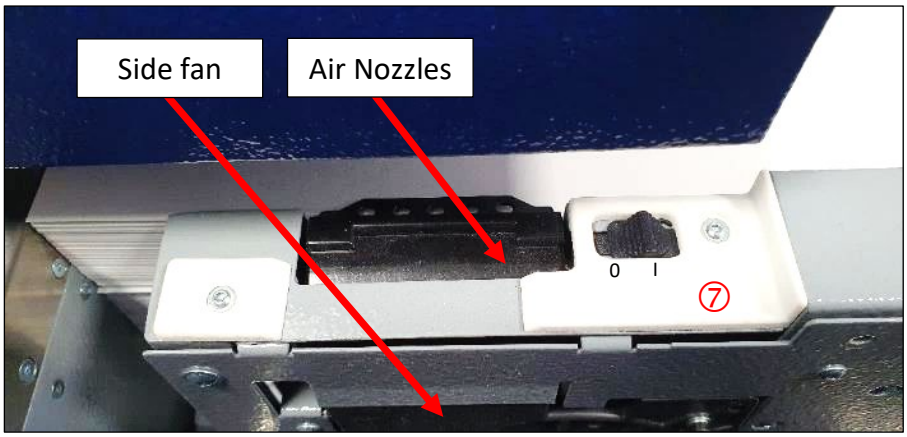
This will dramatically increase the possibility to have paper jams and thus, decreasing your productivity.

"Separation" is one of the efficient parameters to increase/decrease the gap between 2 sheets.

[2] *Feeding belt vacuum.*
This setting controls the vacuum power of the 4 belts capturing the top sheet of the pile. It can be adjusted on-the-fly 1% per 1% (using “<” or “>”) or 5% per 5% (using “<<” or “>>”).

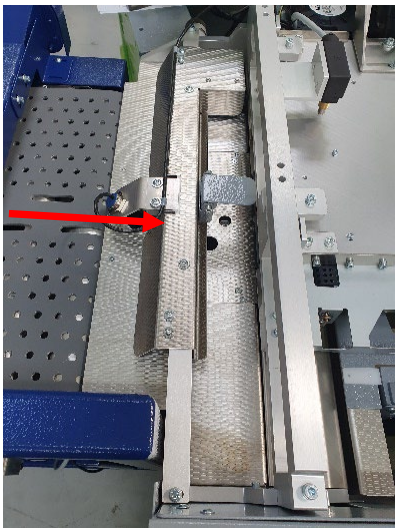
[3] *Central fan power*.
This setting controls the blowing power of the front holes facing the paper pile/leading edge.
It can be adjusted on-the-fly 1% per 1% (using “<” or “>”) or 5% per 5% (using “<<” or “>>”).

[4] *Side fans*. This setting turns ON or OFF the airflow blown through the **Air Nozzles** located on each Side guide plate.



Side Air opening retaining [OS]

[5] *Side fan power*.
This setting appears only when selected on [4].
The blowing power can be adjusted on-the-fly 1% per 1% (using “<” or “>”) or 5% per 5% (using “<<” or “>>”).



[6] *Double sheet*.
Double sheet detection is activated by default = “ON”.
Only in very rare cases, where the paper contains too much air captured between the fibers, this justifies to disable the double sheet detection. When a double sheet is detected, the paper feeding process is immediately stopped and the operator is warned.

[7] *Side Air opening retaining lever.*
This lever has 2 positions – lock (0) and open (I). By default, leave it on the open position as shown on the above picture. This position delivers a reduced blowing power but on a larger height through the **Air Nozzles**. There is no sign (0 & I) printed on the **Side Air opening retaining**.

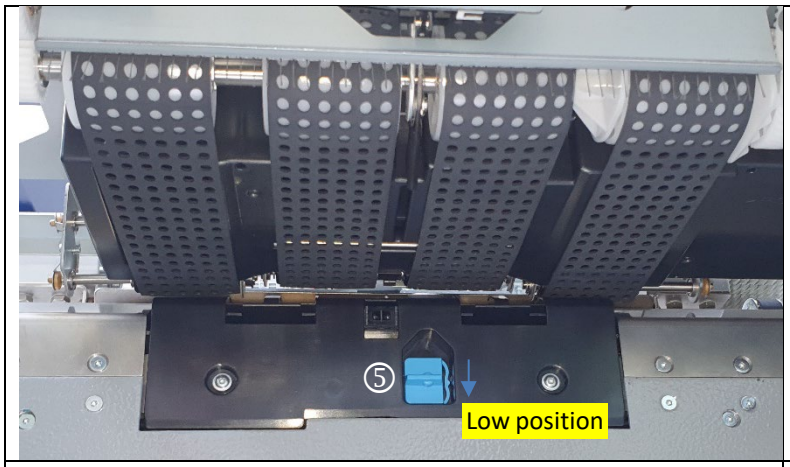
When there is a need to reset all of these values, please change the selected paper and this screen will be reloaded with the "factory" defaults.

6.1.8.2 Usual and most common settings

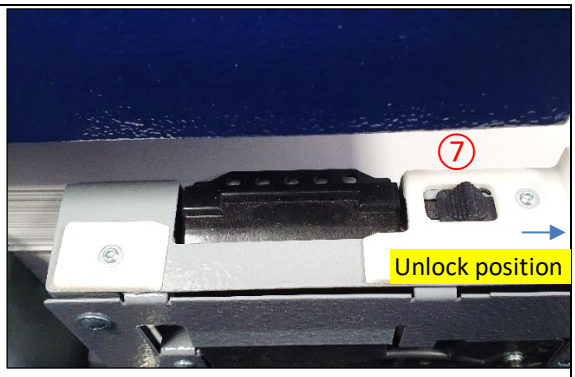
The Paper Feeder type 2 is designed to minimize the setting changes when switching from one paper reference to another one. The paper reference used is the Novatech® Gloss (coated paper) in various thicknesses.

These most common settings apply to ALL paper sizes from A4 up to 36.4x75 cm.

The following mechanical levers should be set in factory default mode. You will be instructed in case of a change.



Top of the pile sensor lever



Side Air opening retaining lever

⑤ – in low position
⑦ – in unlock position for both sides

We can define 3 categories of papers sorted by thicknesses:

Paper category	LIGHT papers	MEDIUM papers	THICK papers
Paper thicknesses	From 135 up to 209 Gsm	From 210 up to 300 Gsm	From 301 up to 450 Gsm

- **Light papers**

  Regardless the paper sizes

Light papers	Central fan power	Side fan power
Recommended JVTI settings	30 to 80% Start first at 50%	0 to 40% Start first at 20%

If you have feeding issues (bad paper pickup), increase the fan power(s)
If you have too much double sheets, reduce the fan power(s)
When using the A4 paper size, a fine tuning may apply

- **Medium papers**

  Regardless the paper sizes

Medium papers	Central fan power	Side fan power
Recommended JVTI settings	40 to 80% Start first at 60%	10 to 70% Start first at 40%

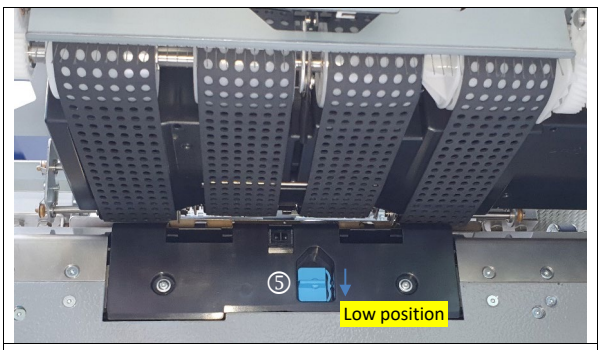
If you have feeding issues (bad paper pickup), increase the fan power(s)
If you have too much double sheets, reduce the fan power(s)
When using the A4 paper size, a fine tuning may apply

- **Thick papers**

  Regardless the paper sizes

Thick papers	Central fan power	Side fan power
Recommended JVTI settings	50 to 100% Start first at 70%	30 to 90% Start first at 60%

If you have feeding issues (bad paper pickup) then, move the lever ⑤ in high position
Do not forget to put it back in low position when the thick paper production is over.



Top of the pile sensor lever

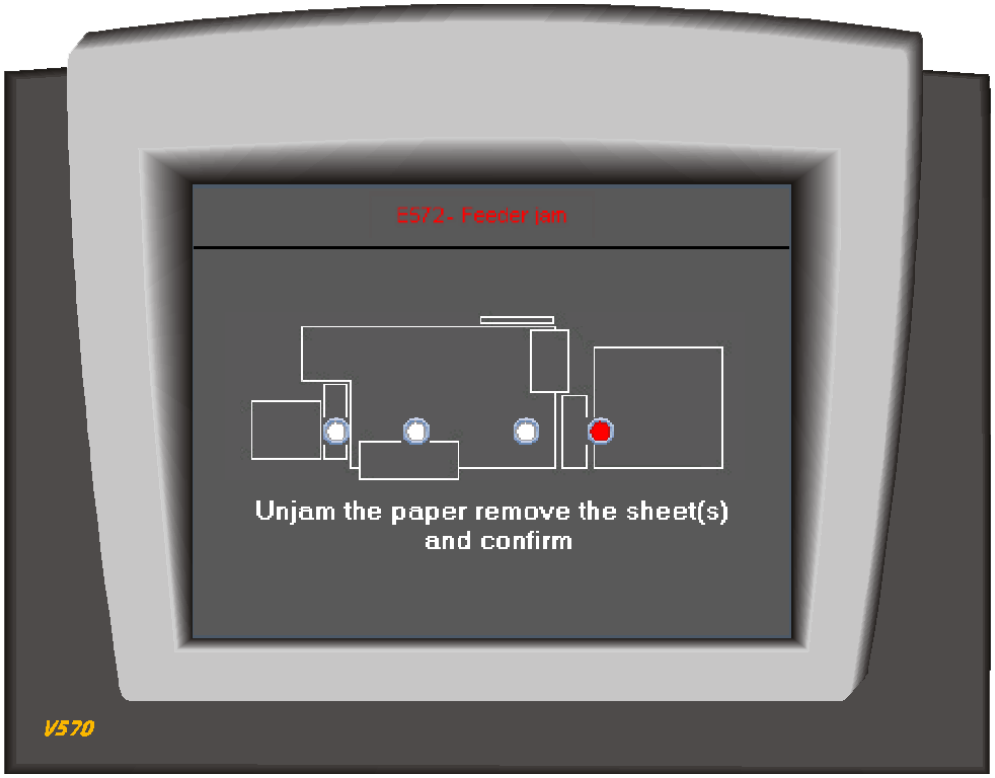
6.1.8.3 Paper Jam

If you have a paper jam, the Pilot guides you through all the steps, to clear the problem.

The existing jams scenarios are the following:

- Feeder jam
- CTS corona jam (when installed – optional)
- Printer jam
- Dryer jam
- Stacker jam

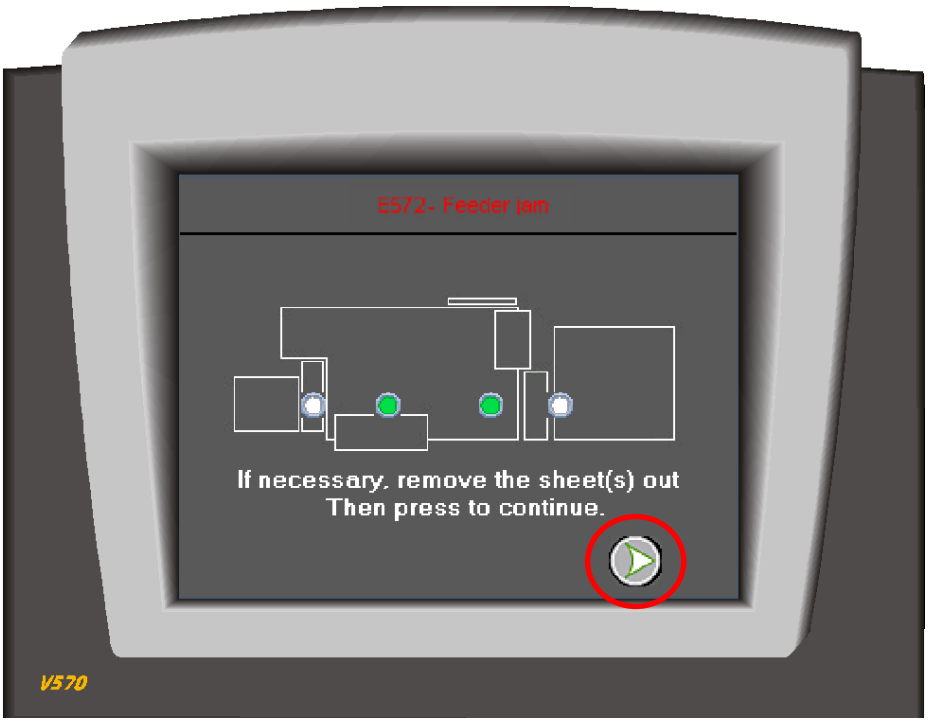
The sequence below describes how to proceed to clear a “Feeder jam”.



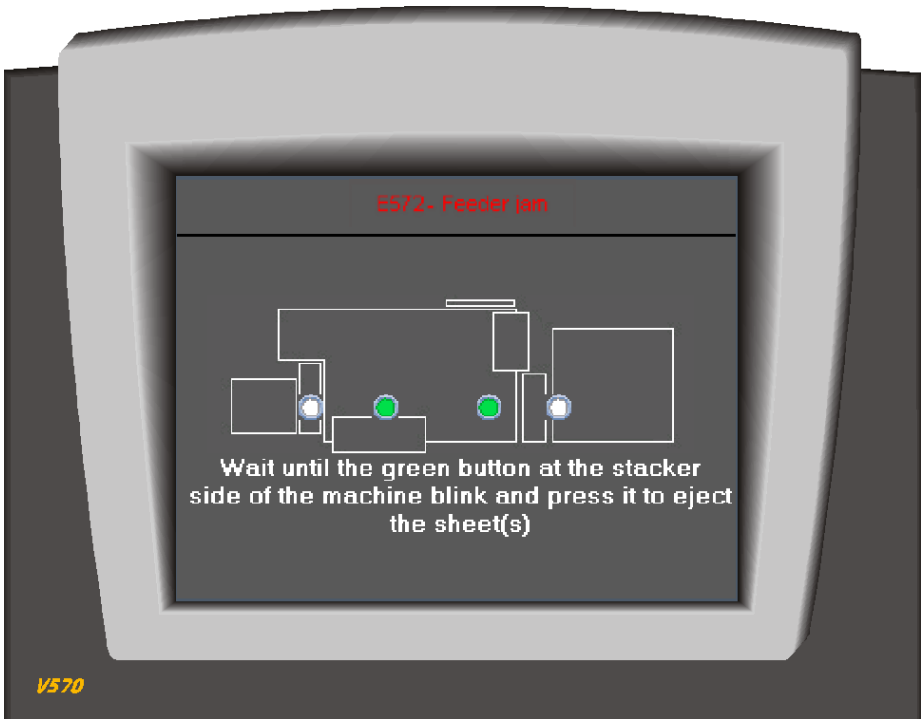
1. Remove the faulty sheet(s) in the designated area (red spot) – always remove the sheet(s) respecting the Feeding Direction.

2. Then, the red spot turns to white to indicate there is no more sheet detected in this area.

3. An arrow button appears on the screen and press it
   Each green dot is indicating the presence of a sheet under a sensor



4. Then, a new message asks you to go to the stacker area

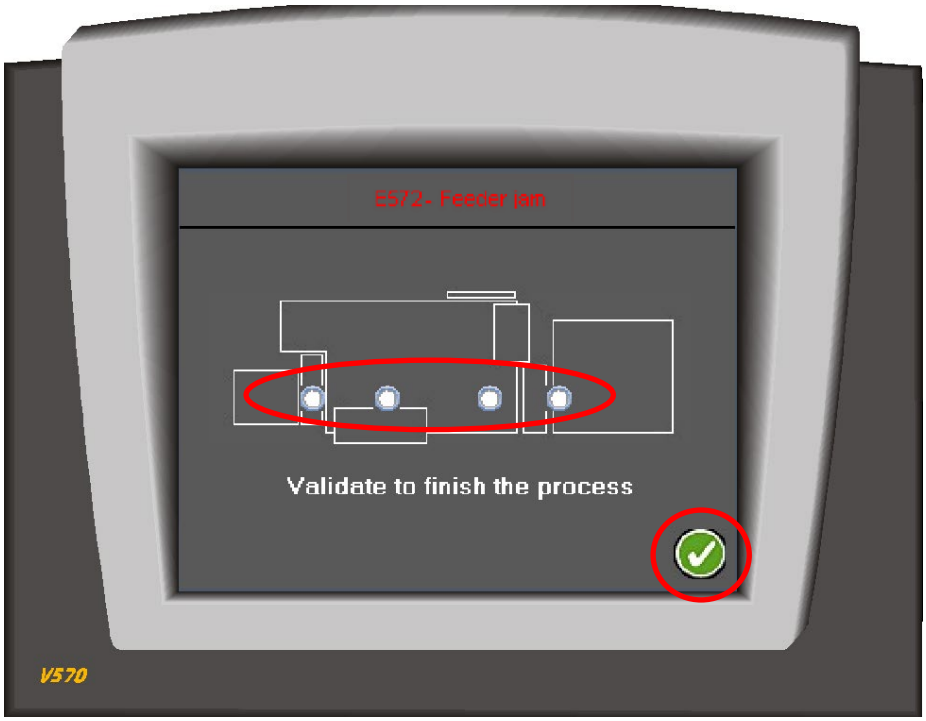


5. Wait for the green button to blink. When blinking, keep pushing the green button to eject the sheets from the printing belt **and to restart the UV#2 dryer to cure all sheets initially stopped on the printing belt.**

Stacker area control buttons

6. When all the sheets are cleared from the printing belt, go back and check the Pilot screen if there are no more green dots. A green dot indicates a remaining sheet under a sensor.

7. All dots are turned white when all errors are cleared. Please proceed to eliminate all remaining errors. Once done, press on the validation button (green check box).

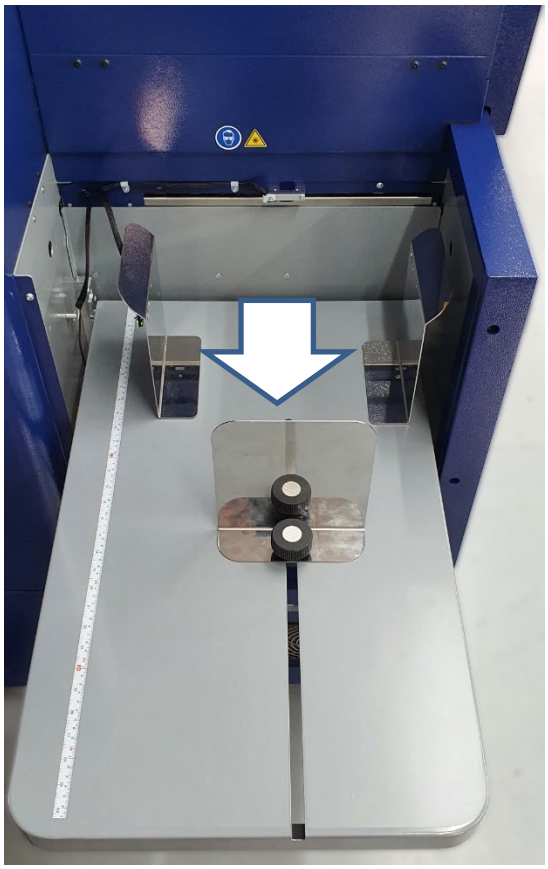


8. Now, you can start printing again

6.2 The Paper Exit Tray

Paper Exit Tray = PET
The Paper Exit Tray is installed at the extreme end of the Printer module.

[MS]

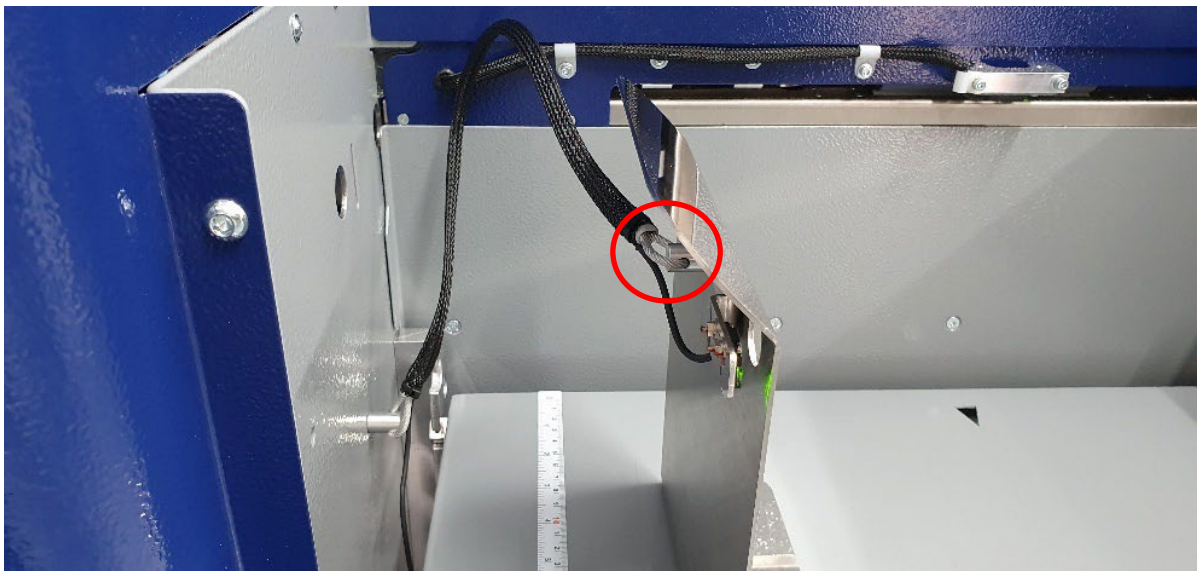


[OS]

Paper Exit Tray – front view

It is a basic but robust exit tray which supports all paper sizes; from the smallest (21x29.7 cm) to the largest (36.4x75 cm) and with a paper stack not exceeding 15 cm of paper (corresponding to ±1,250 sheets at 135 Gsm). A motorized roller helps the paper sheet coming out the Printer module to reach the Paper stopper.

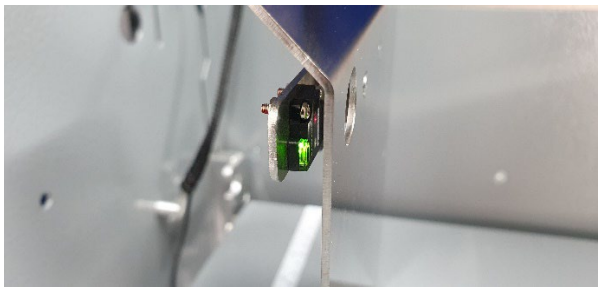
It includes also a sensor able to detect when the **PET** is full. When this condition becomes true, the feeding & printing process is stopped and the equipment posts a message "**E589- Stacker full".**
The production won't restart until you clear the error by removing the paper pile out of the Paper Exit tray.



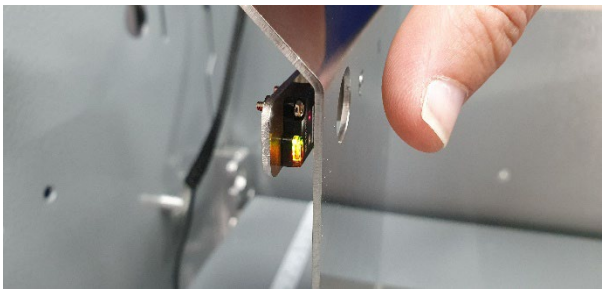
The PET and the sensor integrated in the left Side Guide [M.S]

The sensor (integrated in the left **Side Guide**) detects when the paper pile reaches its highest level (± 15cm).

The Tray Full Sensor has two colored LEDs.



No obstacle facing the sensor
LED = **GREEN**

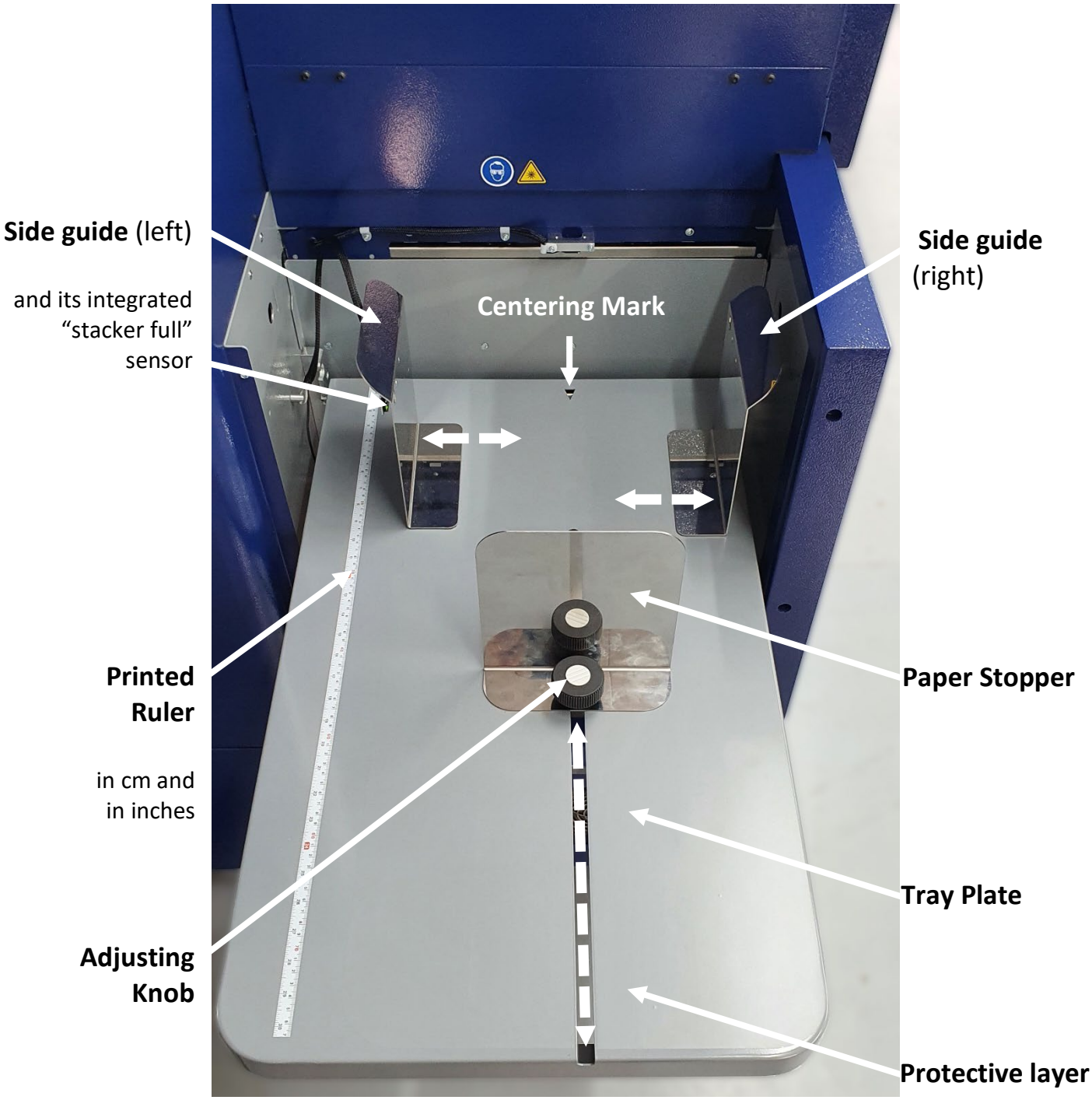


Obstacle (paper pile) facing the sensor
LED = **RED**

The PET sensor

6.2.1 Paper Exit Tray main components

The main components are the following: The two **Side Guides** and the **Paper stopper**. They are magnetic and can be dragged individually to match all paper sizes.
The **Tray plate** receives the paper sheets as they come out of the Printer module. The **Tray Plate** is protected against scratches with a plastic **Protective Layer**.



Paper Exit Tray – front view

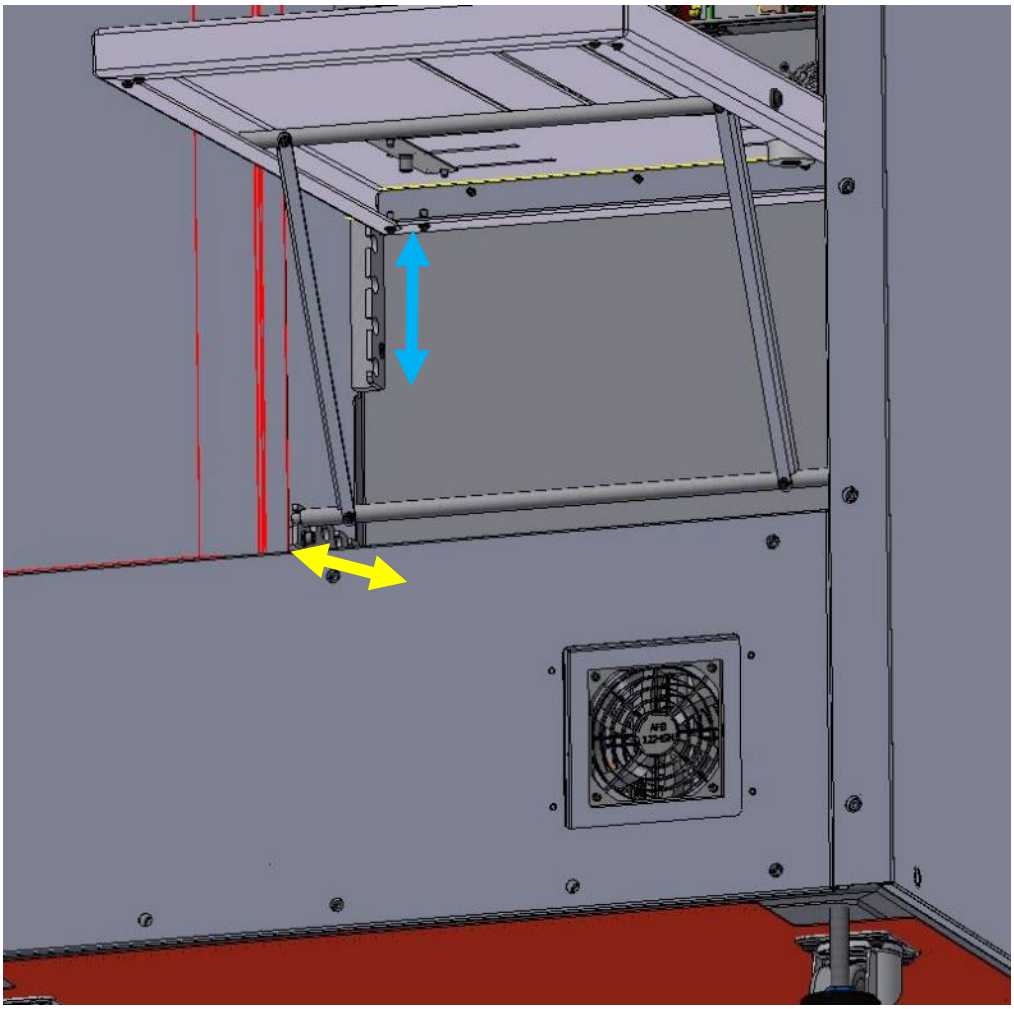
When the **Side guides** (right & left) need to be adjusted, you can slide them thanks to their magnetism (no tooling required). Thanks to the **Centering Mark**, you always visualize the middle of the paper sheet.

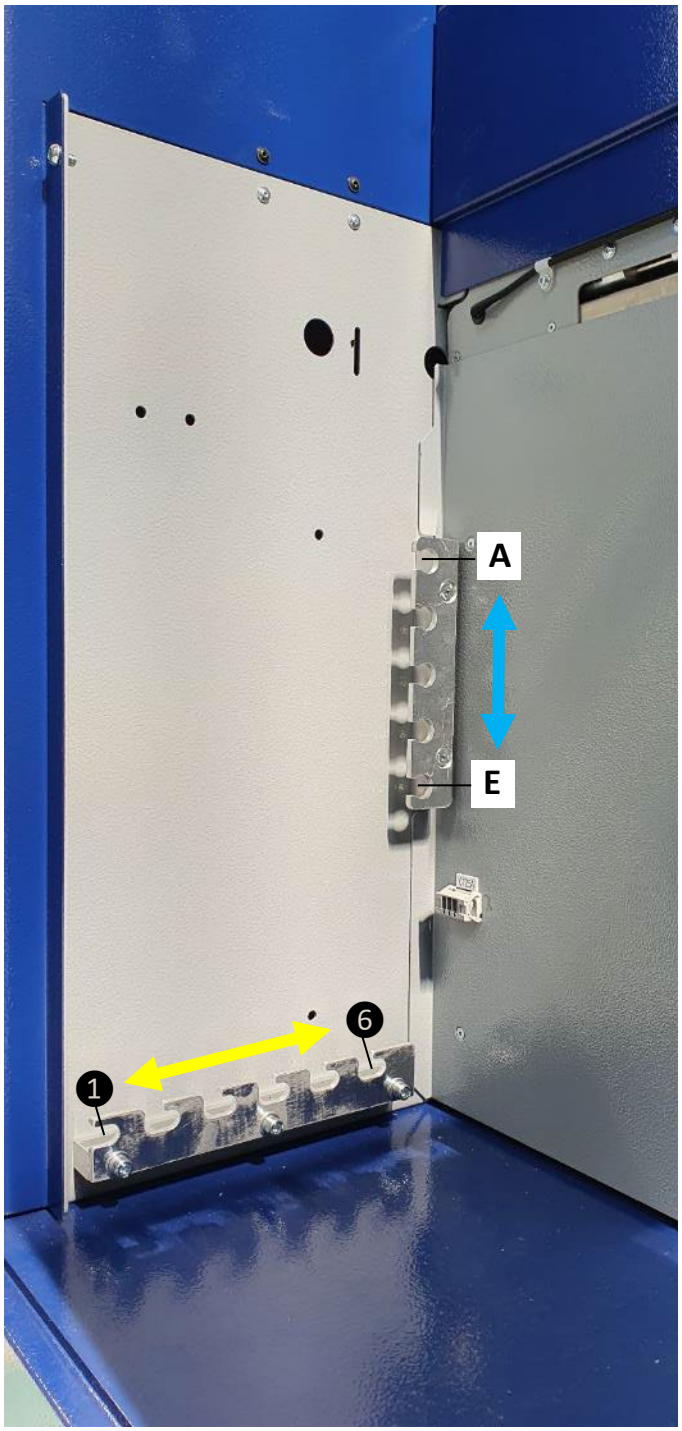
When the **Paper Stopper** needs to be freely adjusted, you screw/unscrew the **Adjusting Knob** to adjust the **Paper Stopper** to the desired length.
Thanks to the **Printed Ruler**, you can adjust precisely the Paper Stopper to the expected paper sheet length.

When looking at the equipment from underneath, it is possible to see the two adjusting bars which are responsible to modify:

- The height of the Paper Exit Tray (blue arrow)
- The tilt angle of the Paper Exit Tray (yellow arrow)

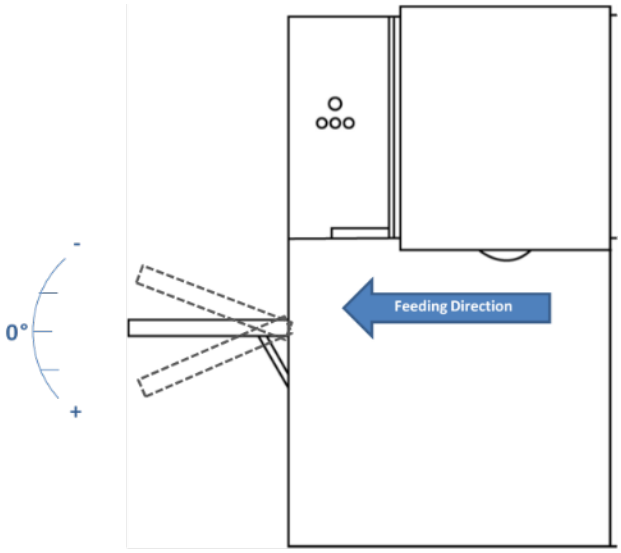
By finding the right combination of the height setting + tilt angle setting, it is possible to vary the overall Paper Exit Tray tilt angle from positive to neutral.



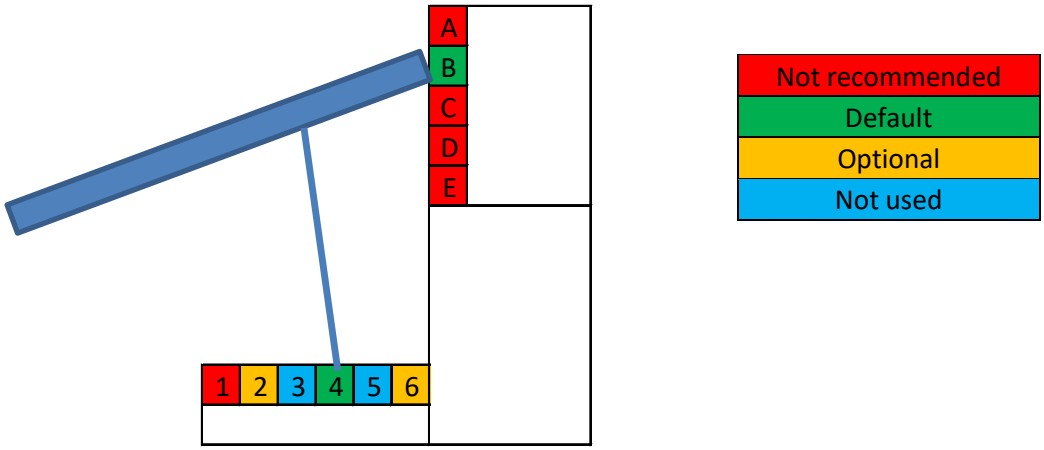


- The Paper Exit Tray height adjustment (blue arrow) - 5 slots, *noted A to E*
- The Paper Exit Tray tilt angle adjustment (yellow arrow) – 6 slots, *noted 1 to 6*

Matrix of the possible combinations



Paper Exit Tray tilt angle variation
Operator Side [OS]



Setting advices

- Do not use the slots in red – it provides an angle which is not suitable for a reliable stacking
- The position (4,B) is the default position to match the majority of the paper weights/paper sizes.
- However, the operator is free to change these settings when using other formats/thicknesses or when unstable stacking or JAM occurs.

Reminder: SRA3 = 320 x 450 mm

Horizontal position	*Vertical position*	*Angles (°)*	*Recommendations*
2	B	±0°	Thick paper (> 300 GSM) and longer than SRA3
3	B	±8°	*Not used*
4	B	±11°	200 to 300 GSM in SRA3
5	B	±16°	*Not used*
6	B	±23	Thin Paper (< 200 GSM) or shorter than SRA3

7 ACCURIOSHINE 3600 SOFTWARE & GRAPHICAL USER INTERFACES

7.1 Advices for your Cyber Security

Your entire AccurioShine 3600 equipment is driven by a single PC, the PC Workstation. This PC is plugged on the worldwide web. The Cyber Security of your PC Workstation is essential!

- **Windows® 10 logon password**
  Change your password regularly and use strong password (12 characters or more with a mixture of upper-case letters, symbols, and numbers).
  Change immediately the Windows 10 factory default password to your own strong password:
  -Do not use the same password with other systems,
  -Do not reuse passwords used in the past,
  -Please change your password every six months.

- **Windows 10 Security patches & OS updates**
  Apply the Microsoft Security patches once a month.
  Do not install a Windows update few minutes prior to an important production.
  Use your downtime/maintenance time to eventually perform a Windows update.

If your AccurioShine 3600 equipment is equipped with the optional Caldera® RIP (PC-C1), same advices apply:

- **Caldera password**
  Change your password regularly and use strong password (using a minimum of 16 characters and a with a mixture of upper-case letters, symbols, and numbers).

- **Caldera Security patches & OS updates**
  Contact Caldera to get the latest updates.

7.2 AccurioShine 3600 Software Suite

The AccurioShine 3600 comes with a software suite. This software suite is made of several items. Usually, a shortcut exists on the Windows desktop for quicker access to each software.

Main software provided in the AccurioShine 3600 software suite:

	JVTi is used to print, monitor production and set up the AccurioShine 3600. (Refer to section “How to use the JVTi”).
	Kernel (“Noyau” in French) communicates with all physical components of the AccurioShine 3600. This application is automatically run upon starting of the JVTi and configuration interface.
	Teamviewer allows for remote access. (Refer to Chapter 12.11 Remote access)
PILOT.ur2	**Virtual Pilot** Allows display and interaction with the Pilot screen using the 22” LCD main monitor

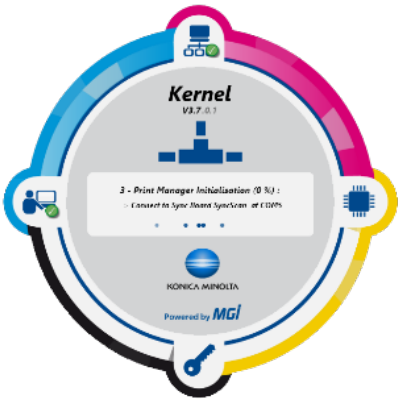
7.3 JVTI – Graphical User Interface

7.3.1 STARTING UP THE JVTi

The **JVTi**, is the main application suite to drive the equipment, its jobs and its various maintenance procedures.

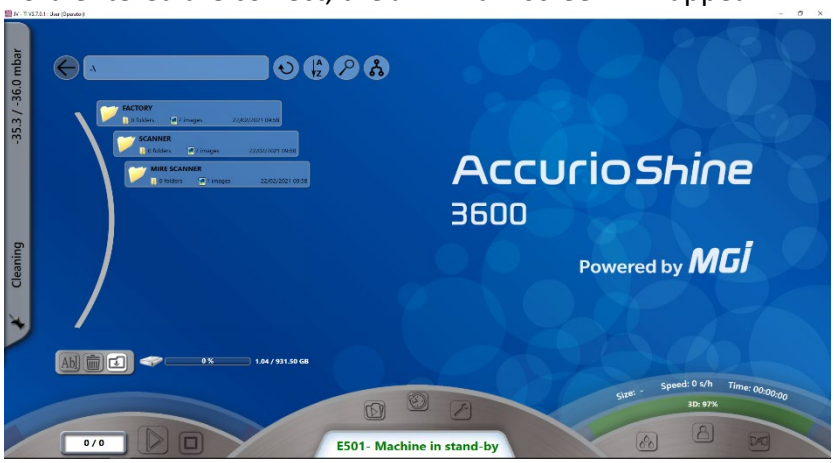
To run the JVTI, click this icon on the desktop

When starting the JVTI, this window appears on the screen. This is the Kernel initialization.



The application will ask the user to authenticate himself/herself through a user name and a password.

If the login and password entered are correct, the JVTI main screen will appear.



7.3.2 LOGON STRUCTURE

According to your logon level, the JVTi locks/unlocks different menus & functions. Here are the different logon levels. The “User” level has the most limited rights/functions. Then “Administrator” has higher rights/functions, and so one.

For the JVTi ≥ 3.3.x
JVTI is the universal Graphic User Interface (GUI)

Logon levels	Factory default login / password	AccurioShine 3600
User (operator)	User / USER	OK
Admin	Admin / ADMINUSER	OK
Distributor	Distributor / *Restricted Info*	OK

Basically, the different logon levels are the following (from the lowest rights to the highest ones).
The features are cumulative. A higher logon levels has all the features offered by the lowest logon levels:

- **User/operator**
  Usual functions/features:
  - All menus & functions to run production
  - Basic parameters to change machine settings
  - Basic indicators for the operator maintenance operations

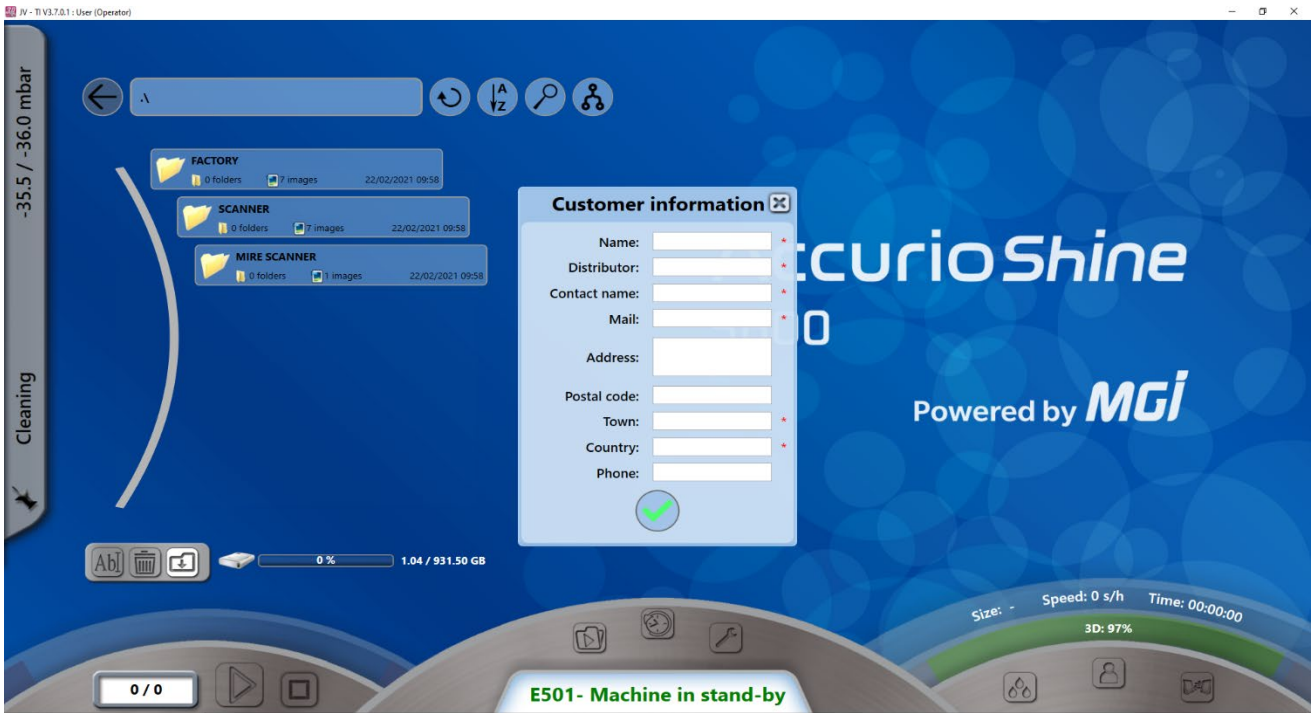
- **Administrator**
  All the previous functions plus these specific ones:
  - Possibility to create/delete a User(s) account
  - Advanced settings & parameters
  - Access to the production statistics

- **Distributor**
  Level restricted to trained distributors

This is a brief JVTi presentation, refer to the section “How to use the JVTi” to go in details.

Temporary first screen
The JVTi is main graphical interface to be used by the operator during the machine production phases. This interface is accessible once the whole machine is started. On the AccurioShine 3600, the screen is not tactile, therefore you need the virtual keyboard or the physical keyboard and the mouse to interact.

At the very first JVTi launch, the first screen displays a form that you need to fill in order to identify where and by whom this equipment is used. Each field having a red star at the end of the line is a mandatory field to fill.
If you don’t fill it properly, the JVTi will post this form at each launch.



Once the form is properly filled, the main screen shows the following with main areas outlined

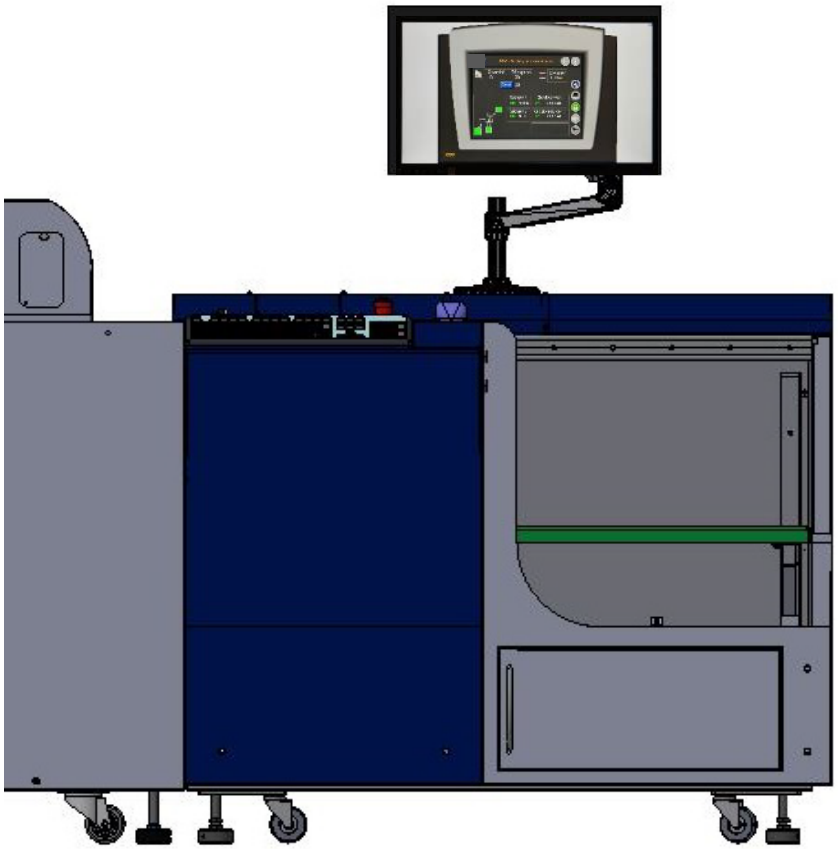
[1]	**Folder selection:** Listing and management of folders
[2]	**Job management:** When a folder is selected, files contained appear on this area (here, it is empty)
[3]	**Printing progress:** Sheet counter. Play/pause button and printing stop button
[4]	**Menu selection:** There are 3 menus available: Printing menu, Management menu and Technician menu
[5]	**Information message area:** Displays all kinds of information messages (state of the machine, warning and error messages)
[6]	**Printing status:** Substrate format, printing speed (in sheet/hour), remaining time of printing and estimated remaining varnish quantity (in percentage and calculated)
[7]	**Administration icons:** For Varnish registration, User management and TeamViewer access (remote support with Konica Minolta hotline)
[8]	**Cleaning tab:** This tab displays the hot purge procedure. (Refer to Chapter 12.2.1 for the hot purge procedure)

7.4 The Pilot – Graphical touch screen interface

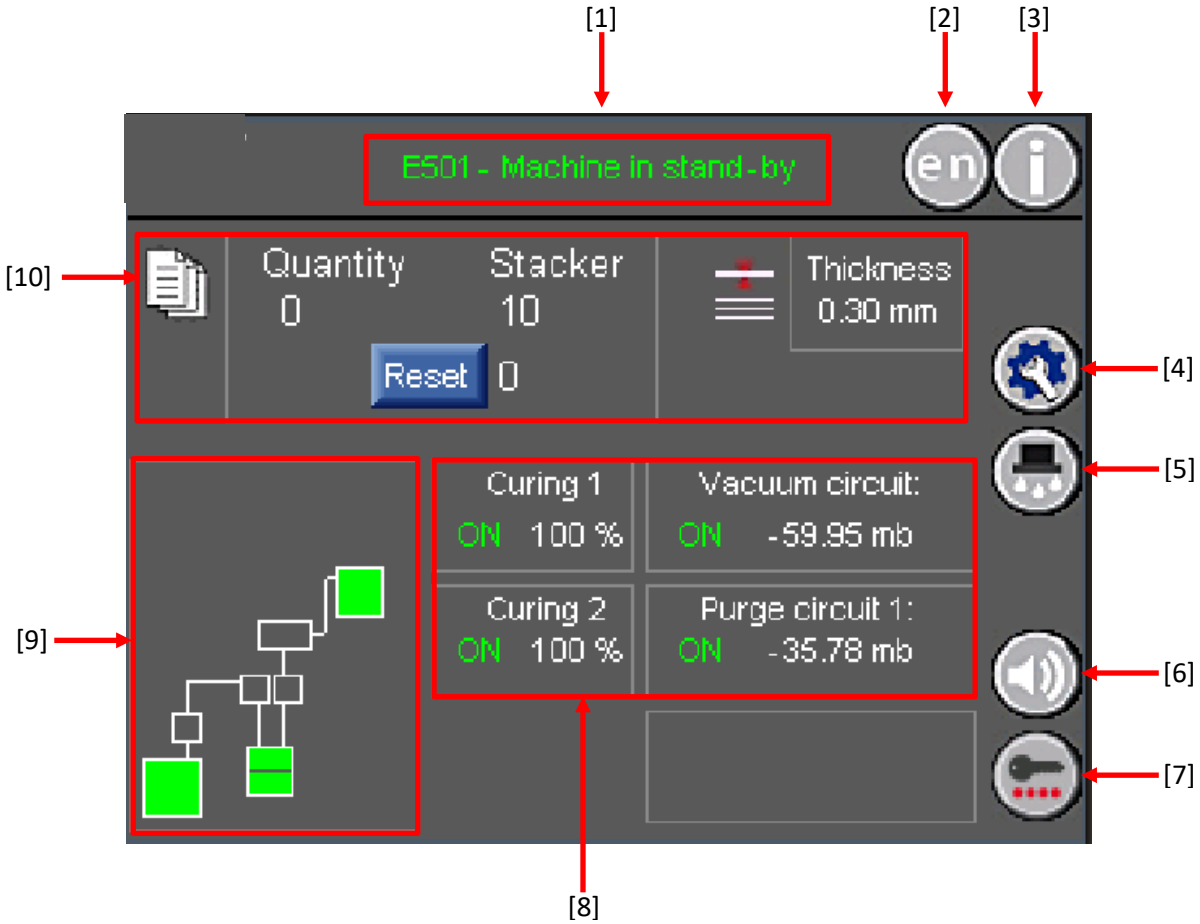
7.4.1 How to access it

The Pilot screen is physically installed on the [MS] of the Paper Feeder module. It is an LCD color touchscreen.

The Pilot screen can be also remotely displayed on the main 22” LCD monitor, using a handy utility software (provided with the equipment).



7.4.2 Pilot Main screen or Home screen



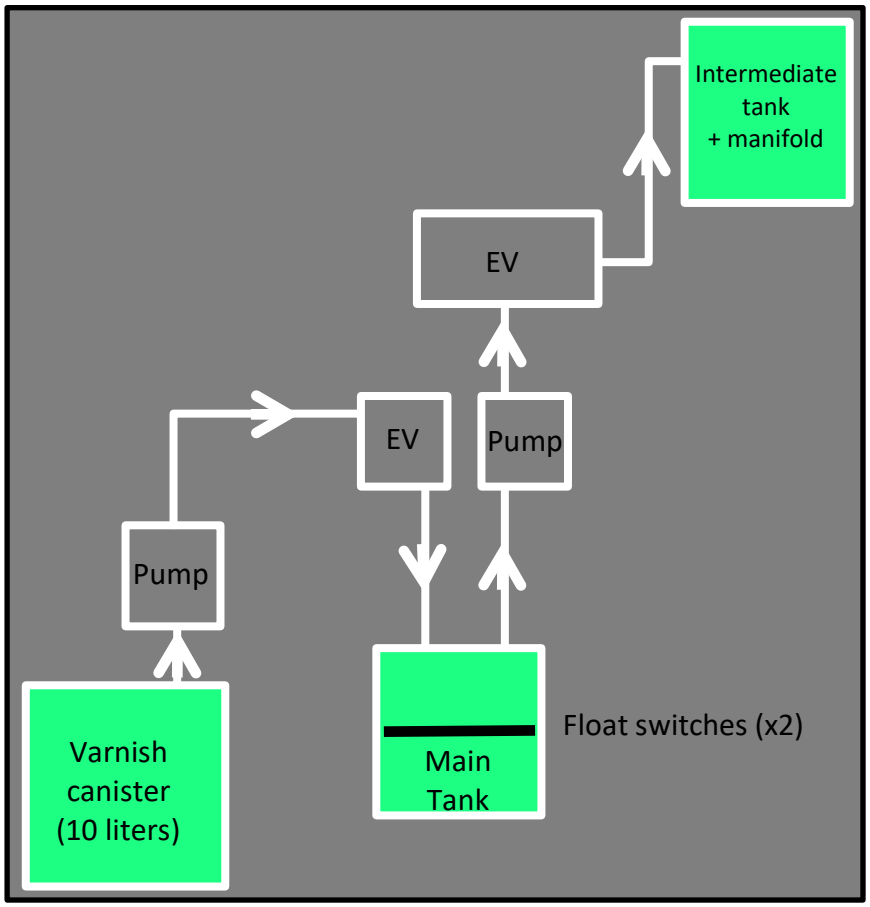
[1] Machine status message (warning + acknowledgment)	
[2] **Language change - button** Change language between English or French	
[3] **System Information screen - button** Access to all machine information in particular the sheet counter	
[4] **Machine parameter screen - button** Adjustment of the printing belt vacuum, putting into service the double sheet detection	
[5] **Print head maintenance screen - button** Access to various print head maintenance	
[6] Buzzer – button Enable/disable the buzzer	
[7] Air circuit and Curing power Display the state and value of the vacuum. depressurization circuit and the curing modules	
[8] **Varnish circuit diagram** *(see next page for more information)* Display the varnish diagram (container, pumps, and intermediate tank)	
[9] **Printing information** Display information about printing, quantity requested and stacker sheet counter, thickness of the substrate	

7.4.2.2 Symbolic varnish circuit diagram

This diagram represents the key elements which are necessary to monitor for good varnish feeding up to the print heads. According to the different status of these elements, different colors or symbols appear as a warning.

Color codes:

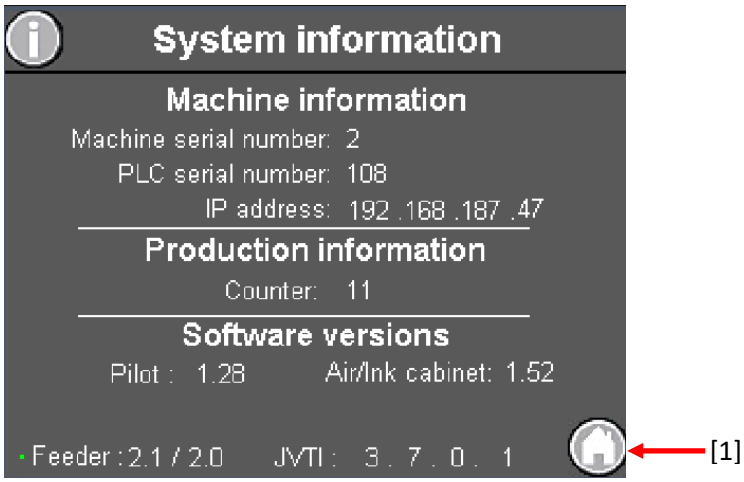
- **GREEN** = OK
- **ORANGE** = Warning
- **RED** = Action requested



EV = electro valve

7.4.2.3 System Information screen

This screen gives you system related information about this equipment

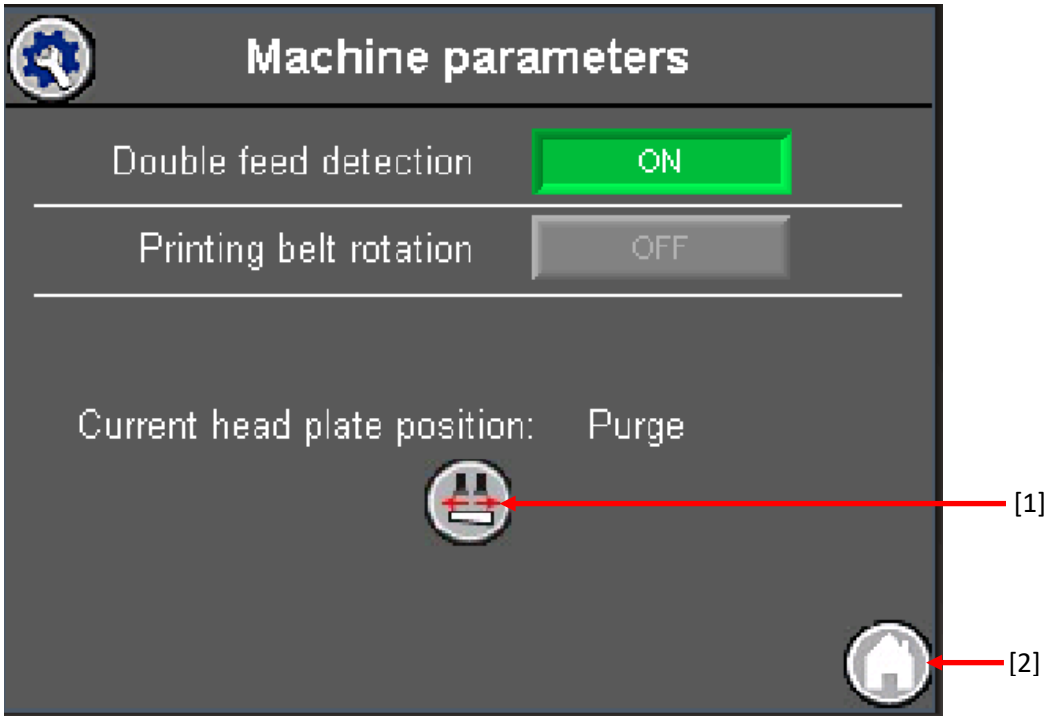


SYSTEM INFORMATION	*Explanations*
MACHINE INFORMATION	
Date & Time	Adjusted at the factory
Machine serial number	Mainly useful for the technician or for the hotline when they are requesting for this information
PLC serial number	Mainly useful for the technician
IP address	Mainly useful for the technician
PRODUCTION INFORMATION	
Counter	Overall page counter since this equipment is installed – cannot be reset
SOFTWARE VERSIONS	
Pilot	Mainly useful for the technician or for hotline when they are requesting this information
Feeder	Mainly useful for the technician or for hotline when they are requesting this information
Air/Ink cabinet	Mainly useful for the technician or for hotline when they are requesting this information
JVTi	Mainly useful for the technician or for hotline when they are requesting this information

Buttons [ ]

1. Go back to Home screen

7.4.2.4 Machine parameter screen

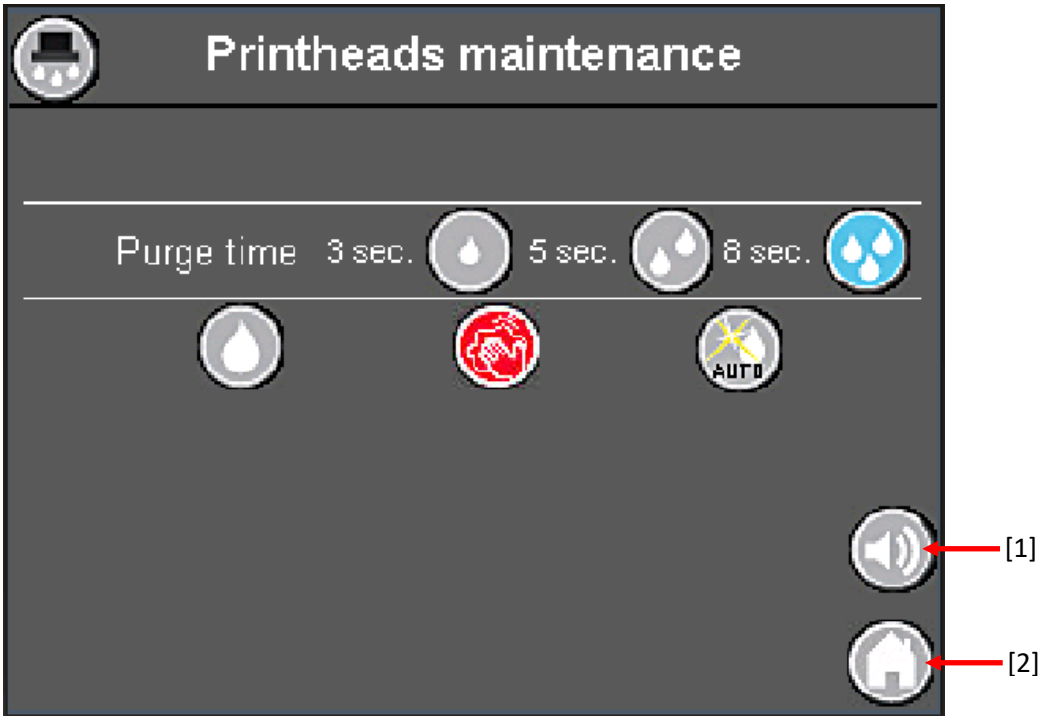


MACHINE PARAMETERS	
Double feed detection	*Turns ON/OFF Double feed detection*
Printing belt rotation	*Turns ON/OFF Print belt rotation*
Current head plate position:	*Indicates current heads position (Print/Purge)*

Buttons [ ]

1. Go to purge position when the cradle is over the belt.
2. Go back to Home screen

7.4.2.5 Printheads maintenance screen



PRINTHEADS MAINTENANCE	
PURGE TIME	
3 sec.	*Cold purge lasting 3 seconds*
5 sec.	*Cold purge lasting 5 seconds*
8 sec.	*hot purge lasting 8 seconds*
3 ICONS	
	PURGE *(Operators should use JVTi for this function)*
	WIPE *(Operators should use JVTi for this function)*
	AUTO *(Operators should use JVTi for this function)*

Buttons [ ]

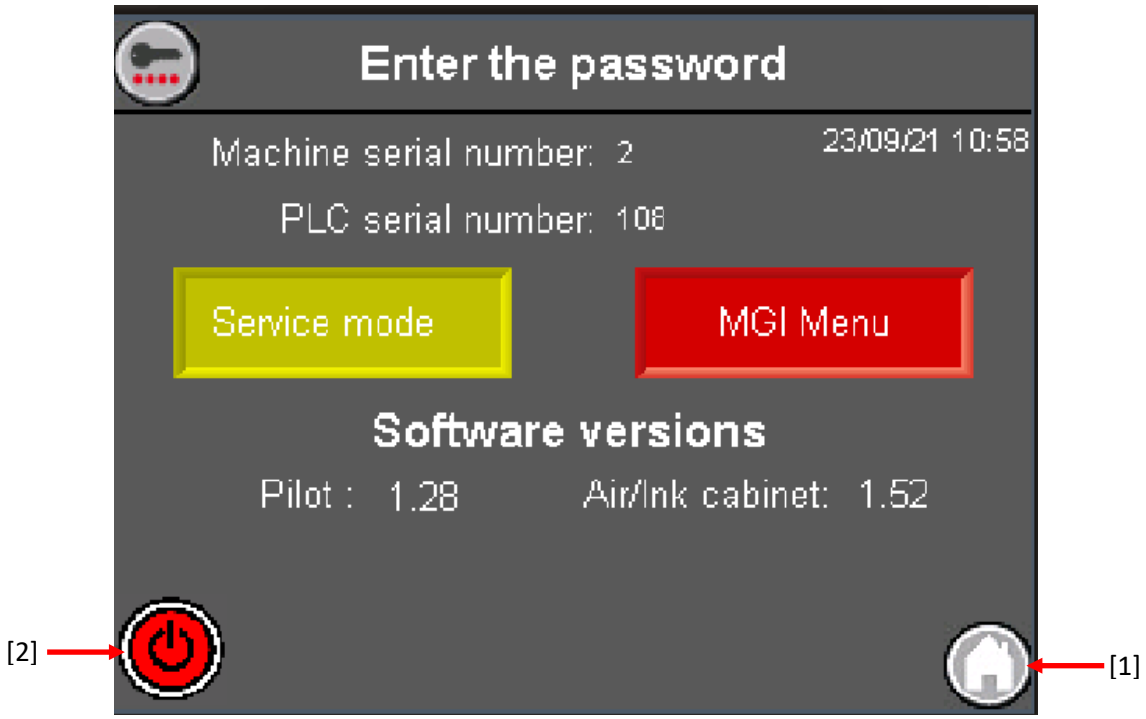
1. Disable/Enable beeper
2. Go back to Home screen

7.4.2.6 Disable/Enable buzzer

Toggle function – press once buzzer is disable, press again, buzzer is enabled

7.4.2.7 Technical menu

This menu is reserved for certified trained Konica Minolta technicians.



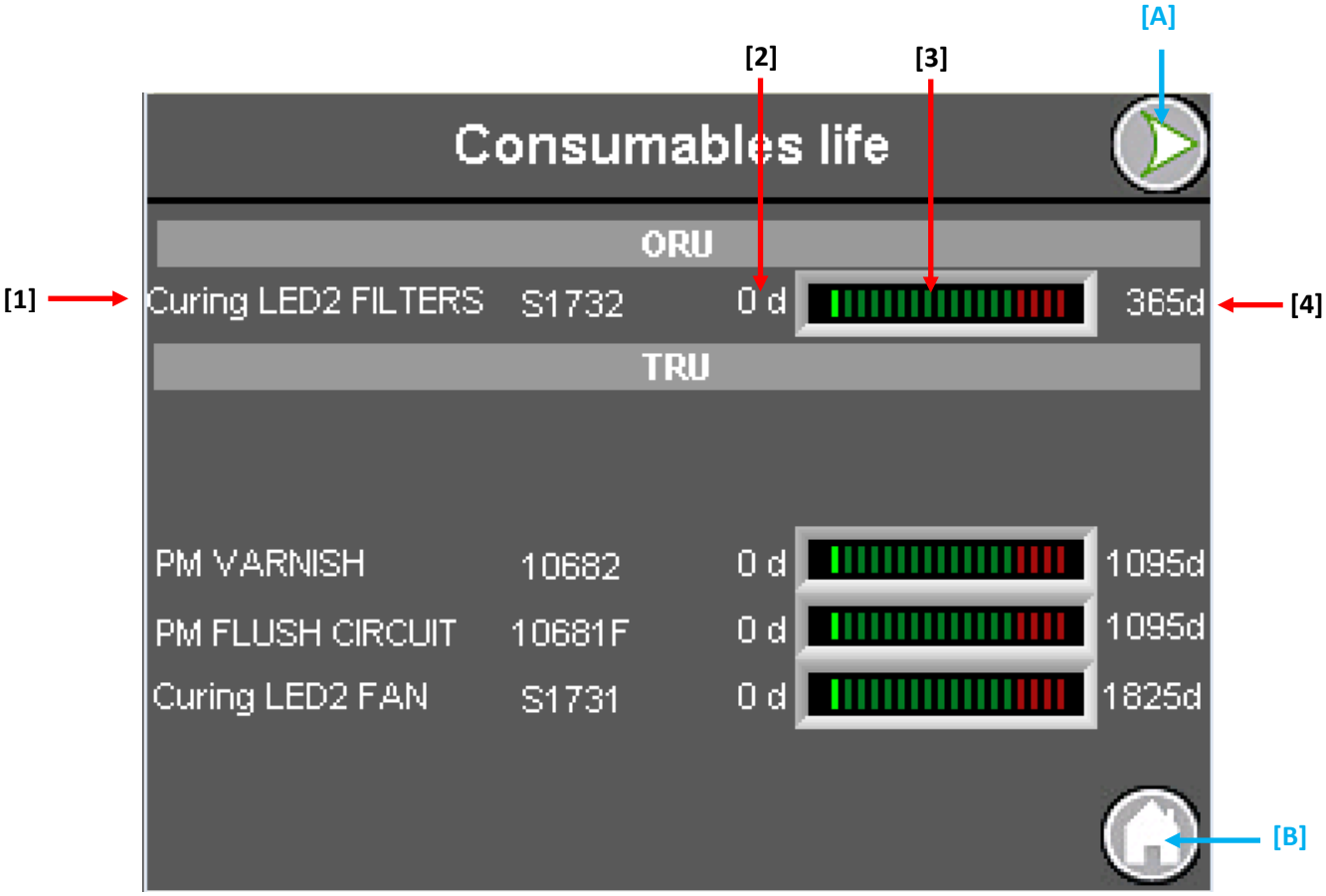
TECHNICAL MODE	*Explanations*
Service mode	*Mode used by Trained Service Personnel*

Buttons [ ]

1. Go back to Home screen
2. Shutting down procedure (before switch off)

7.4.2.8 Consumables life screens

Note
The above screen copies are valid from PLC Pilot firmware ≥ **V1.30**.



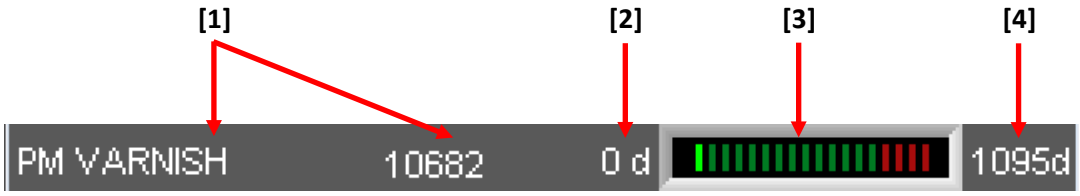
Pilot Screen – Status just after the factory initialization (0 d = 0 day after this spare part installation)

The "Consumables life" screens show 2 categories of replaceable units:

- **ORU category** = **O**perator **R**eplaceable **U**nit
  These units (or parts) should be replaced by the Operator at the expected frequency, i.e. when the part life time is reached.
  These parts are not included in the Service Contract signed between the User and the Distributor, if any. Operator and its company, should buy these parts. Local conditions may vary per country, please check with your Distributor.

- **TRU category** = **T**echnician **R**eplaceable **U**nit
  These units (or parts) should be replaced by the Distributor's technician at the expected frequency, i.e. when the part life time is reached. These parts are normally included in the Service Contract signed between the User and the Distributor, if any. Local conditions may vary per country, please check with your Distributor.

The “Consumables life” screen displays a series of lines. Each line represents a “spare part” regardless if it is an ORU or a TRU.



A spare part can be defined as a hardware piece to be replaced periodically. The frequency of replacement can be expressed in hours, days, number of pages or any other measurement unit.

d = day

Number	Explanation
[1]	The beginning of each line is split in 2 elements: -1st element = Designation of the spare part -2nd element = Part Number for reordering this spare part (using MGI reference)
[2]	Number of days after initial installation/initialization of this spare part.
[3]	Bar graph. Visually shows how far you are from replacing this spare part (ranging from green bars to red bars). To reinitialize a spare part (when authorized) press 1 second on the bar graph to reset the counters [2] & [4]
[4]	Lifetime of this spare part – fixed value (expressed in d = days) 1095 days = 3 years 1825 days = 5 years

Browsing within the “Consumables Life” screens

Letter	Explanation
[A]	Skip to the next “Consumables life” screen (if any)
[B]	Return to the Pilot Home Page

If the equipment is fitted with option(s), additional screen(s) are showing up with the relevant ORUs and TRUs. This is the case for:

-CTS Corona
The ORUs & TRUs are described into the relevant option User Manual(s).

EXPLANATIONS OF THE SPARE PARTS USED IN THE ACCURIOSHINE 3600 CONSUMABLES LIFE SCREENS

ORU SECTION - (operator)

PART NAME USED IN THE PILOT	*PN for ordering*	*COMMENTS*	*FREQUENCY*
Curing LED2 FAN	S1732	Air Fan Set (5 pieces)	To replace every 365 days (or every 1 year)

When this ORU reached its replacement time (after 365 days), **the equipment stops and cannot produce anymore.** Change this part, reinitialize the counter

TRU SECTION - (technician)

PART NAME USED IN THE PILOT	*PN for ordering*	*FREQUENCY*
PM* VARNISH	10682	To replace every 1,095 days (or every 3 years)
PM* FLUSH CIRCUIT	10681F	To replace every 1,095 days (or every 3 years)
CURING LED2 FAN	S1731	To replace every 1,825 days (or every 5 years)

**PM = Preventive Maintenance*

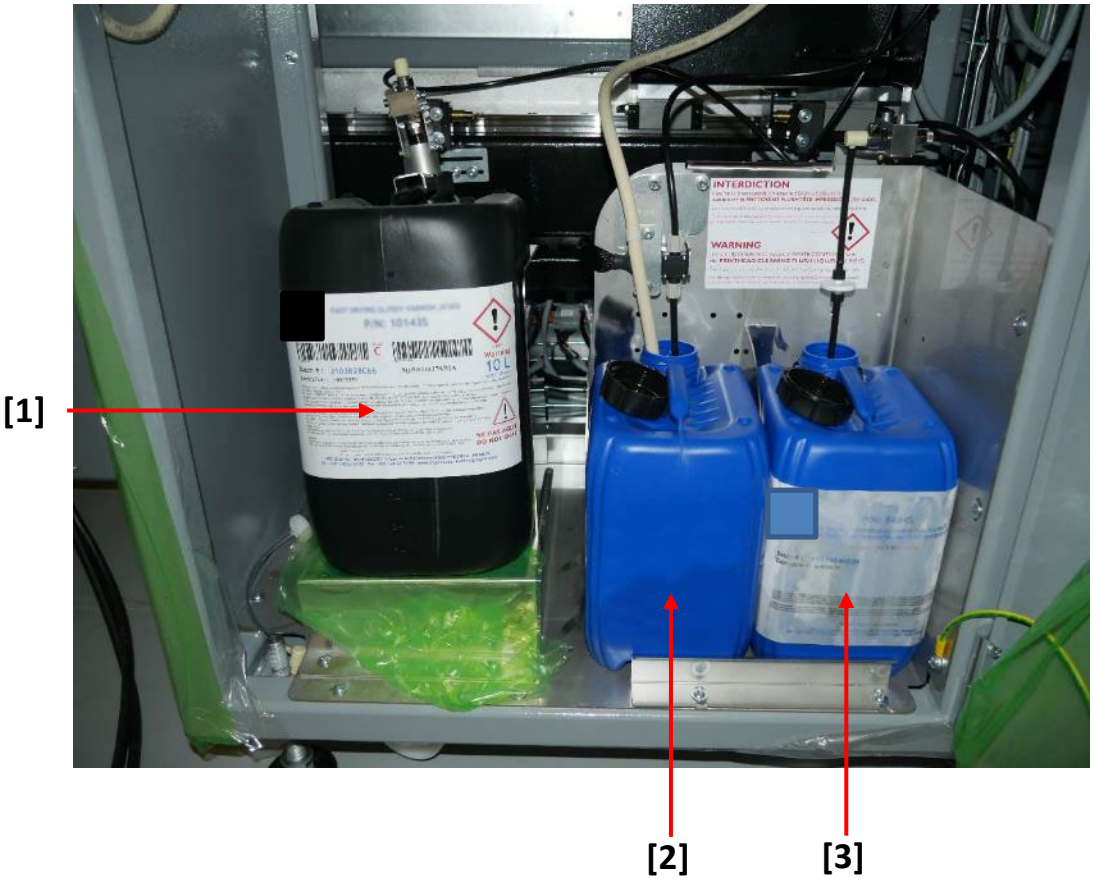
When these TRU's reached their replacement time, **the equipment stops and cannot produce anymore.** Only a trained technician can replace it. For your productivity it is worthwhile planning a technician visit in the last 30-40 days, BEFORE the equipment stops.

When the bar graph turns **RED**, you have to make an appointment with your distributor/trained technician to order/change this spare part BEFORE the machine stops.

8 INSTALLING THE CONSUMABLES

8.1 Installation of the containers

The varnish, the cleaning agent and the waste containers are installed at the back side of the machine. Open the back door [MS].



[1]	Varnish container
[2]	Waste container
[3]	Cleaning agent container (flush)

1.1.1 Cleaning agent container

Open the cleaning agent container by unscrewing its cap. If the cap becomes too difficult to open, Operator is invited to use a locally sourced “Canister Opener”.

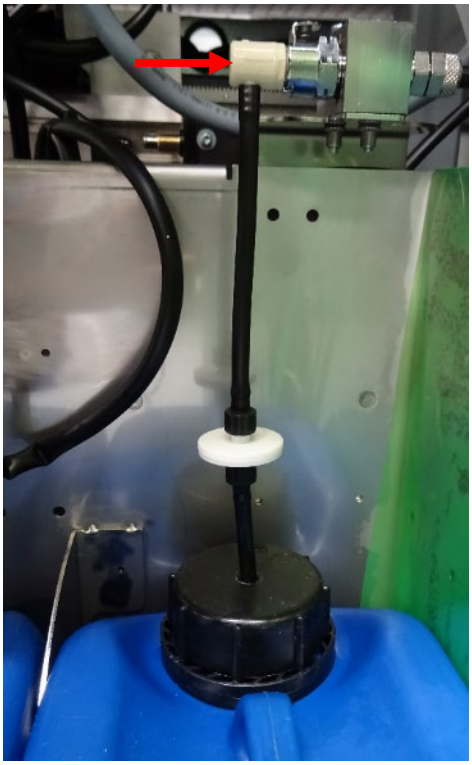
Insert the pipe with the pierced cap on the container.

WARNING

Please Note: The AccurioShine 3600 requires a specific Cleaning Agent reference: PN: 8484S

Do not use any third-party cleaning agents as they may damage the machine and void the warranty.

Put the container in its location and connect the pipe connector.



To remove the cleaning agent container, do the previous steps in reverse order.

8.1.2 Waste container

The waste container is located on the left of the cleaning agent container.
***Please always respect this order/location**

Open the waste container by unscrewing its cap.

Place the waste container in position with two pipes placed inside (one black pipe coming from the cleaning circuit and a white pipe coming from the purge tray – marprene tubing).

8.1.3 Varnish container

WARNING

Please note the AccurioShine 3600 requires a specific varnish reference – **PN: 10109S**

Must use exclusively AccurioShine varnish reference on this equipment.
The system will refuse to use it and any damage will be chargeable (parts & labor)

The cleaning agent/flush container (blue) is at the extreme right of the picture

[1] [2] [3]

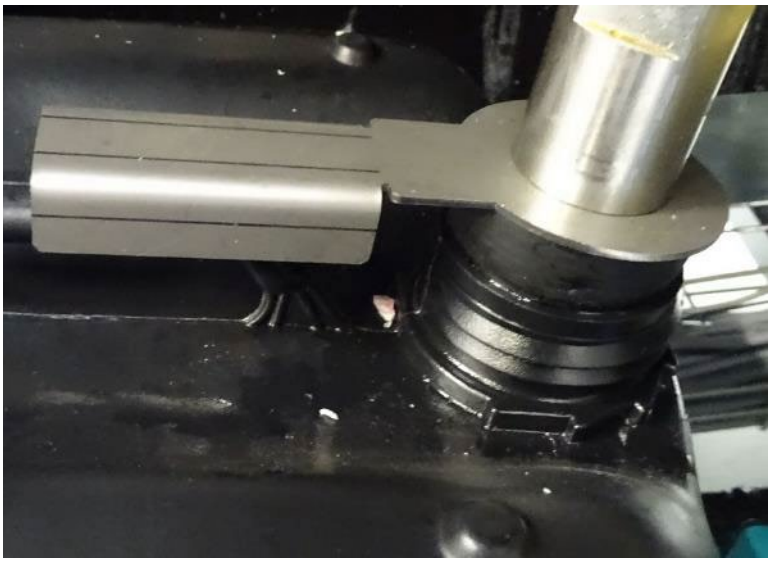
1. Varnish container
2. Waste container
3. Cleaning agent container (flush)

To change a varnish container. remove the intake pipe inside the empty one and clean it. You can place the pipe on the holder next to the container with a tissue underneath.

Before opening and placing the new varnish container. you can register it through the JVTi/JVTI application. (Refer to" *10 Varnish registration procedure*").

If the varnish canister is too difficult to open, Operators are invited to locally source a Canister Opener.

Then, open the new container and place it in position inside the machine. Put the metallic pipe inside the container and push it firmly down to seal the rubber cap.

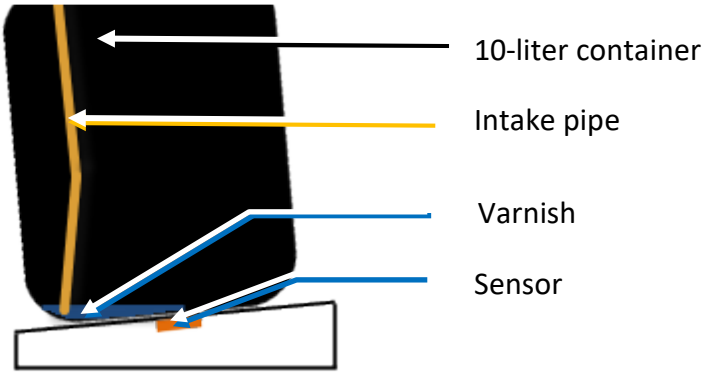


9 VARNISH CONTAINER

I NOTE

This information refers to the **AccurioShine 3600 with its 10-litre container**

Introduction



Cross-sectional view of the container

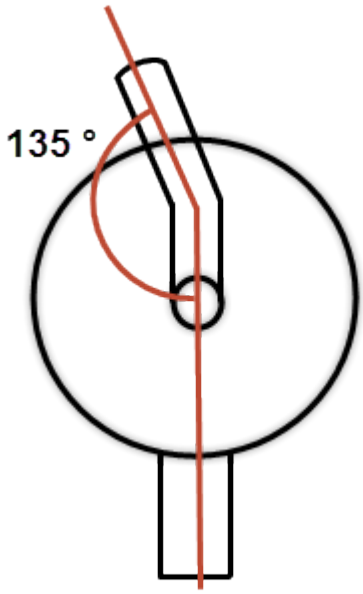
To obtain a correct detection of the empty status of the container, 2 conditions are required:

- Intake pipe positioned deep enough to suck off as much varnish as possible
- Container installed correctly in its tray support (bottom of container in contact with sensor)

9.1 Intake pipe settings

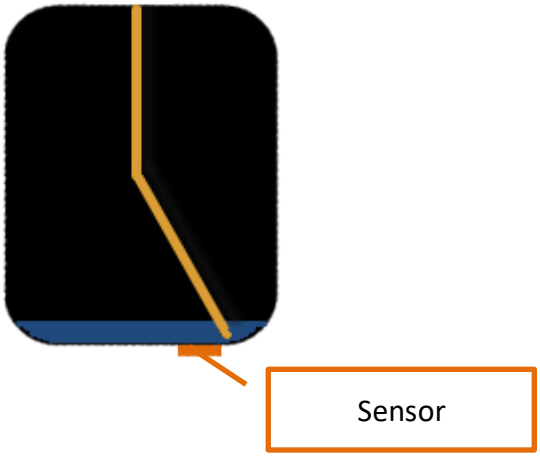
9.1.1 Angle setting

Top view of the intake pipe



NOT OK

Cross-sectional view of the container

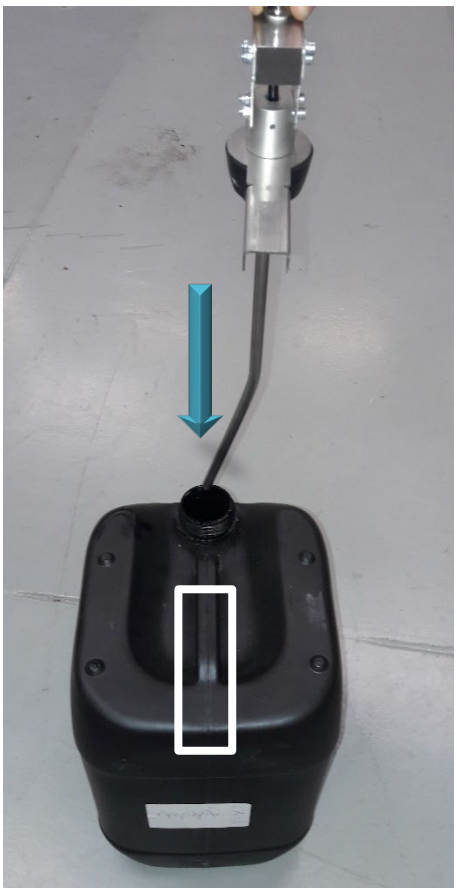


NOT OK

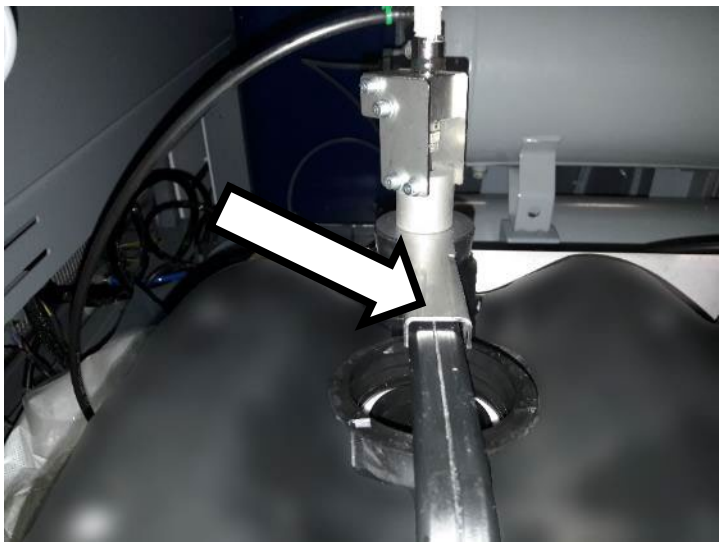
Actual top view of varnish intake pipe

OK

OK



OK



When the intake pipe is properly inserted, its horizontal handle should perfectly match the container handle (see the white arrow & the white rectangle).

NOTE:

If you believe that the varnish empty detection is either not indicating when the container is empty, or is falsely indicating that the container is empty, please call your distributor and request an engineer.

10 VARNISH REGISTRATION PROCEDURE

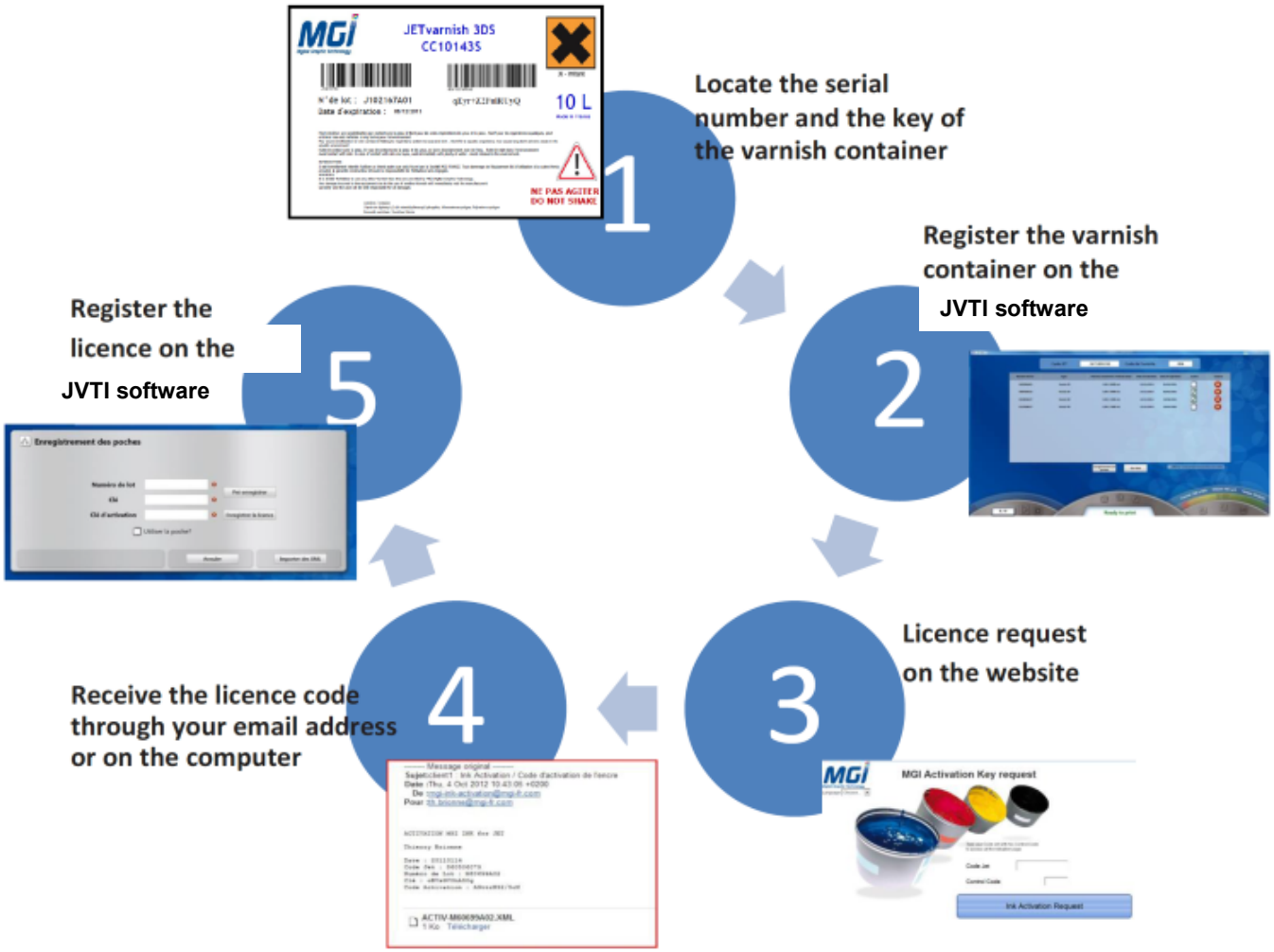
10.1 Purpose of the registration

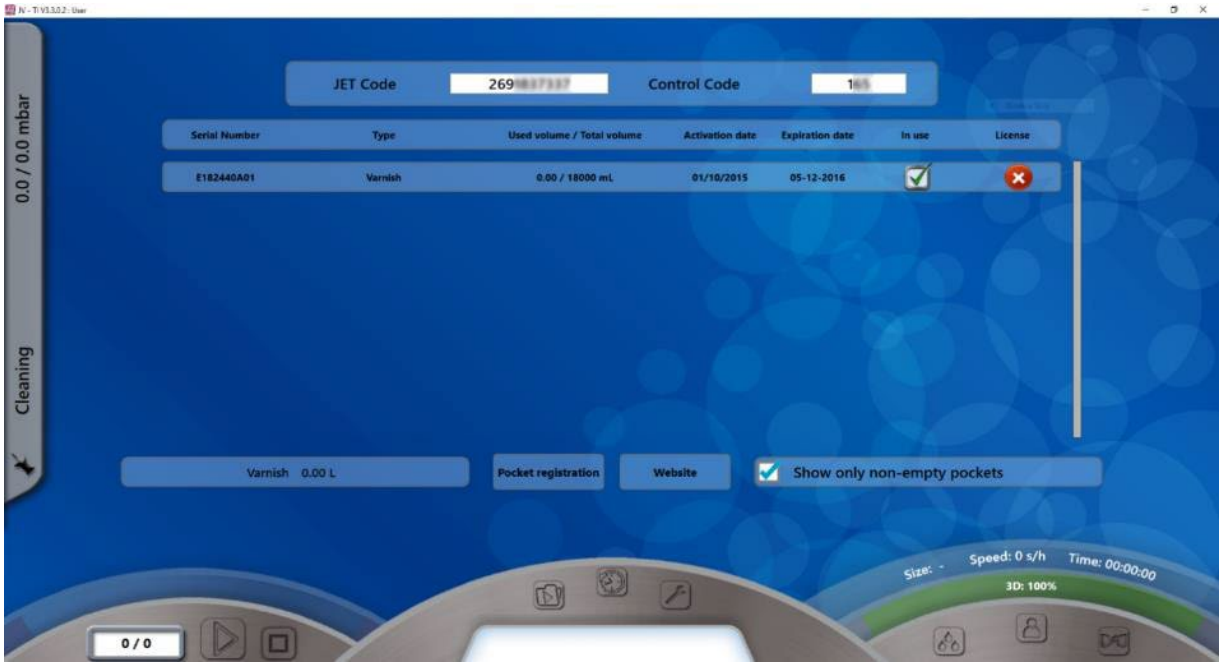
Warning: An Ethernet connection is mandatory to register a varnish canister.

Varnish registration enables:

- The varnish to be checked for compatibility with the equipment.
- The validity date of each varnish in the machine to be checked to prevent problems at the inkjet print heads.

This registration is mandatory each time a container is installed in the machine, or in advance when long production is to be provided for.
Note: Should varnish not be registered. the machine will be blocked.
Here is the registration principle for a varnish container. and the sequence to be followed:





The top of the screen indicates the "**JET Code** "and "**Control Code** "which are used to identify the machine. These codes are required to activate the consumables on the site.
The center of the screen displays the list of varnishes which were registered on the AccurioShine 3600.

The button below hides the empty pockets:

Serial Number	Type	Used volume / Total volume	Activation date	Expiration date	In use	License
Y11560N17	Varnish	923,24 / 1000 mL	02/07/2014	10/04/2014	☐	✗
J102073A02	Varnish	1663,51 / 10000 mL	05/09/2014	05/09/2015	☐	✗
J102128A01	Varnish	1802,30 / 10000 mL	05/12/2014	30/10/2015	☑	✓

The "**Serial Number**" corresponds to the first series of figures written on the consumable. The "**type**" corresponds to the varnish type. The third field shows the quantity of varnish used over the quantity of varnish available.

The "**Activation date**" corresponds to the moment when the pocket was registered on the AccurioShine 3600.

The "**Expiration date**" is the varnish expiration date (14 months after manufacturing). When the expiration date is reached, this varnish container must be replaced.

The checkbox of the "**In use**" field is used to change consumable.

"**License**" contains a red pictogram should the consumable license be invalid or not entered. and a green pictogram should the license be entered and valid. Double-clicking the red pictogram enables an activation key to be entered.

10.2 Varnish Registration Procedure

1. Click the "**Website**" icon.

   In case of trouble, the website URL is: https://www.mgi-jet.com/jetconso

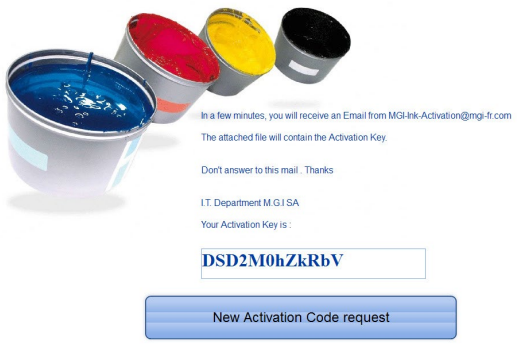
2. The window below opens on the Internet explorer. and enables you to access the varnish registration site in two languages (French or English).

3. Select the language and then click "**Enter**".

4. For identification purposes. you must enter the "**JET Code**" and "**Control Code**" of the machine. When logging in with these codes for the first time. a more complete identification procedure is requested in order to localize the machine globally and identify the person responsible for the machine.

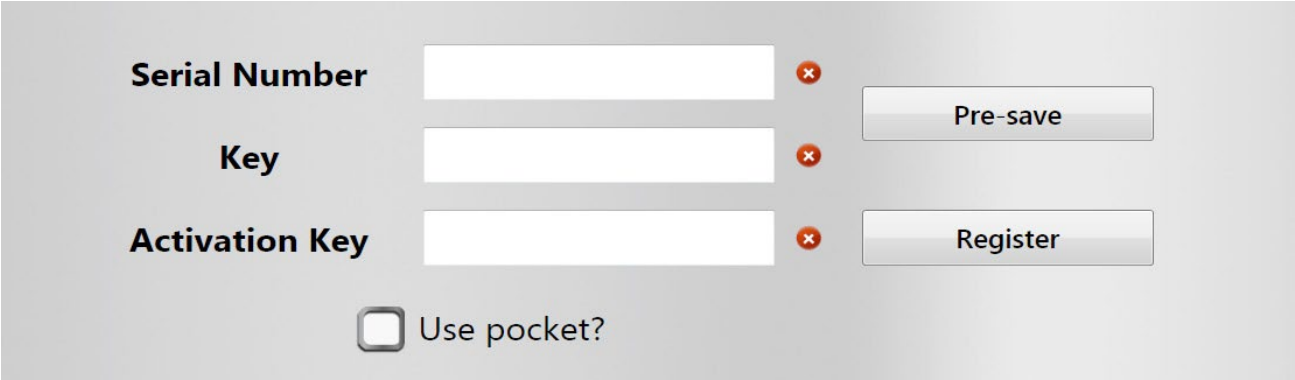
5. The following window asks you to scan or manually enter the two items of information specific to the varnish container placed in the machine (**Serial number** and **Key**).

6. Validating these codes automatically generates a valid license for that varnish pocket only. An email is automatically sent to the machine production manager in order to confirm the container license. Please copy the license.



7. In the JVTi. please click the following button:

8. The window below should open.



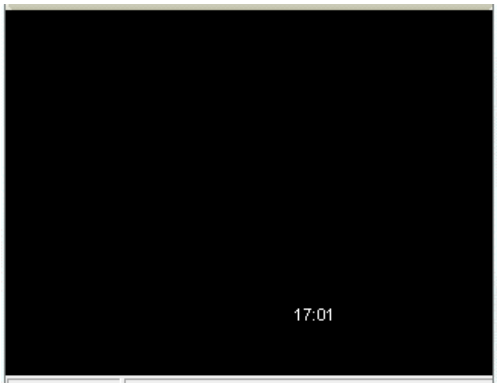
The following fields must then be completed:

- **Serial Number**.
- **Key**.
- **Activation key**.

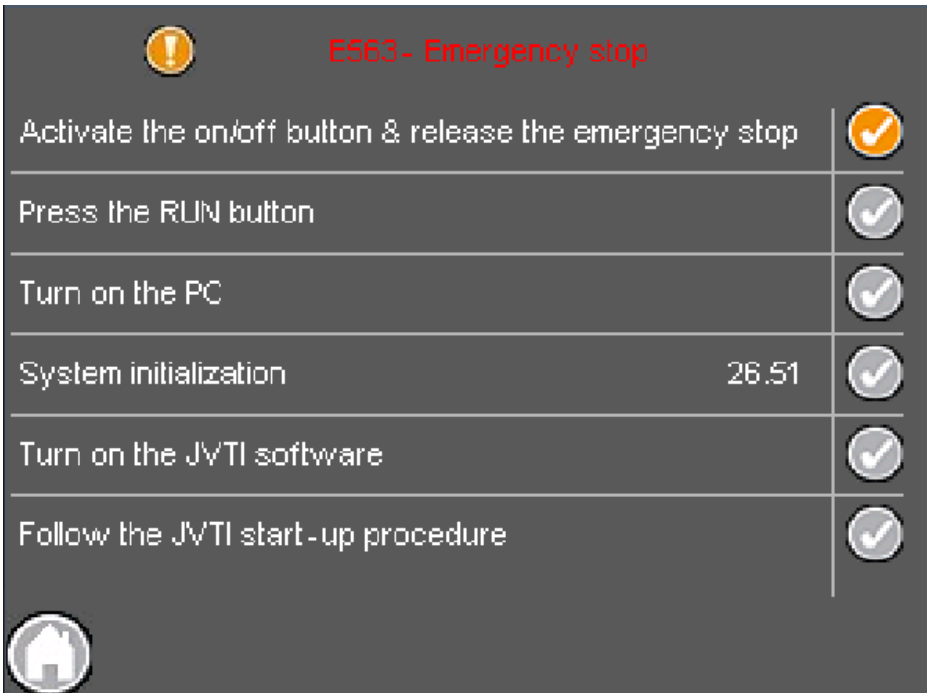
Identify whether the pocket is being used or not by checking the "**Use pocket?**" box and then pressing "**Register**" to validate pocket registration.
Note: Please note that if the pocket has no license, it can be pre-saved, but upon its use only 10% of the pocket is available. Registration will have to be validated through a license to unblock the remaining 90%.

11 STARTING UP & SHUTTING DOWN PROCEDURES

11.1 Procedure details



By touching the Pilot Touch Screen, with your finger more than 3 seconds, the starting procedure appears.

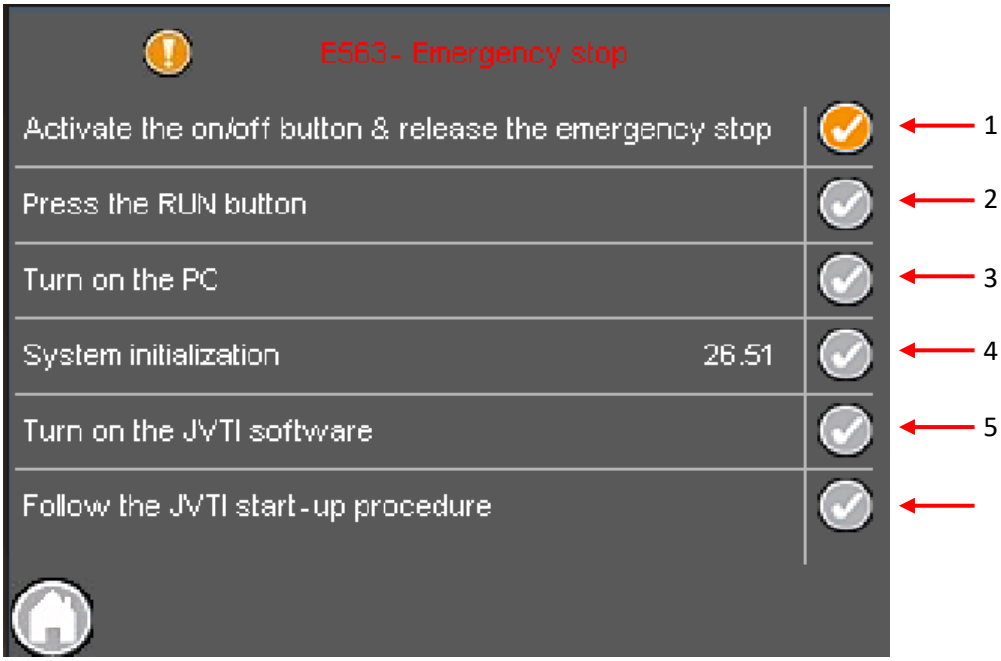


It is mandatory to follow up **step-by-step** this procedure.

For Starting and Shutdown procedure, check icon are displayed to inform the state of each step of the procedure. There are 4 states for this icon:

- Step of procedure not done yet.
- Step in progress.
- Step to validate (to be able to go to the next step).
- Step done.

11.2 Starting up



[1] Activate the on/off buttom & unactive the emergency stop

The first step is to disable all emergency buttons ① (which are activated when the machine is shutdown) and the ON/OFF 24V switch ② to power the electronic boards

This step needs to be acknowledged

[2] Press the RUN buttom

Then, press the blue button ③ next to the ON/OFF 24V switch

[3] Turn on the PC

Start the computer by opening the lower front door on the feeder cabinet and pressing the power button on the PC. This step needs to be acknowledged .

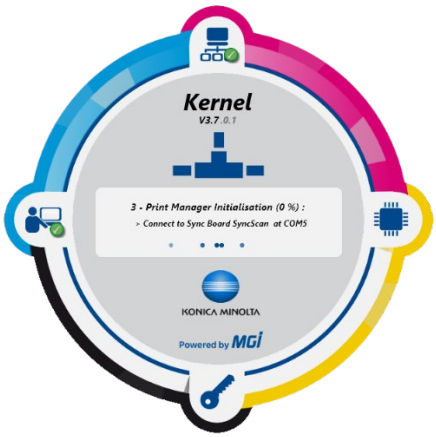
[4] Système initialisation 00.00

During this step the machine makes its initialization (the printing plate and purging tray are initialized).

[5]

The next step is to start the JVTi on the computer.

The software makes the communication with all the cameras, AIS scanner and Pilot. Then it checks the RCB and ICB communication. It finishes by checking the print heads licenses.



The following window appears. Select the correct profile in the “LOGIN” and enter its respective “PASSWORD”. By default, during at the initial installation stage, the Password associated to the User profile is: **USER**

As soon as you are logged. the pilot goes automatically to the next step.

[6]

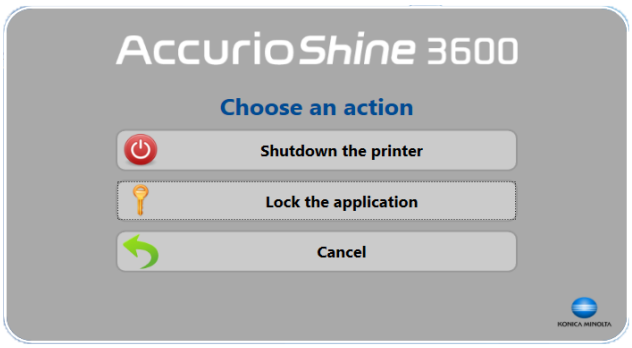
On the JVTi the following message appears when you are starting the machine:

A wiping of print heads is mandatory.
Follow the wiping procedure (Refer to “Automatic cleaning of the print heads” section).
Once the wiping procedure is done. the machine is ready to print.

11.3 Shutting down

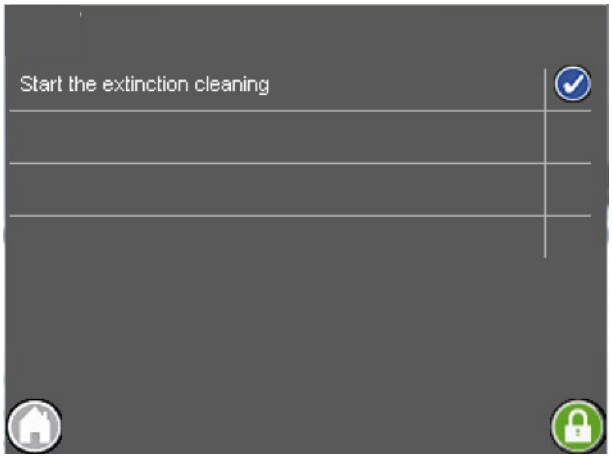
11.3.1 Closing the JVTi

Close the JVTi and select to “**Shutdown the printer**”.



Then, confirm your choice.

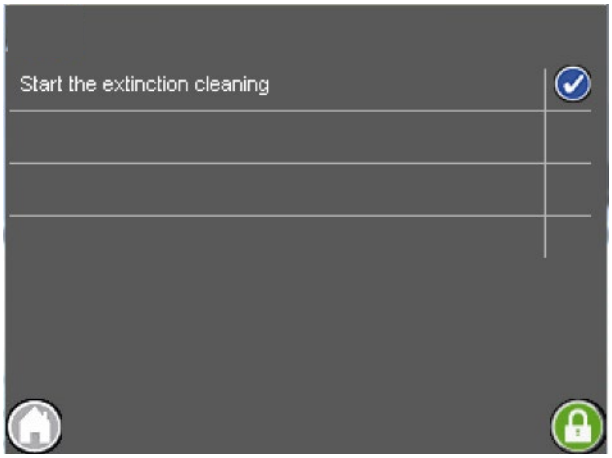
The Pilot Touch Screen will show up the extinction procedure.



It is mandatory to follow **step-by-step** this procedure every time you shut down the machine.

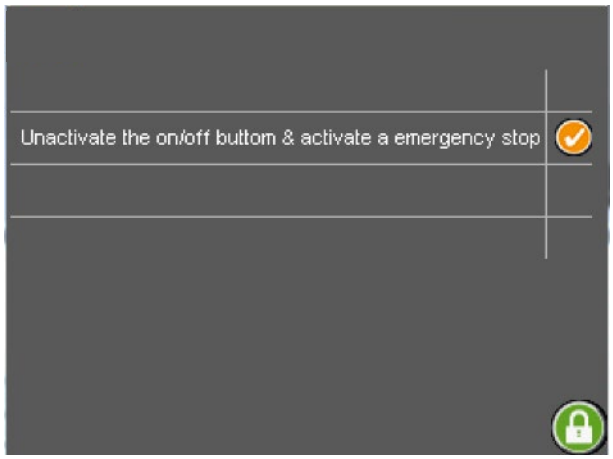
11.3.2 Print head Cleaning

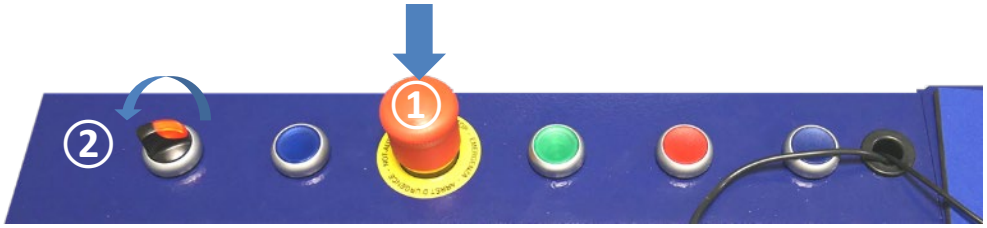
[1] Start the cleaning



Click on the blue icon to start the automatic cleaning of the print heads (Refer to “Automatic cleaning of the print heads” section)

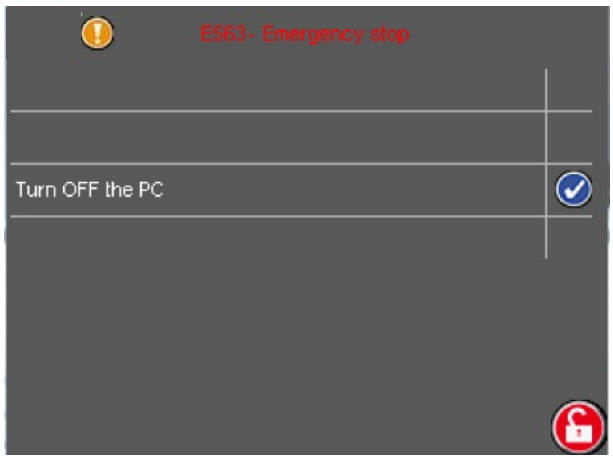
[2] Switch off the ON/OFF 24V ② and press on the emergency button ①





This step needs to be acknowledged.

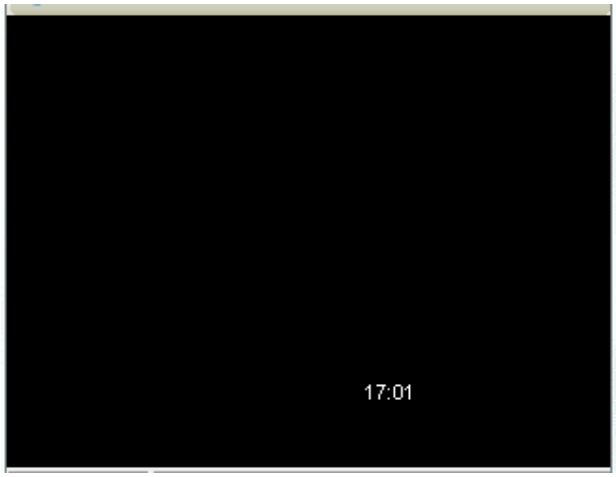
[3] Shutdown the computer once you have finished, to close everything on it



This step needs to be acknowledged .

[4] Wait for the machine extinction

When all the steps are finished a timer starts to end the shutdown procedure. Once it is finished the pilot screen turns to the screen saver.

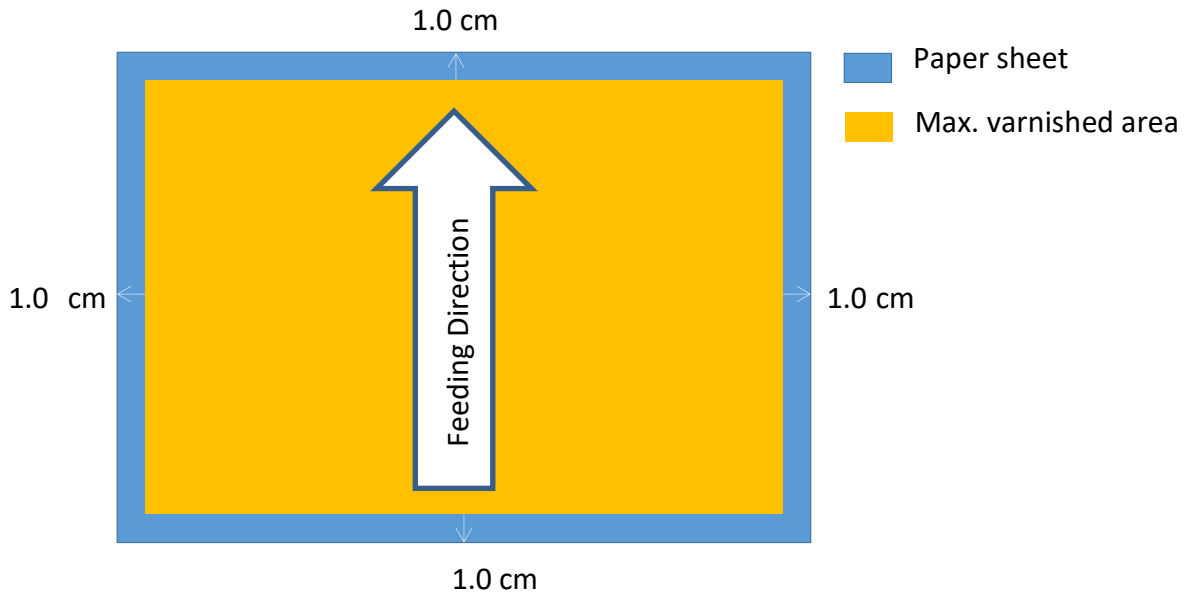


12 HOW TO RUN A PRODUCTION

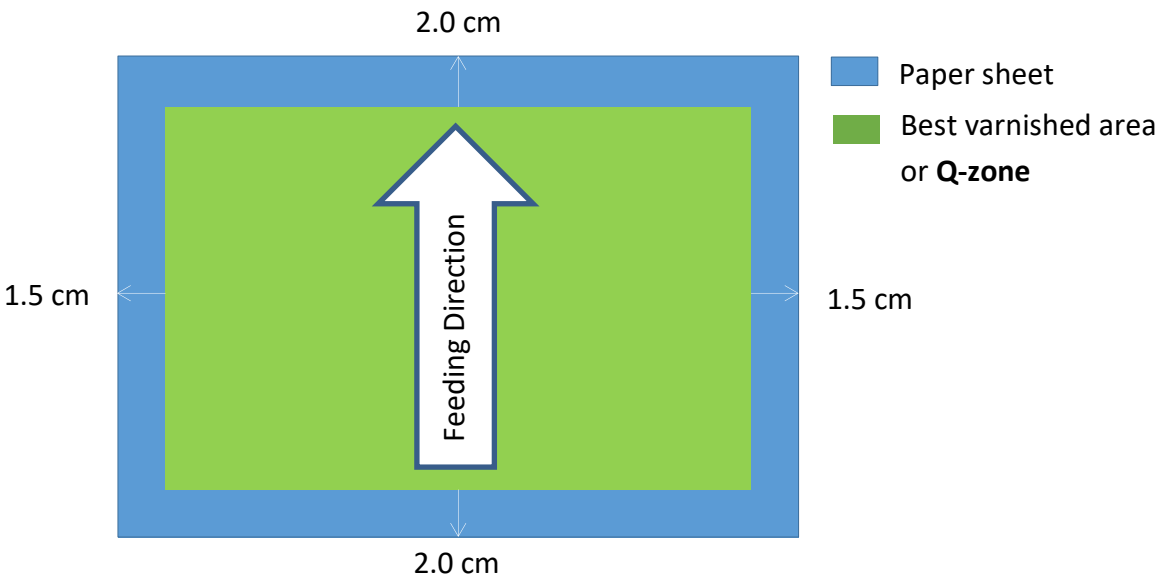
12.1 Printable areas and Q-Zone

Using the same rational as the printing environment, it is not recommended to put varnish very close to the paper edges.

It is strongly recommended to leave a margin of 1.0 cm free of varnish on the 4 paper edges.



In addition, the quality zone (Q-zone) leaves a margin of 1.5 – 2.0 cm free of varnish on the 4 paper edges, to avoid any unwanted air flows coming from the printing belt fans and creating a quality issue (called “spray issue”).

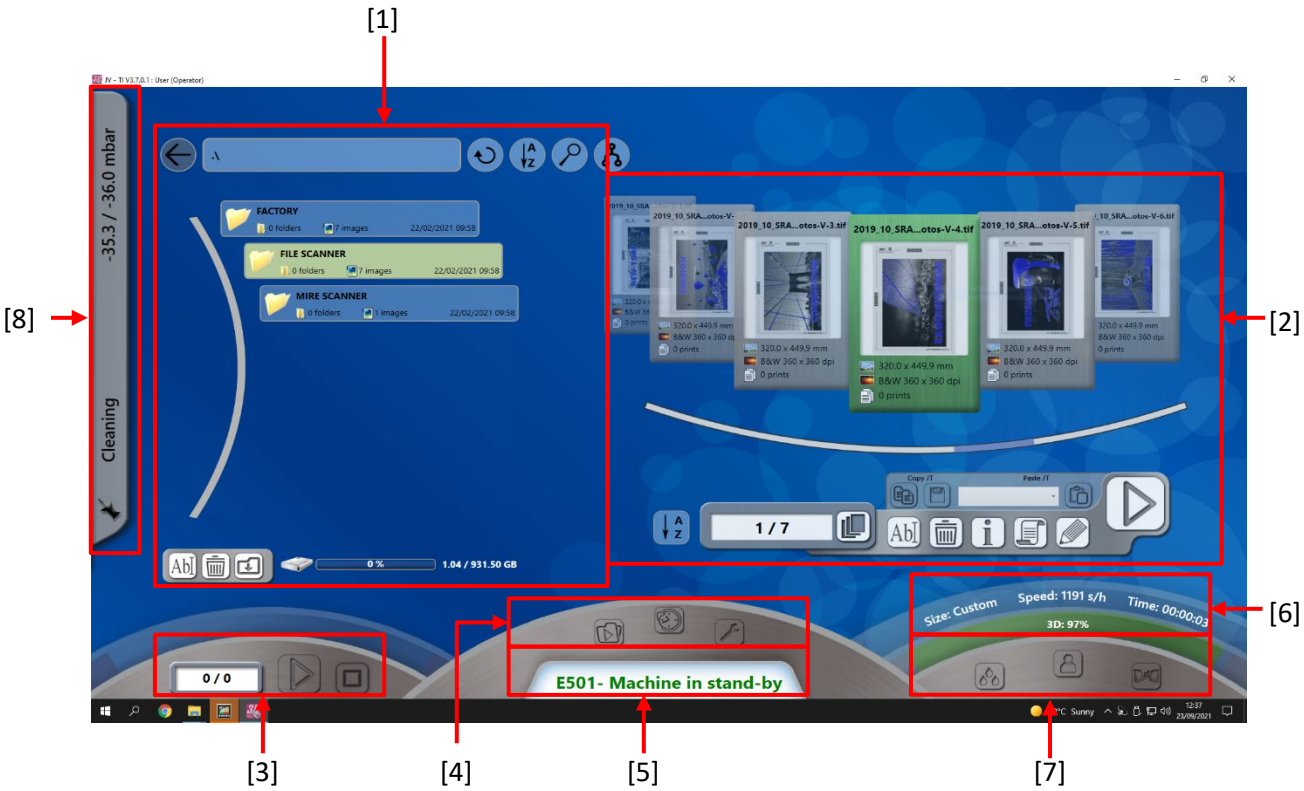


12.2 How to use the JVTi

The Graphical User Interface (GUI) on the AccurioShine 3600 is named the “JVTi”. For the AccurioShine 3600, the minimal JVTi version is ≥ **3.7.x**

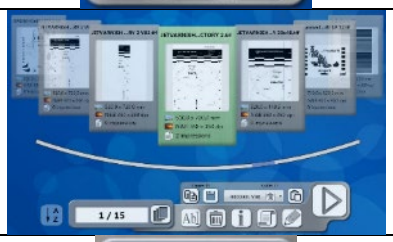
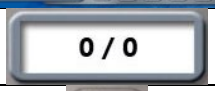
This quick overview assumes you are logged as a user which is the lowest level of permission and does not allow you to visit or to change some advanced settings. Generally, these settings are for the trained technicians for equipment maintenance or supervision and are not related to production management.

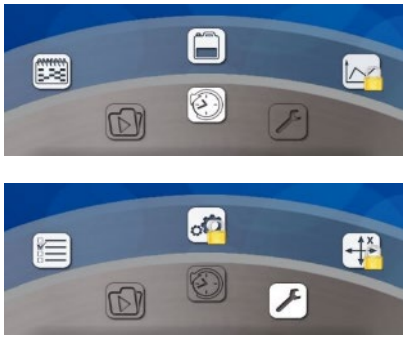
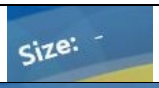
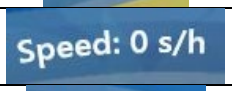
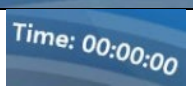
12.2.1 Main menu



Preliminary remark

The JVTI has numerous functions and icons. All these items are not accessible to the operator when logged as a “User”. When a function/icon has restricted credentials, it displays a lock or a padlock.

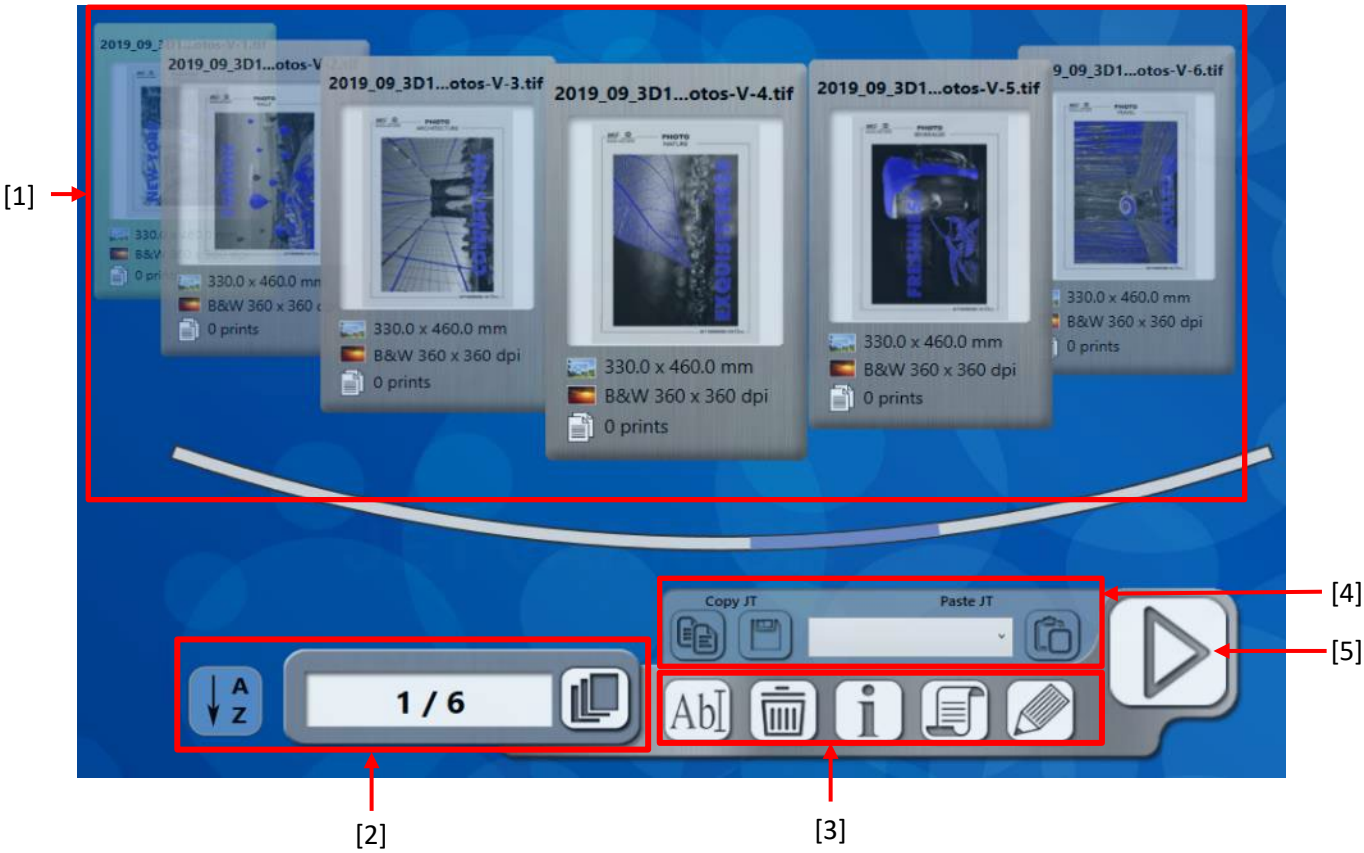
[1] Folder selection		Listing of the folders found on the computer
		Path of folders
		Refresh button
		Sorting button (in alphabetical order or reverse)
		Searching button
		Rename. delete or import a folder
[2] Job management		When a folder is selected, the existing TIFF files appear in this area. (Refer to Chapter: Standard Conditions)
[3] Printing progress		Sheet counter
		Play/Pause** button **The pause mode At any time during the printing production, a job can be paused. This pause is not limitless. When the pause is started, you have exactly 9 min. and 59 sec. to stop the pause and restrart the printing production. If the pause exceeds 10 min., the current printing job is flushed out of the memory and the print cradle comes underneath the purge tray, while the equipment goes in Idle mode.
		Printing stop button

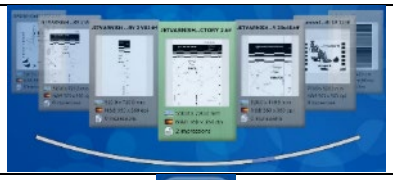
[4] Menu selection	User icon access: 	Printing icon, management icon and technician icon Administrator icon access: 
		Standard printing (Refer to Chapter Standard Conditions)
		Variable printing **Available only with the Variable Data Printing (VDP) option installed**
		Merging printing (restricted content)
		History of the production (Refer to Chapter History)
		Technical checking charts **Available only when logged in as a Distributor (restricted to trained technicians)**
		Settings menu (Refer to Chapter 12.8 Settings menu)
		Electronic settings **(Available only for technician with Distributor login)**
		Printhead adjustment **(Available only for technician with Distributor login)**
	All icons with a padlock are not available with the “USER” login.	
[5] Information message:		Here are displayed all information messages (state of the machine. warning and error messages) (Refer to Chapter 19.1 for Error codes)
[6] Printing status		Substrate format
		Printing speed in s/h (sheets per hour) *
		Remaining time of printing

		This percentage reflects the remaining quantity of the varnish **calculated by the system and controlled by the varnish license**. Only the varnish drops ejected on the pages are taken into consideration. *This is not the exact measurement of the physical quantity of the remaining varnish in the container*. When reaching low percentages, a gap might appear between the calculated remaining varnish and the reality in the varnish container. The gap is mainly explained by the purges and cleaning cycles which are not integrated in the percentage value.
[7] Administration icons		Varnish registration: Menu with a listing of varnish and varnish registration (Refer to Chapter 10 for Varnish registration procedure)
		User management: management of operator and administrator logins (Refer to Chapter Login Management)
		TeamViewer access: Konica Minolta connection for remote access (Internet assistance and updates) (Refer to Chapter 12.11 for Remote access)
[8] Cleaning		This tab displays the cleaning maintenance procedures. (Refer to Chapter “Automatic cleaning of the print heads”)

***About the JVTi print speed indicator**, please note the displayed print speed is a fixed & theoretical value. This is dependent upon your current configuration and real page gap between sheets during production. The JVTi print speed uses a fixed gap of 10 cm between 2 sheets. From one job to another, your real print speed will vary related to feeder settings, while the JVTi print speed will stay the same *at the maximum theoretical value.*

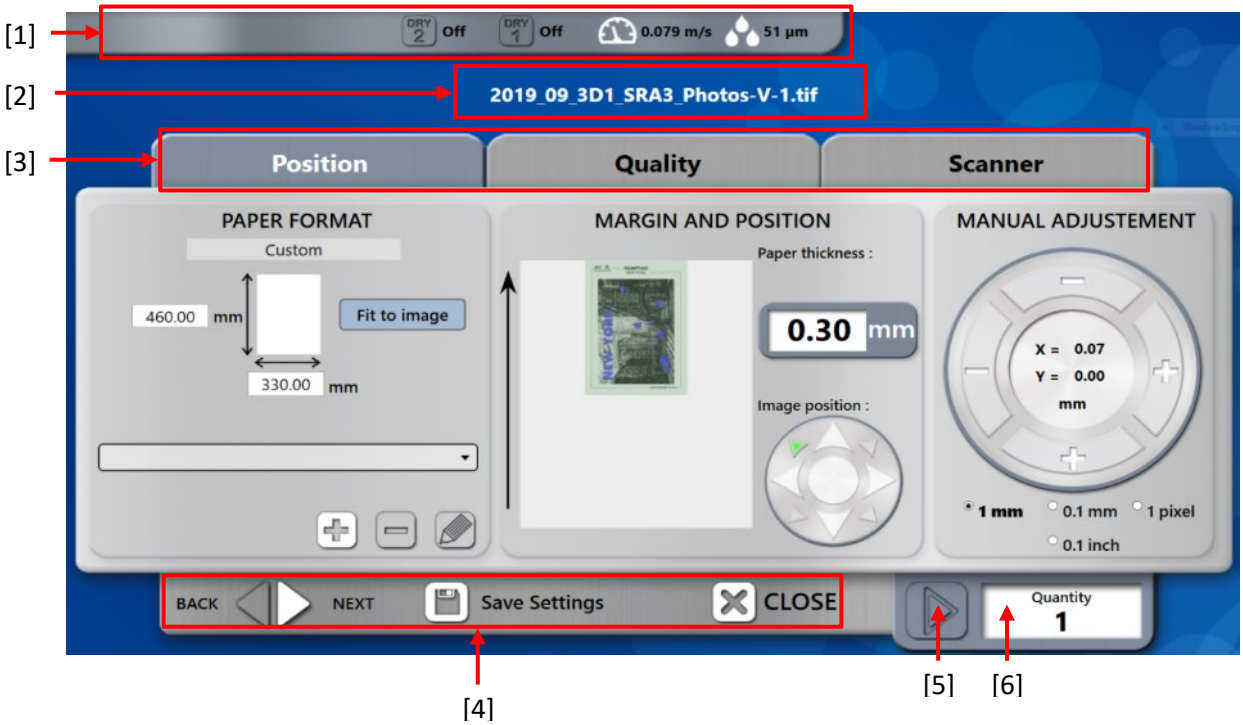
12.3 Standard conditions

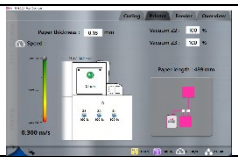


[1] File listing		Click on the file to select it. Files turn green when selected.
[2] File selection		Sorting button (in alphabetical order or reverse)
	1 / 15	Number of files selected and custom selection button.
		Custom selection: Select all or custom selection
[3] File management		Rename the selected file
		Delete the selected file
		Information button with the Cost calculator (Refer to the Chapter 12.9 for Information and Cost calculator)
		Script application on the selected file
[4]		Copy the job ticket of the selected file

Job ticket management		Save the job ticket of the selected file
		Listing of saved job ticket
		Paste the job ticket on the selected file
[5] Print menu button:		Open the print menu to set the printing (Refer to the Print menu chapter)

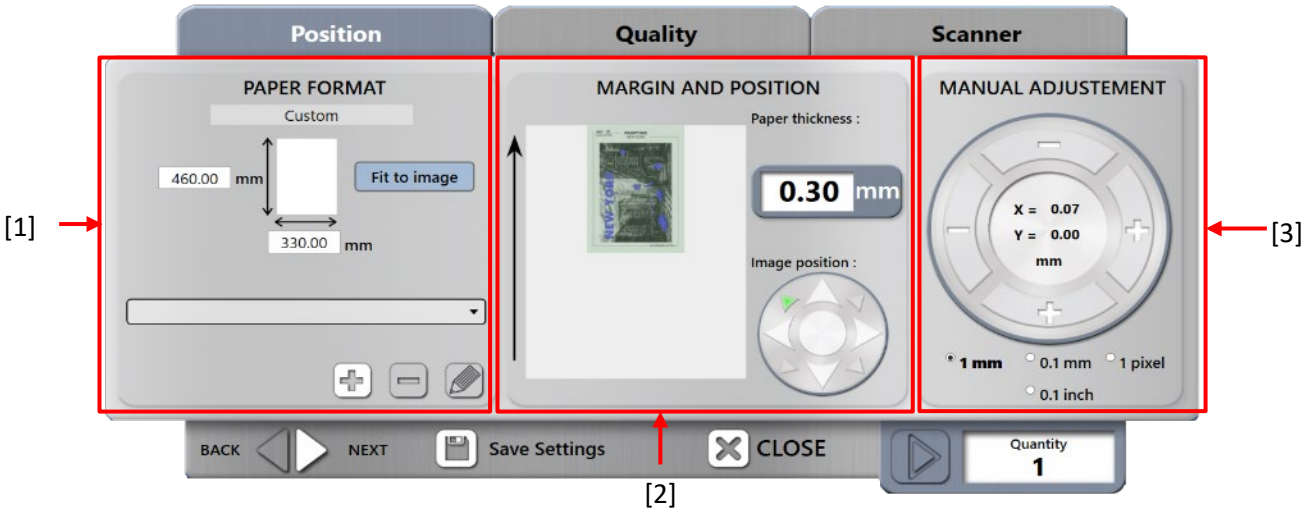
12.4 Print menu

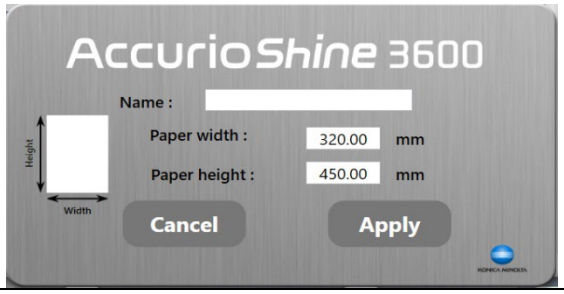
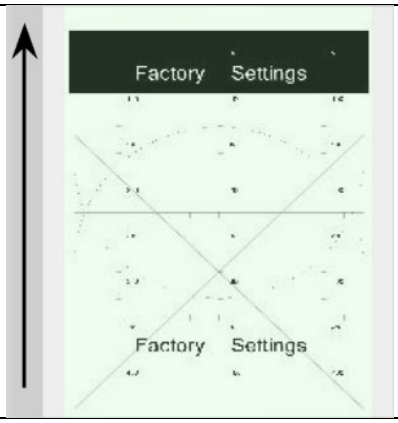


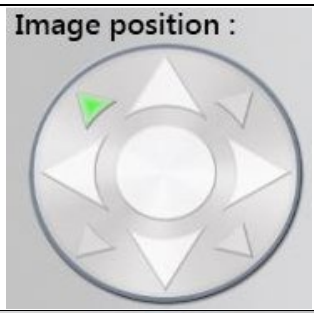
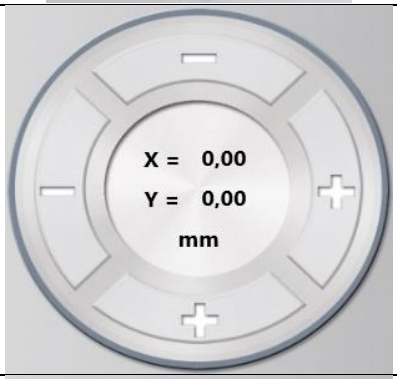
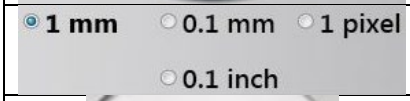
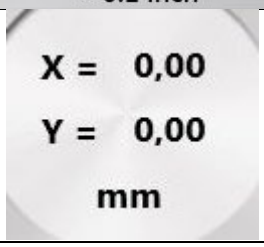
[1] Machine setting		Click to open a tab displaying feeder, printer and curing settings
[2] File name	FACTORY TEST - FINAL.tif	Display the name of the file you are printing
[3] Print menu tabs	Position	Click to open the settings for substrate and file position
	Quality	Click to open the settings for printing quality
	Scanner	Click to open the setting for the AIS SmartScanner
[4] Print menu management	BACK NEXT	Navigate between Position. Quality and Cameras tabs
	Save Settings	Save all actual parameters of the file into the job ticket
	CLOSE	Close the print menu to return to the main screen. All no saved parameters are lost.
[5] Print starting button		You have to set all the previous parameters to be able to print.

		Once it is done the button become green:
[6] Quantity		Click on the quantity to change the number of prints you want.

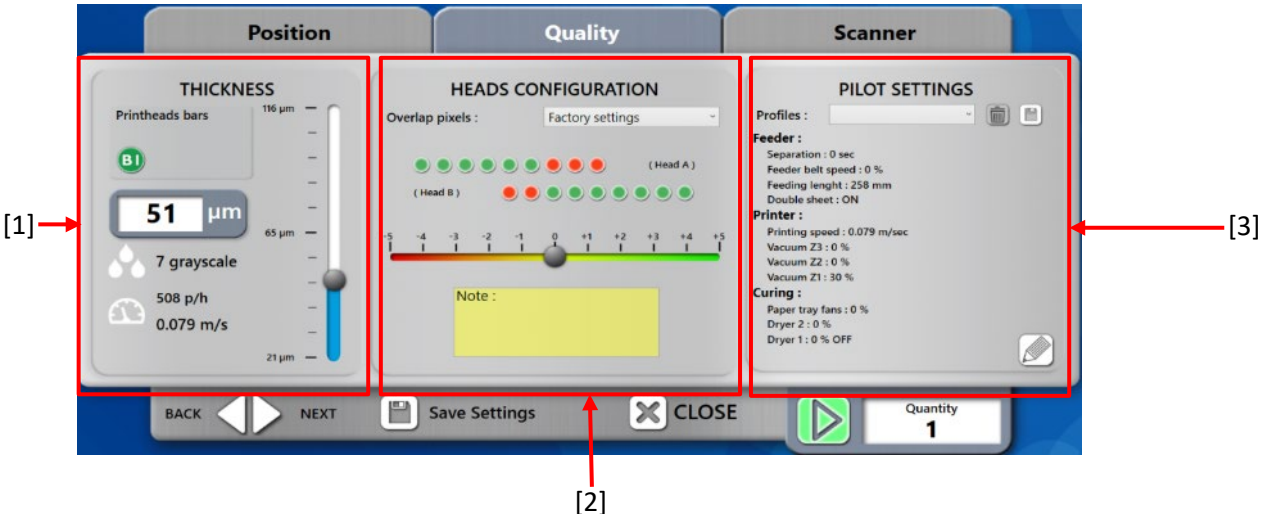
12.4.1 Position tab



[1] Paper format	1: SRA3 320,0 x 450,0 mm 2: 330x487 330,0 x 487,0 mm 3: A4 210,0 x 297,0 mm	You can select the format of the substrate. Measure the substrate and select the right format.
		Create, delete or modify a paper format 
[2] Margin and position		This is the preview of the file position on the substrate. The arrow shows the printing direction.
		Please carefully indicate the Paper thickness value (within the equipment specifications, from 0.135 mm to 0.450 mm). Change this value each time you are changing from one paper thickness to another one. This value is really important for: - **Print Cradle** To ensure the sharpest varnished image

		- **AIS SmartScanner** To ensure the overall image captured by the cameras is complete without truncated areas **Warning:** the paper thickness (in mm) should not be confused with the Gsm value of the paper. The real paper thickness is not so widely available on the packaging of the paper ream. Use a caliper to measure the real thickness of a sheet.
		File position on the substrate. It is recommended to place the file on the top left edge of the substrate.
[3] Manual adjustment:		To adjust the position of the varnish file on the printing substrate. move the file in X direction (horizontal) and Y direction (vertical). Minus “-“ sign is to move to the top or to the left. Plus “+” sign is to move to the bottom or to the right.
		You can select which unit of measure you want to use to change the position of the file.
		The X and Y (horizontal and vertical) positions are display here. You can click on these values to directly modify them. Add value to move to the right or to the bottom. Remove value to move to the left or to the top.

12.4.2 Quality Tab

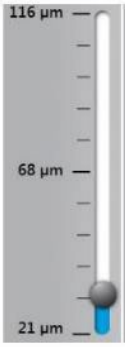
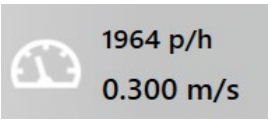


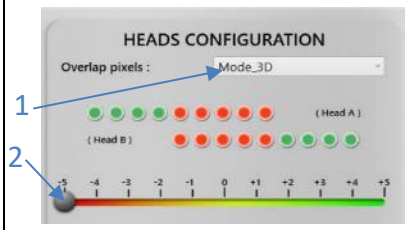
Remark about the maximum varnish thickness

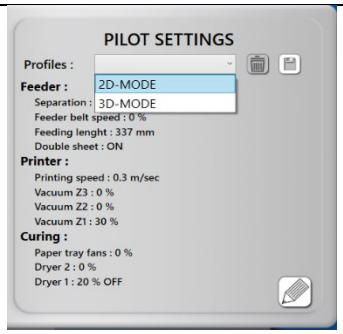
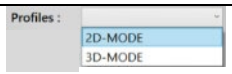
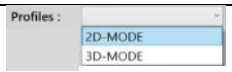
Experience shows that there is a possible relation between the paper thickness and the maximum varnish thickness. It is commonly admitted that the varnish thickness should not exceed 1/3 (one third) of the paper thickness. Nothing in the system will prevent you going above the "*rule of the 1/3*", but if you don't limit yourself for choosing the right varnish thickness, you might face the possible situations:

- Paper starting to have wrinkles around the filled areas with a too thick varnish
- Risk to see the varnish peeling-off when the varnish is too thick (the peeling-off can appear days or weeks after production)
- Risk to increase the paper jam somewhere in the equipment, while feeding a paper sheet with a too thick varnish
- Risk to spoil the overall image quality, lack of sharpness in the finest details
- …

Paper thickness values accepted by the equipment (in µm)	Theoretical max. varnish thicknesses (in µm) not to exceed (using the method of the 1/3)
150 µm	50 µm
200 µm	67 µm
250 µm	83 µm
300 µm	100 µm
350 µm	116 (the max. possible) µm
400 µm	116 (the max. possible) µm
450 µm	116 (the max. possible) µm

[1] THICKNESS panel		You can adjust the thickness of varnish you want by using this slider. The slider varies from 21* to 116 µm **21 µm is the minimum allowed, because 3 drops are the lowest possible value.* When activating the dithering function, it is possible to reduce the varnish thickness by image algorithm. This has no impact on the production speed which remains the same. The dithering mode might generate a slightly higher varnish cost – up to 25% or more. The reason is simple: When the varnish drop was inferior to 1 drop, no varnish was applied. Now, in the same situation, it is possible to have from 0.1 to 0.9 drop applied – using a dithering method. The rate of consumption is dependent of the file itself. When the mask file is using grey values other than 100%, then the dithering mode could be activated. If you are not happy with the new varnish cost, please disable the dithering mode for this specific file. See the next section about “Dithering function in details”
		Display the thickness of varnish you want to apply. By clicking on this value, you can adjust the thickness by predefined steps.
		This is equivalent to the number of varnish drops the machine applies on each pixel to have the required thickness.
		Display the estimated production speed with 2 indicators: 1) In *page per minute* (p/h) according to the page format you defined and a fixed gap of 10 cm between each page. 2) In *meter per second* (m/s) according to the page format you defined and a fixed gap of 10 cm between each page. If you change the gap between two pages (generally by increasing it), the **production speed stays the same through the JVTi indicator** and it does not recalculate the true production speed.

[2] HEAD CONFIGURATION		1. Please always select “Factory Mode” 2. Adjust the overlap of the heads in individual nozzle values. (Please see part 19.6.2 in the troubleshooting section for a detailed explanation)

[3] PILOT SETTINGS panel		It is a rather informative panel which displays all the production values you either: - applied to the last varnished page(s) - are about to apply to the next varnished page(s)
		**2D-MODE** Factory Default mode for a possible 2D-MODE or application
		**3D-MODE** Factory Default mode for a possible 3D-MODE or application
		DELETE an existing profile **SAVE** a profile with interesting parameters you want to call back later on and give it a name.
		EDIT an existing profile, call back the CURING – PRINTER – FEEDER tabs for changing any type of settings

12.4.3 The dithering function in details

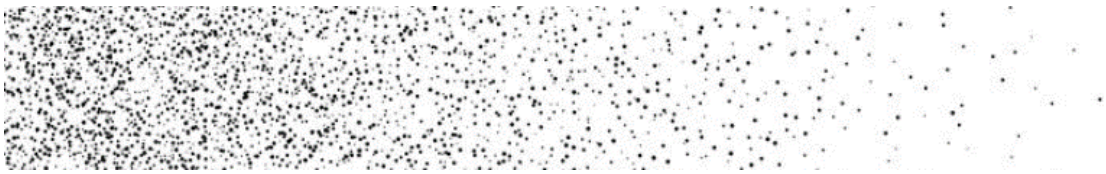
The dithering creates effects in the varnish layer, in combination of this special algorithm and the JVTI. The dithering can fully exploit the variations of levels contained in the tiff mask files. The word *dithering* is very similar to *halftoning*.

On AccurioShine 3600, when using tiff mask file with grey values, activating the dithering function can bring new graphical effects and benefits to you. Without multiple grey levels (only 0% or 100% of grey values in the tiff file), the activation of the dithering will change nothing.

The dithering smoothly adjusts the density of varnish dots:

- The more density you have, the more numerous dots you see
- The transitions between the shades are smooth, without a banding effect

Shading using IJ technology – varnish dots for instance



Shading without dithering & with dithering (AccurioShine 3600)

- Without dithering (possible banding)

- With dithering (smooth transitions)

Without the dithering activation, the thinnest varnish value is controled only by the JVTI .

With the dithering activation, the thinnest varnish value is controled by a mix of the JVTI and the grey level values contained in the tiff file.

Advantages:

- You can go lower in thickness than the JVTI minimal thickness value. Thus, you can save varnish (if substrate permits).
  If you have selected the JVTI with an overall varnish thickness of 50 µm, if your tiff mask file has areas with a grey level at 25%, these areas will have the following varnish thickness:
  50 x 0.25 = 13 µm (rounded) – *if substrate permits*.

  Example with an initial JVTI thickness value sets @ 50µm

Grey level value (tiff mask file)	Final varnish thickness result (rounded)
100%	50 µm (1x50)
75%	38µm (0.75x50)
50%	25µm (0.50x50)
25%	13µm (0.25x50)
….	….
10%	5µm (0.10x50)

if substrate permits

- You can have a better rendering and smooth transitions specially when creating a varnish gradient
- You can create new artistical varnish effects when using grey level patterns

Disadvantages:

- When turning ON the dithering function for the first time, the varnish layer can show unwanted areas with a fog of varnish – similar to a noise.
  Solution: edit the areas where you have unwanted fog of varnish or turn off the dithering.

- When turning ON the dithering function for the first time, the varnish cost per page could be higher (and sometimes lower)
  Solution: turn off the dithering.

Case(s) when you should deactivate the Dithering Mode

Deactivate this mode, when:

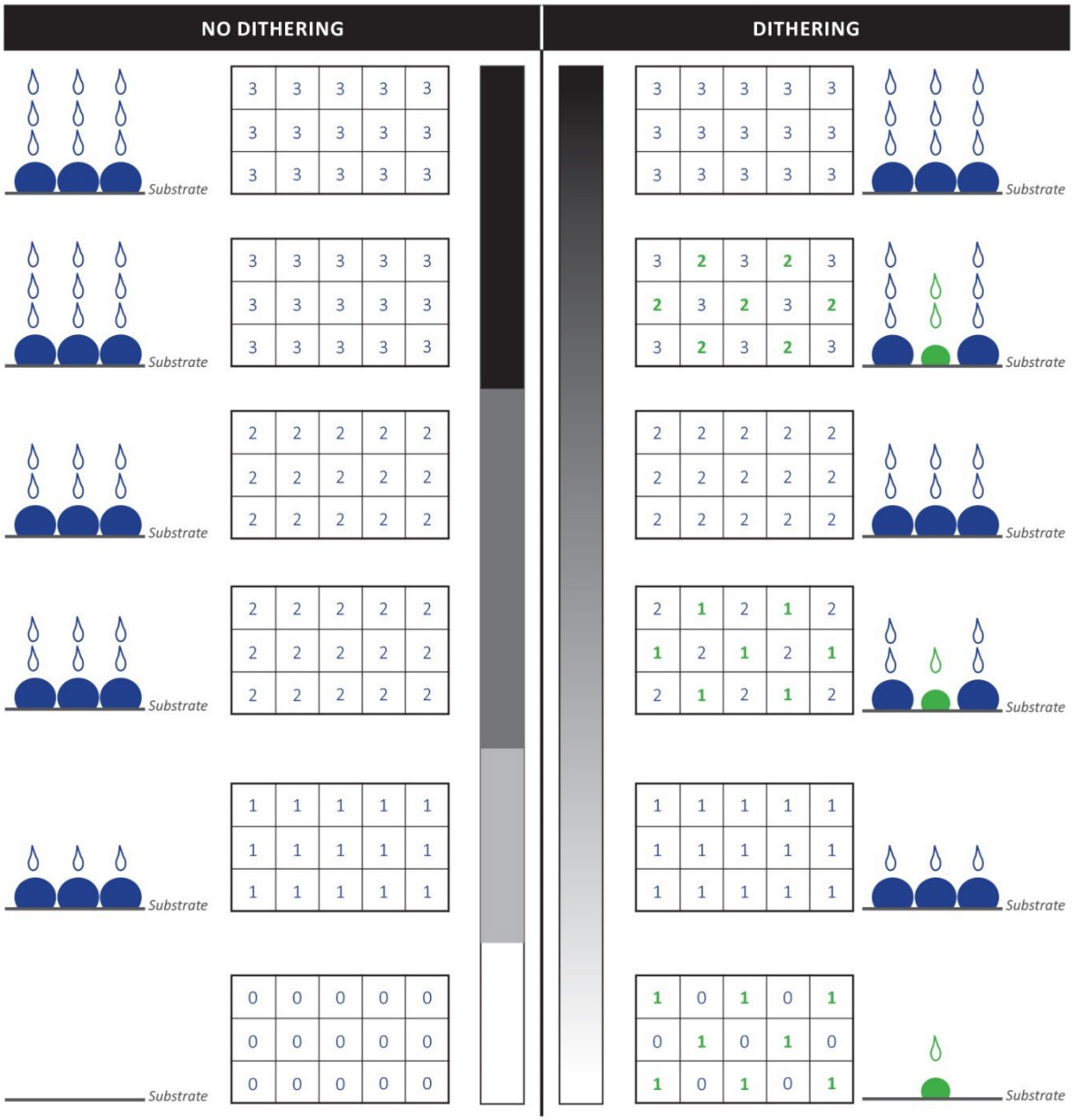
- You are working very low varnish thickness, 1 or 2 level(s) close to the minimum.

- The design of the tiff mask file is not suitable with the surface energy of the preprinted inks. You have quality issues only on the areas where the varnish is in contact with the inks. Then, the ink needs to receive a higher varnish thickness (usually you are safe if > 35-40 µm)

- The design of the tiff mask file is not suitable with the surface energy of the substrate. Then, the substrate does not permit to spray a so little varnish thickness.

- You have unwanted dots/noise in the image and wanted to remove them.

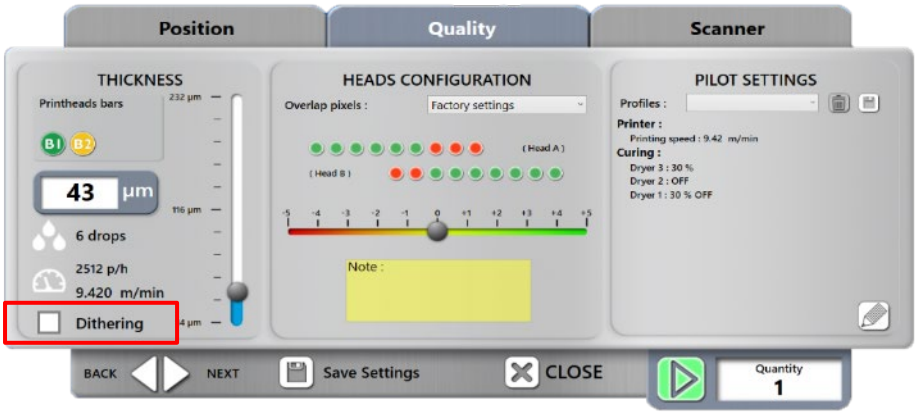
Image rendering without and with dithering (simplified)



Caption:
Blue : No Dithering **Green** : With dithering

12.4.4 How to activate the Dithering function?

By default, the Dithering function **is disabled.**



Generic JVTI menu – not always related to this User Manual model

If you select it, the Dithering will be activated and will change the rendering of the printed varnish.
A positive effect is seen in more than 95% of the cases.

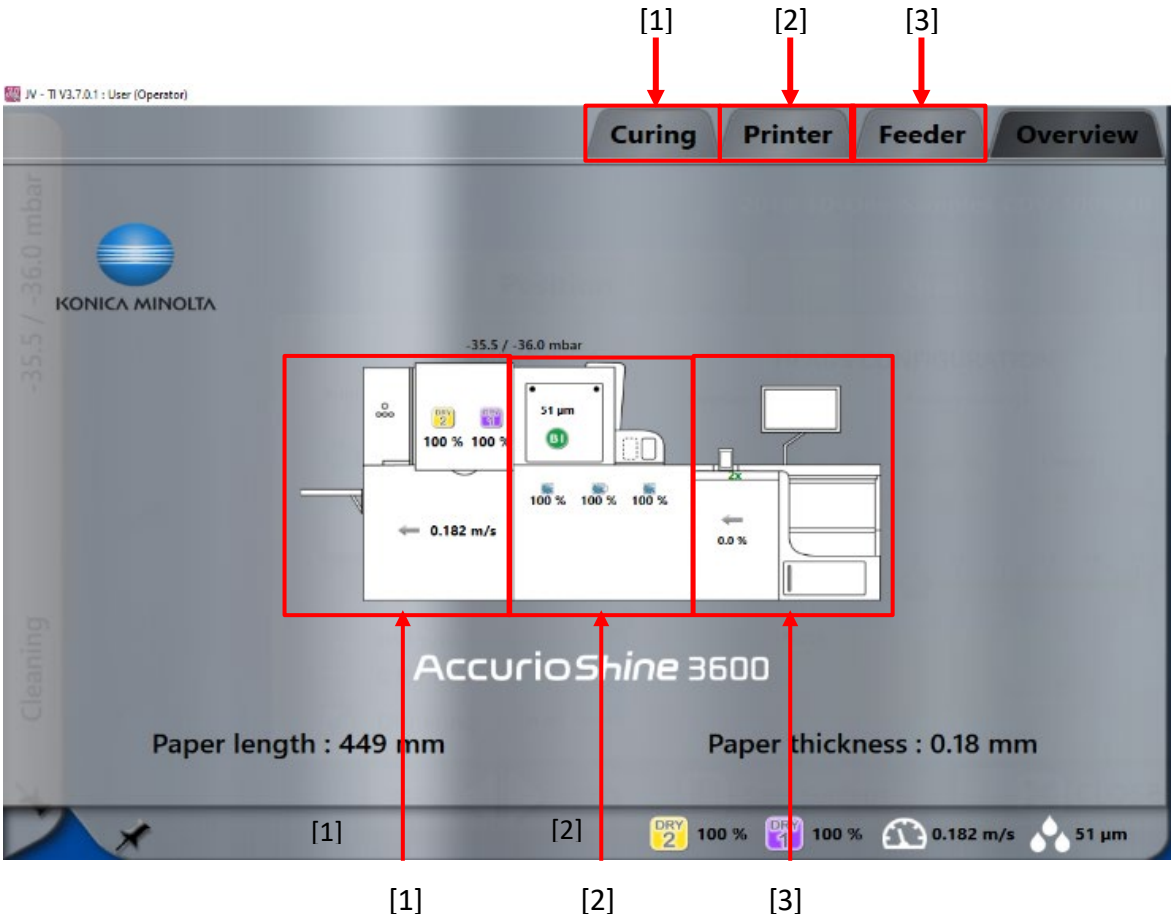
Whatever the Dithering activation or not, **this has no impact of the overall machine production speed**. In automatic mode, the speed is a direct consequence of the JVTI thickness selection. In manual mode, operator can only reduce the print speed at a lower value than proposed by the JVTI/thickness selection.

12.4.5 Machine settings

12.4.5.1 Summary of settings

Machine settings		Close the machine setting tab and go back to the print menu (Refer to Chapter Print menu)
		Display the activation of the 2 curing units and their power adjustment. (Refer to Chapter: Curing tab to adjust the curing)
		Display the printing belt speed adjusted in the printer tab (Refer to Chapter 12.4.5.4 Printer tab)
		Display the varnish thickness adjusted in the print menu in the Quality tab

12.4.5.2 Overview tab

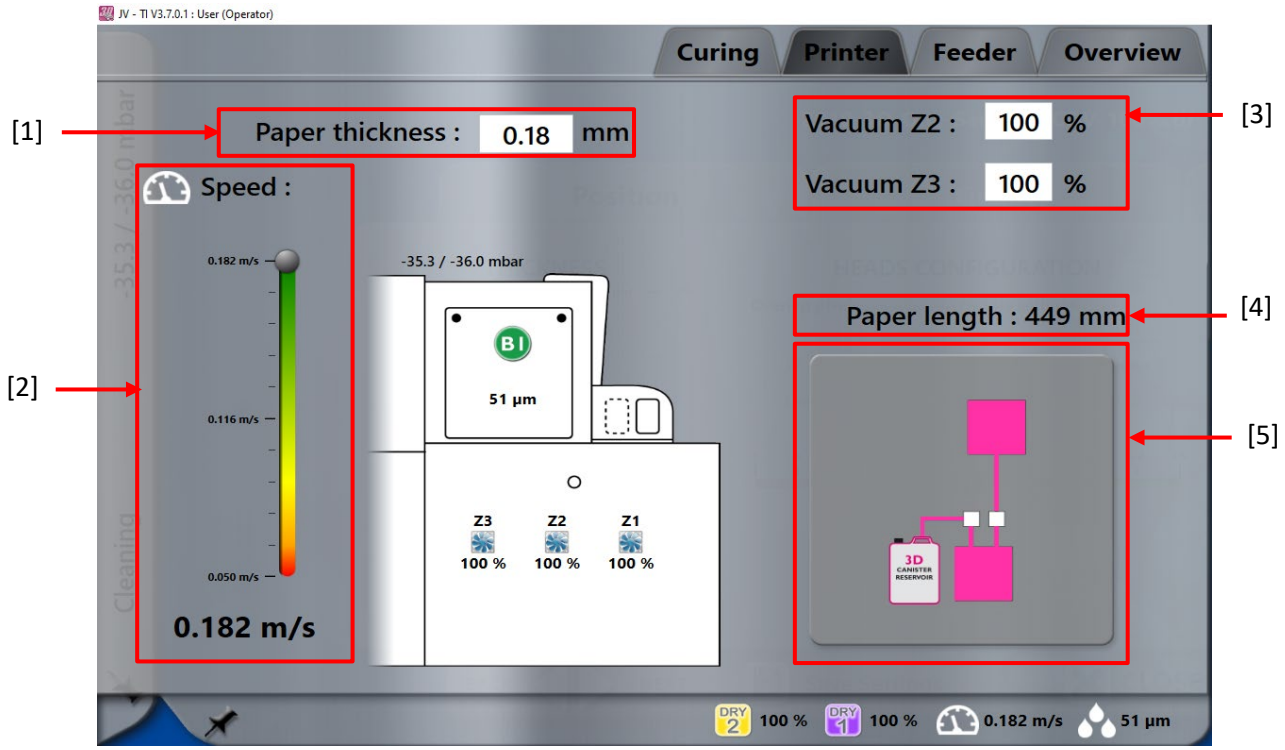


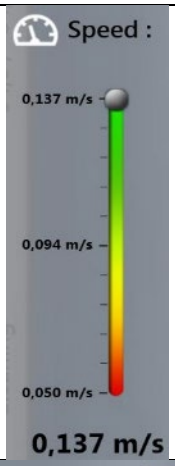
[1] Curing tab		Click on this tab or on the curing part on the machine diagram to go on curing setting tab. (Refer to Chapter Curing tab)
[2] Printer tab		Click on this tab or on the printer part on the machine diagram to go on printer setting tab. (Refer to Chapter 12.4.5.4 Printer tab)
[3] Feeder tab		Click on this tab or on the feeder part on the machine diagram to go on feeder setting tab. (Refer to Chapter Feeder tab)

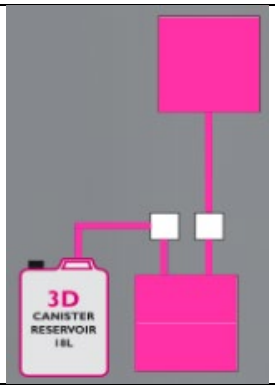
12.4.5.3 Feeder tab

Please refer to the Paper Feeder section

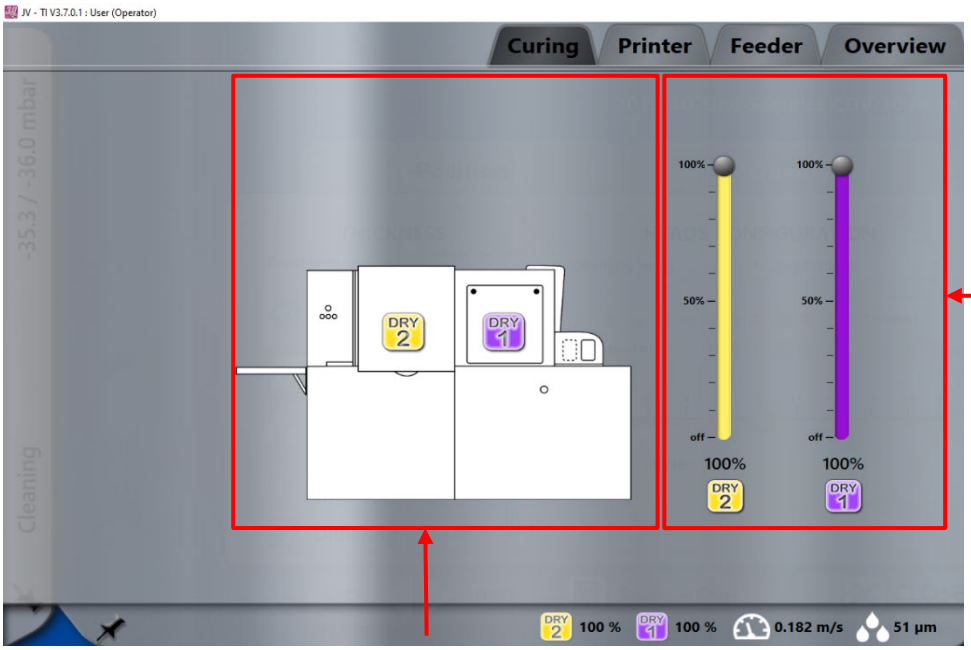
12.4.5.4 Printer tab

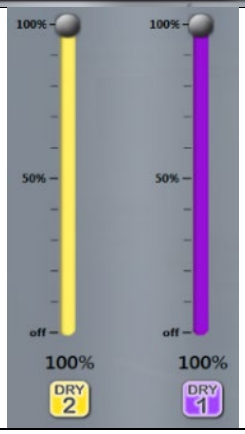


[1] Paper thickness	Paper thickness : 0,35 mm	Display/edit the thickness of the loaded substrate
[2] Printing belt speed adjustment		The printing belt maximum and minimum speeds are automatically adjusted with the varnish thickness. You can reduce the printing belt speed to allow the varnish to spread.
[3] Printing belt vacuum adjustment	Vacuum Z2 : 100 % Vacuum Z3 : 100 %	You can adjust the vacuum power of the Z2 (under print heads) and Z3 areas (under LED 1) depending of the substrate flatness. To have a perfect flat surface, increase the power of vacuum for thick substrates and reduce the power for light substrates. **Default values:** On an average 250 Gsm coated paper, the Z1, Z2, Z3 values can be set at 100%.

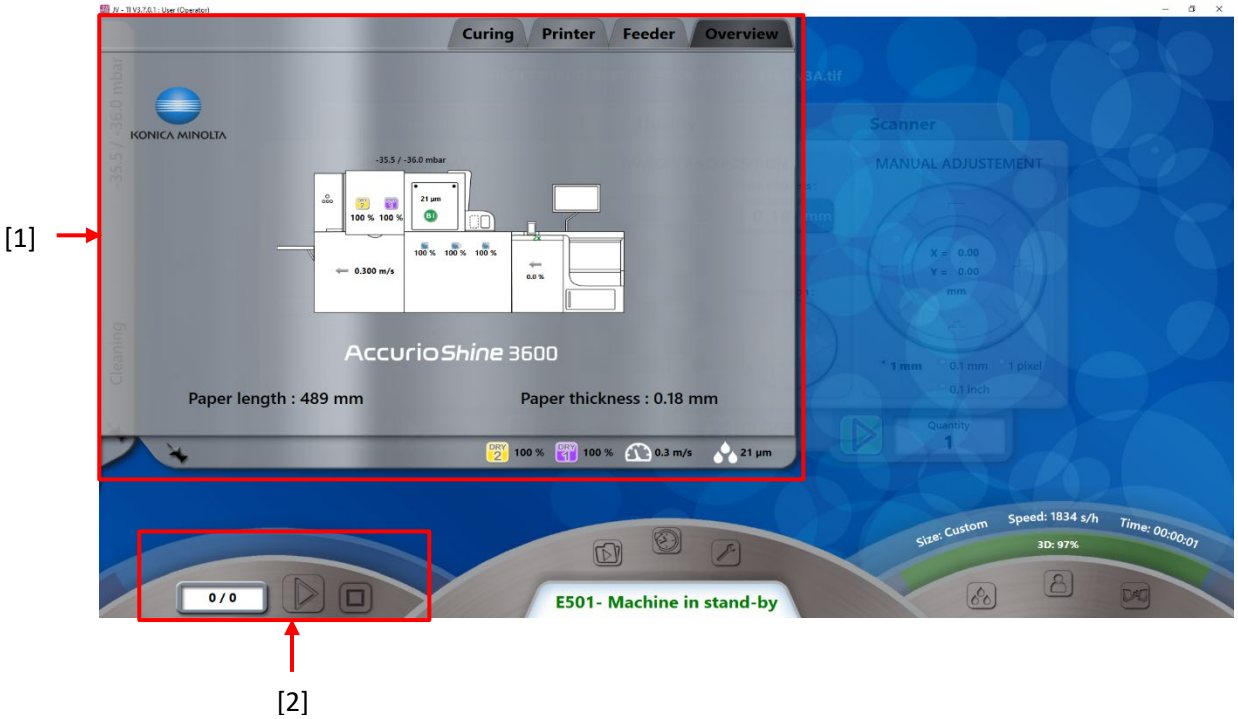
[4] Substrate length	Paper length : 450 mm	Display the length of the substrate.
[5] Varnish circuit diagram		Display the varnish circuit diagram.

12.4.5.5 Curing tab



[1] Curing unit location		• DRY 1: UV LED 5W located just after the print heads to freeze the varnish. • DRY 2: UV LED 20W located before the stacker to deeply cure the varnish.
[2] Curing power management		You can activate or disable a curing unit by clicking on the corresponding icon: You can adjust the power of each unit with the corresponding slider. **Default values:** • DRY 1: UV LED = 100% - can be changed based on your own applications & quality expectations • DRY 2: UV LED = 100%

12.4.6 Monitoring screen



[1] Machine settings		Refer to Chapter Feeder, Printer and Curing settings.
[2] Printing management	Factory.tif	Display the name of the printing file.
	0 / 1	Display the quantity to print.
		Click to pause the printing
		Click to stop the printing

12.4.7 Machine start button

The “PRINT/PAUSE” button ④ starts blinking in green when the operator clicks on the “Print starting” button (Refer to chapter Print Menu).

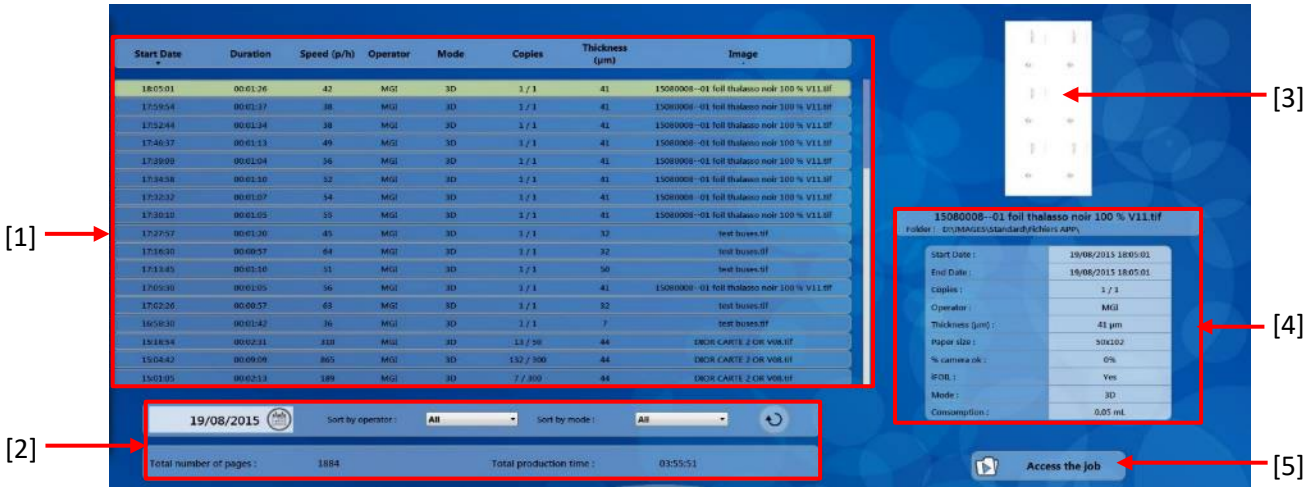
By clicking on this button, the machine goes in printing position and the belt starts to turn, then the Paper Feeder starts the page feeding process.

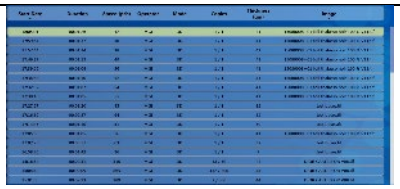
12.5 Printing summary

12.5.1 Summary window

[1] Printing summary	Total pages : 5	Total substrate to print
	Printed pages : 5	Total printed substrate
	Elapsed time : 00:01:14	Total time to print
	Ink : 0,000 mL	Total varnish consumption for the printed substrate
[2] Close button		Click on this button to close this window
[3] Details icon		Click to access to the detail listing of cameras detection

12.6 History



[1] Job history listing:		• Start date: printing date • Duration: duration of the printing • Speed: the number of sheets per hour • Operator: which operator has printed the file • Mode: the varnish used. 3D • Copies: number of copies was printed and asked • Thickness: the thickness of the varnish • Image: which file was printed
[2] History settings	19/08/2015	Date selection:

		A blue day means that at least, a printing was done this day.
	Sort by operator : All	Select “All” or select a specific operator
	Sort by mode : All	Select “All” or select a specific varnish
		Refresh button
	Total number of pages :	Total of printed file
	Total production time :	Total of printed time
[3] File preview		Display a preview of the selected file
[4] File information	15080008--01 foil thalasso noir 100 % V11.tif Folder : D:\IMAGES\Standard\Fichiers APP\	Display the name and the location of the selected file
	Start Date : End Date : Copies : Operator : Thickness (µm) : Paper size : Mode : Consomption :	• Start date: date when the file started to be printed • End date: date when the file stopped • Copies: number of copies was printed and asked • Operator: which operator has printed the file • Thickness: thickness of the varnish in microns [µm] • Paper size: format of paper used (Refer to Chapter 0 Position) • Mode: the varnish used. 3D • Consumption: quantity of varnish used for the printing
[5] Access the job	Access the job	Click to this icon to access to the selected file

The job history listing is permanently updated, each time a job is processed/printed.

Sample of a job history listing as an Excel format (csv)

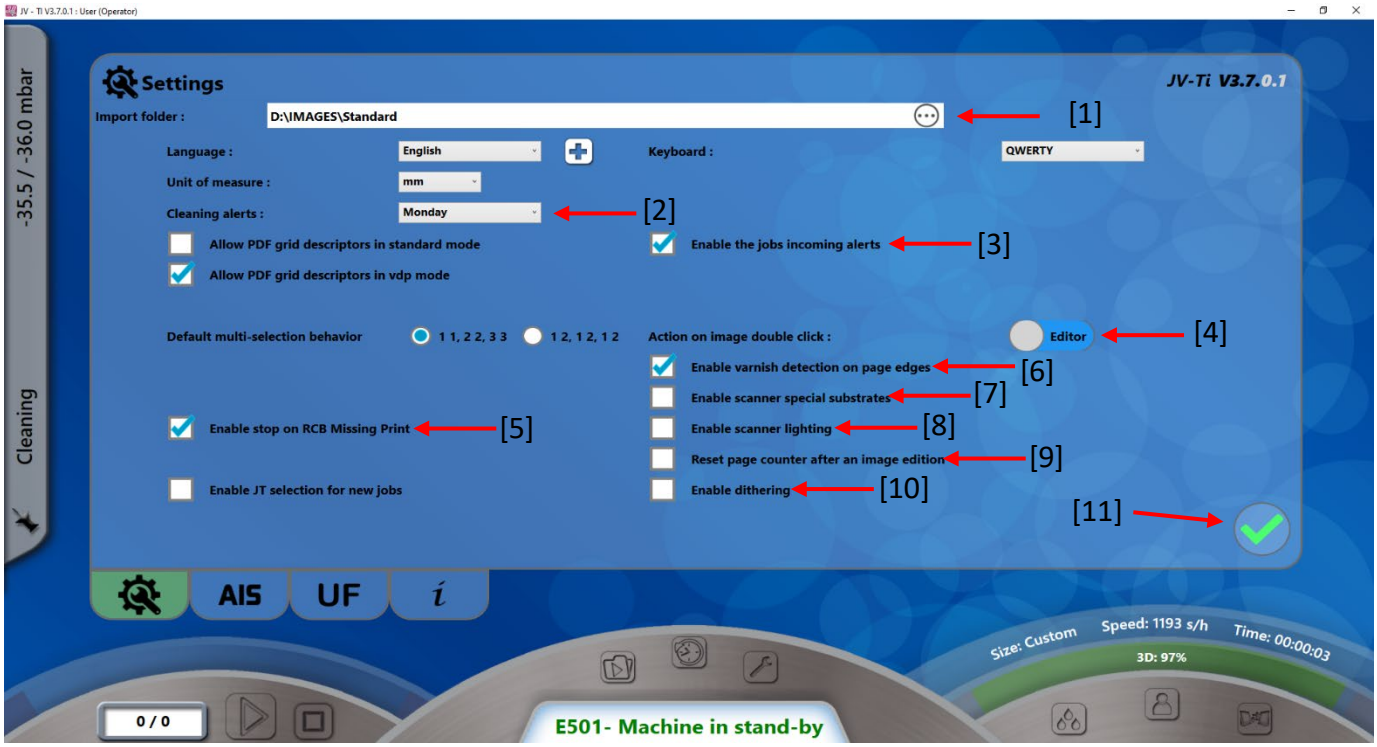
STARTING TIME	END TIME	C	D	E	F	PAPER FORMAT	Width	Lenght	JOB NAME	LOGIN	L	M	N	O	P	µ	iFoil	OVERLAP
08/02/2018 14:59:02:729	08/02/2018 15:00:20:413	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Factory.tif	KONICA	0	0	0	0	0	15.48980215	False	1
08/02/2018 15:00:42:033	08/02/2018 15:01:42:204	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Factory.tif	KONICA	0	0	0	0	0.48217869	15.48980215	False	1
08/02/2018 15:27:00:309	08/02/2018 15:29:08:664	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Factory.tif	KONICA	0	0	0	0	0.48217869	15.48980215	False	1
08/02/2018 15:37:30:774	08/02/2018 15:38:30:240	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Factory.tif	KONICA	0	0	0	0	0.48217869	15.48980215	False	1
08/02/2018 15:44:33:674	08/02/2018 15:52:38:592	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Factory.tif	KONICA	0	0	0	0	0.48217869	15.48980215	False	1
08/02/2018 16:31:13:393	08/02/2018 16:32:49:372	1	1	3	1	Custom	334.86	489.8	D:\IMAGES\Standard\MIRE SCANNER\calib.TIF	KONICA	0	0	0	0	0	9.385950845	True	1
08/02/2018 16:41:36:013	08/02/2018 16:42:44:909	1	1	3	1	Custom	334.86	489.8	D:\IMAGES\Standard\MIRE SCANNER\calib.TIF	KONICA	0	0	0	0	0	9.385950845	True	1
08/02/2018 16:53:44:433	08/02/2018 16:54:50:714	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.048331955	1.571637344	True	3
08/02/2018 17:01:04:827	08/02/2018 17:02:11:413	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.048405315	1.571637344	True	3
08/02/2018 17:02:41:729	08/02/2018 17:03:45:708	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.049925015	1.571637344	True	3
08/02/2018 17:06:55:585	08/02/2018 17:07:57:958	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.049987595	1.571637344	True	3
08/02/2018 17:14:36:573	08/02/2018 17:15:58:303	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04986394	1.571637344	True	3
08/02/2018 17:21:16:722	08/02/2018 17:22:14:782	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.0499345	1.571637344	True	3
08/02/2018 17:23:19:820	08/02/2018 17:25:10:720	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04996327	1.571637344	True	3
08/02/2018 17:30:51:272	08/02/2018 17:31:53:446	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3
08/02/2018 17:32:24:616	08/02/2018 17:33:49:863	6	6	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.28606914	1.571637344	False	3
08/02/2018 17:39:12:068	08/02/2018 17:40:36:099	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3
08/02/2018 17:42:36:832	08/02/2018 17:43:32:689	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3
08/02/2018 17:48:12:831	08/02/2018 17:49:10:798	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3
08/02/2018 17:50:37:984	08/02/2018 17:51:31:841	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3
08/02/2018 17:52:43:780	08/02/2018 17:54:10:621	1	1	3	1	SRA3	320	450	D:\IMAGES\Standard\FACTORY\Square.tif	KONICA	0	0	0	0	0.04767819	1.571637344	False	3

Meaning of all fields/columns

Column	Meaning
A	**Starting time**
B	**Ending time**
C	**Requested number of pages**
D	**Truly printed pages**
E	**Drop number (thickness)**
F	**Print bar number** (3D One has only one bar)
G	**Paper Format**
H	**Paper width**
I	**Paper Height**
J	**Job path**
K	**User**
L	**Camera XY: Success Percentage (no meaning with AIS)**
M	**Dead Pixels (0 = 2D, otherwise 3D)**
N	**iFOIL Enable (not implemented)**
O	**2D Varnish Consumption**
P	**3D Varnish Consumption**
Q	**Ink Coverage**
R	**Scanner Enable**
S	**Scanner Mode (1=FULL, 2= CROPMARK, otherwise WHITE)**

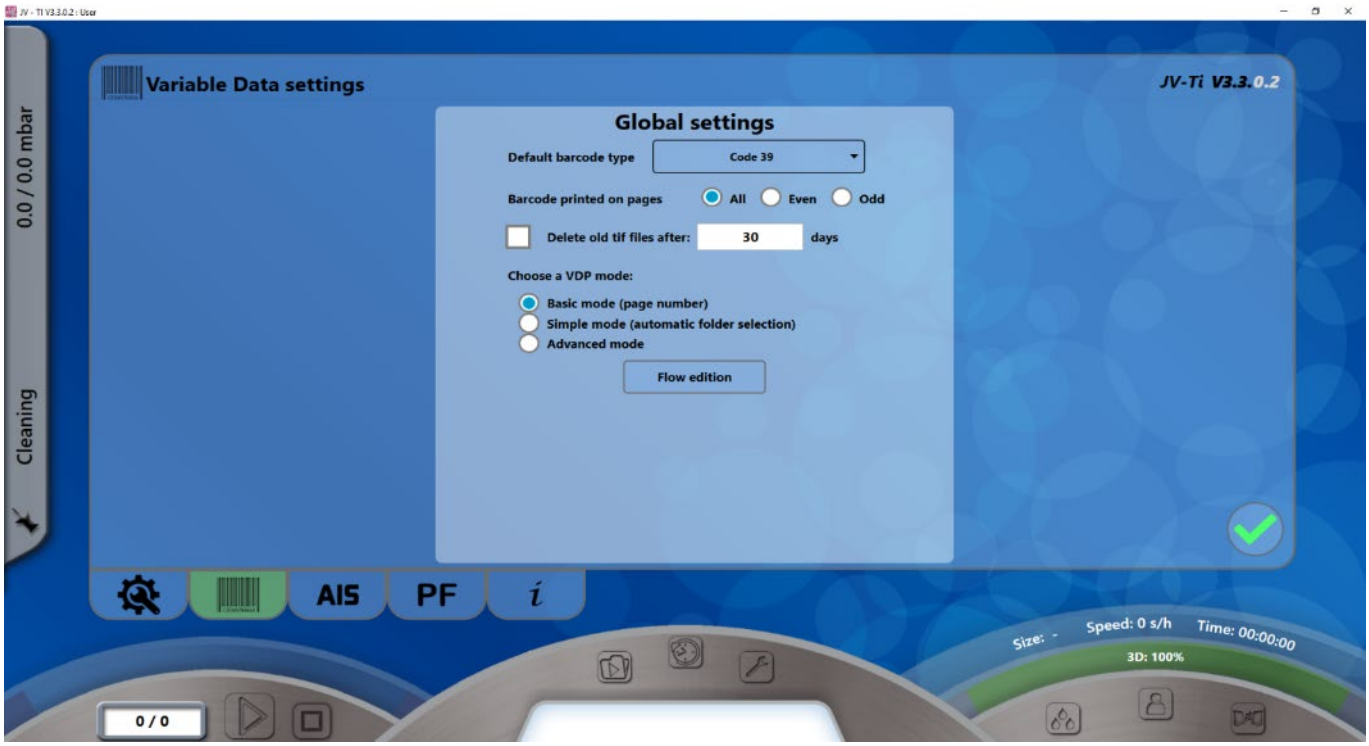
12.7 Settings menu

12.7.1 General settings tab



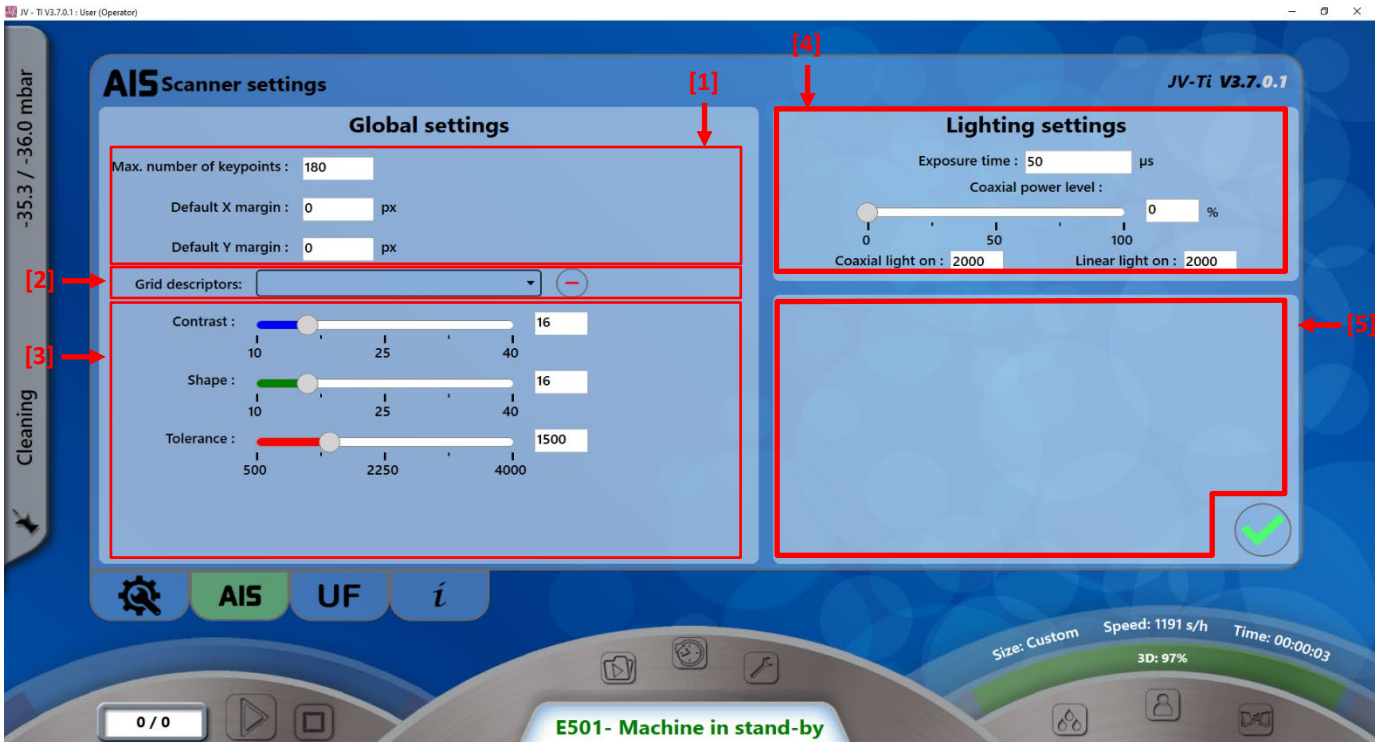
[1] Import Folder	Import folder : D:\IMAGES\Standard	Default folder for image import
[2] Cleaning Alerts	Monday	Timing of operator notifications for cleaning
[3] Enable Incoming Alerts	Enable the jobs incoming alerts	Enables a message when a job is imported.
[4] Action on Image Double Click	Editor	Determines if Image Editor opens on double click of image
[5] Enable Stop on Missing Print	Enable stop on RCB Missing Print	If enabled, when print data is missing from RCB, job will stop immediately.
[6] Enable Varnish Detection on Page	Enable varnish detection on page edges	If enabled, a message will appear before printing to warn that varnish is near edge of page.
[7] Enable Scanner Special Substrates	Enable scanner special substrates	If enabled, Special Substrate option will be available in Scanner Tab.
[8] Enable Scanner Lighting	Enable scanner lighting	Enables optional scanner lighting for special substrates.
[9] Reset Page Counter after Edition	Reset page counter after an image edition	If enabled, when an image is edited, the new versions page count will reset to 0.
[10] Enable Dithering	Enable dithering	When enabled, dithering will be available in the print settings dialogue.
[11] Save Changes to Settings		Saves changes to settings before exiting.

12.7.2 VDP settings



The VDP settings are only related to the optional Variable Data Printing when installed. To learn more about the Flow Edition, please refer to the external document: "*JV3D Series – VDP User Manual*".

12.7.3 AIS settings tab



The AIS settings are related to the AIS SmartScanner default parameters:

[1]
This panel is displaying the default parameters for Max. Pattern & Default X and Y margins as described in the “AIS SmartScanner User Manual”.

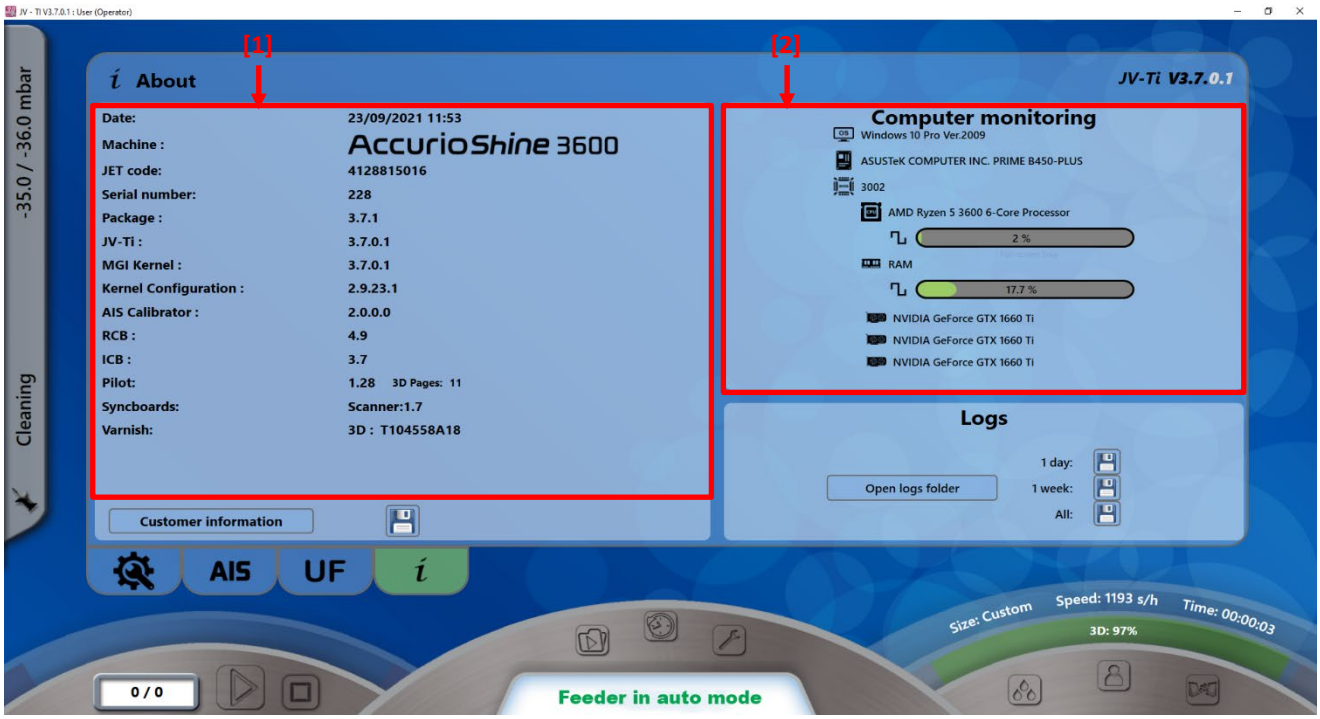
[2]
This panel is displaying the default Grid descriptor to be used as described in the “AIS SmartScanner User Manual”.

[3]
This panel is displaying the default parameters for **C**ontrast, **S**hape & **T**olerance as described in the “AIS SmartScanner User Manual”.

[4]
This panel is displaying the default parameter of the standard linear light. The exposure time corresponds to the length of time when digital sensor inside the camera is exposed to light – equivalent to the camera's shutter is open when taking a photograph. Default is: 158 µs (microsecond).

[5]
This panel is displaying the parameters of the coaxial light when the optional “AIS lighting for Metallized Substrates” is installed.

12.7.4 About/information tab



This tab is mainly to inform about the status of key components:

[1] List of all installed AccurioShine software and their respective versions
[2] PC Performance Workstation – main hardware components

In case of trouble when calling the hotline, this information can be asked of the operator.

12.8 Cost Calculator

The PC Cost Calculator, as well the Cost Calculator embedded in the JVTI, are computing the varnish consumption using absolutely the same computing rules:

The Cost calculation is based on 2 sets of data:

1) The target machine and its associated printhead type
2) The varnish job assumptions

You need to run the PC Cost Calculator **≥ V2.3** to support the AccurioShine 3600.

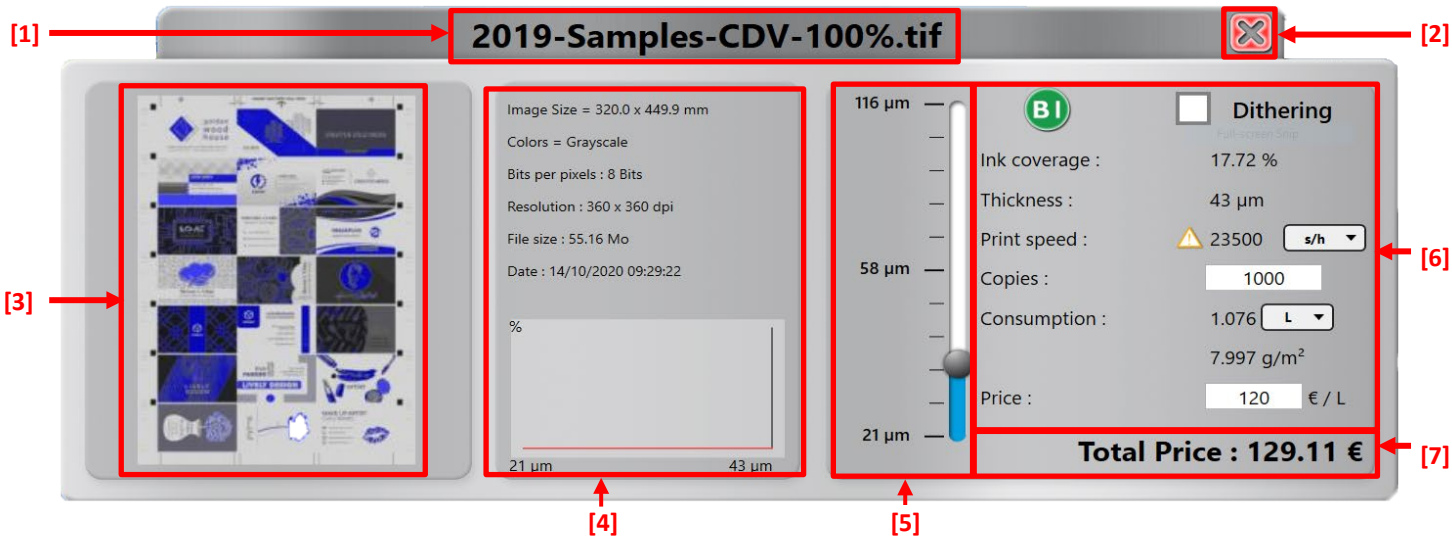
The varnish job assumptions are based on the TIF files provided. Then the software extrapolates two key items – average varnish coverage and surface of the overall varnished job (on the page or on the roll-to-roll label).

When a TIF file is not provided (only possible when running the PC Cost Calculator), only the manual input of the average ink coverage and page format are used for these calculations.

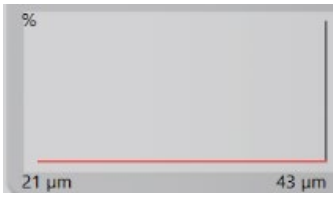
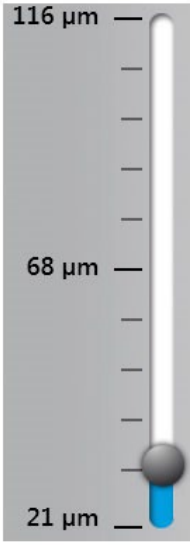
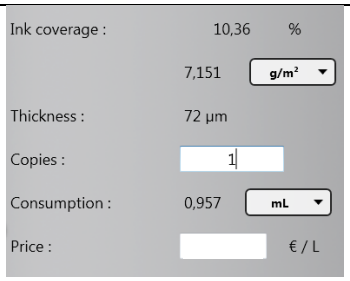
The consistency between the file format and the machine selected is not checked. Users are invited to input valid job format for the selected machine. (i.e the AccurioShine 3600 cannot physically handle a 50x70 cm sheet size).

The Cost Calculator estimations are based on the Factory Printheads setting, Continuous printing with no purge and no jam. The Consumption can vary if the Temperature and Power of the Printheads are different than the Factory recommendation, if several purge and power off sequence or paper jam have been done during the usage of the Varnish container.

Konica Minolta is not liable for the accuracy of the Cost Calculator information. Other technical factors not taken into consideration in the calculations, may influence the true varnish consumptions. The Cost Calculator values are given for information only and care should be excised not to attribute more reliability to these values than they warrant.



[1] File name	**2019-Samples-CSV-100%.tif**	Display the name of the file
[2] Close button		Click on this button to close the Cost Calculator
[3] File preview		Display a preview of the selected file: -In greyscale, the CMYK layer -In blue level, the varnish layer.
[4] File information	Image Size = 320.0 x 449.9 mm Colors = Grayscale Bits per pixels : 8 Bits Resolution : 360 x 360 dpi File size : 55.16 Mo Date : 14/10/2020 09:29:22	• Image size: display the dimension of the file (width and length) • Colors: display if the file is in grayscale or in color **The file must be in GRAYSCALE to be printed** • Bits per pixels: display the colors depth per pixel 1 bit means 1 bit per pixels = bitmap; 8 bits means 8 bit per pixels = grayscale • Resolution: display the resolution used to define the file **The file must be in a resolution of 360 x 360 dpi to be correctly printed** • File size: File size in Megabyte (Mo in French) • Date: Date of creation of the file

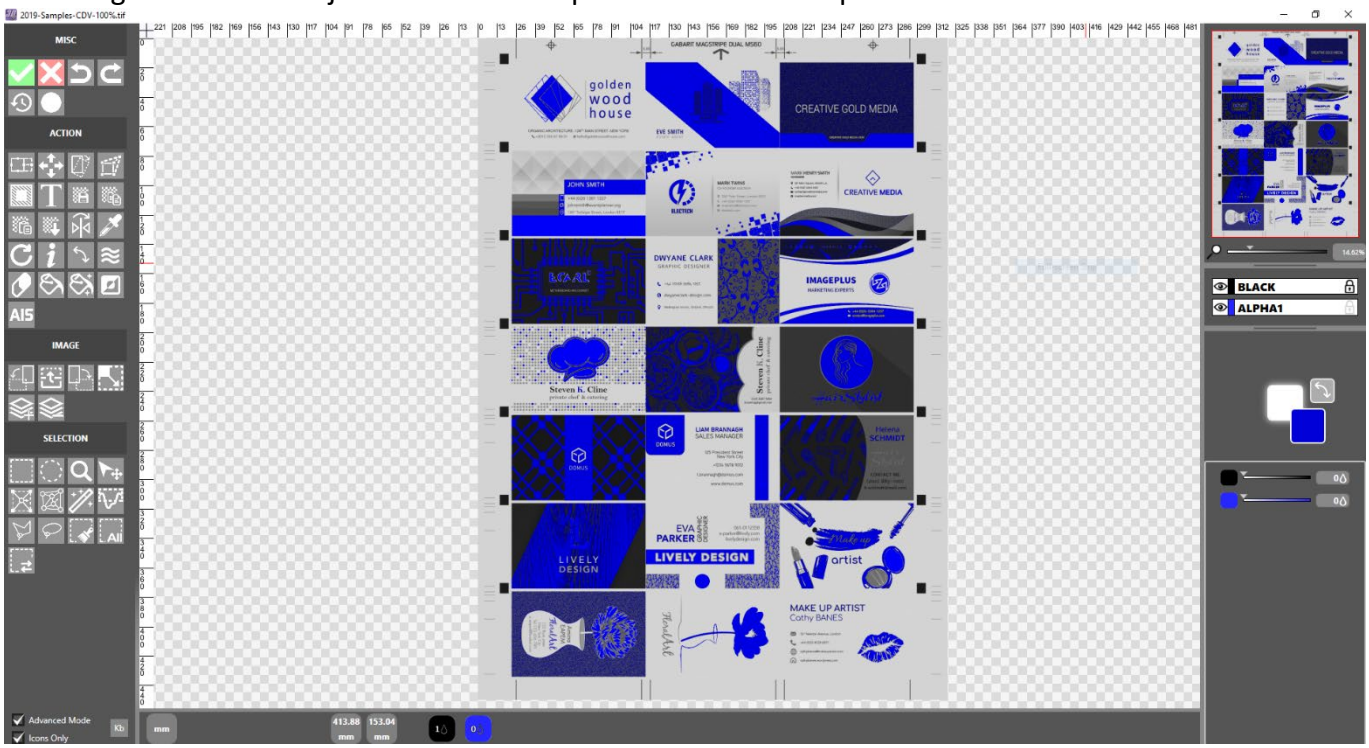
		Display a chart showing the percentage of each varnish shade (corresponding with grayscale shade)
[5] Thickness adjustment		You can adjust the thickness of varnish you want by using this slider.
[6] Cost information		• Ink coverage: Covered surface given by the file • Thickness: Maximum thickness adjusted by the operator • Copies: Number of sheets to print (by default 1,000) • Consumption: Quantity of varnish calculated with the Ink coverage. The Thickness and the number of Copies • Price per liter: Indicate the price par liter for the varnish
[7] Total cost	**Total Price: 129.11 €**	Display the varnish pricing for the number of copies wanted (default is 1,000).

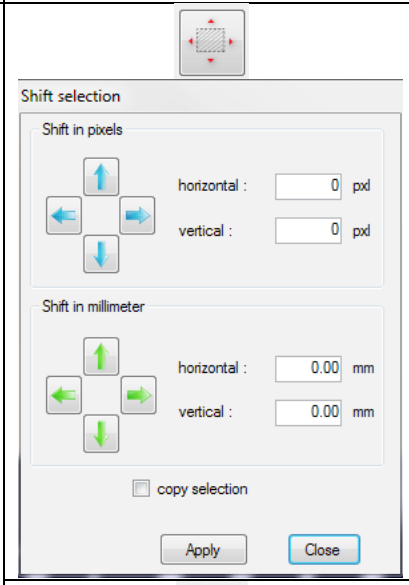
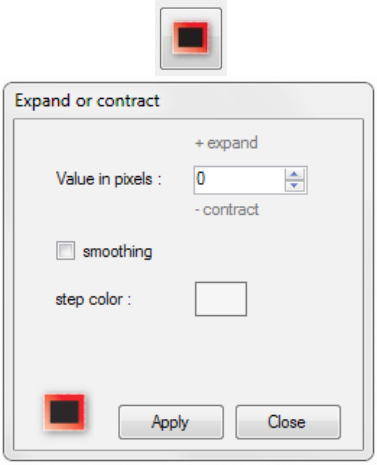
12.9 The Spot Varnish Editor

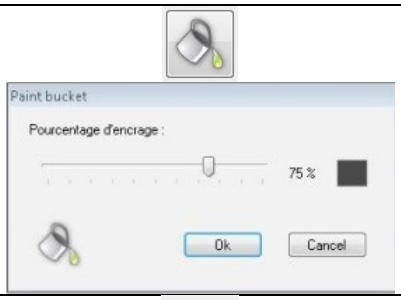
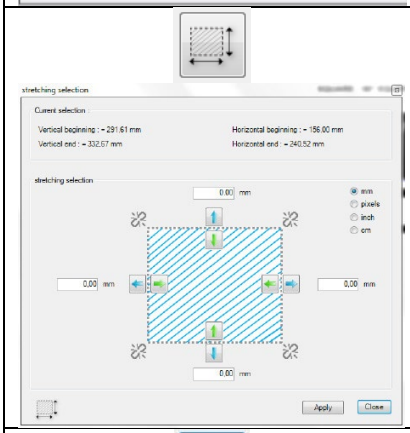
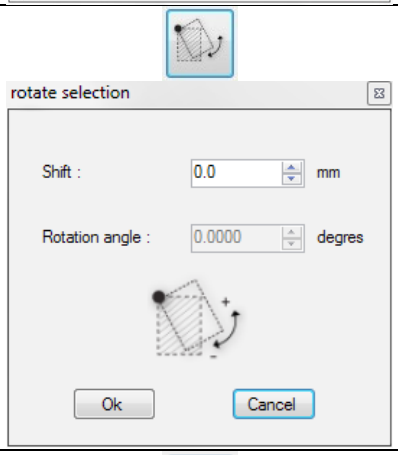
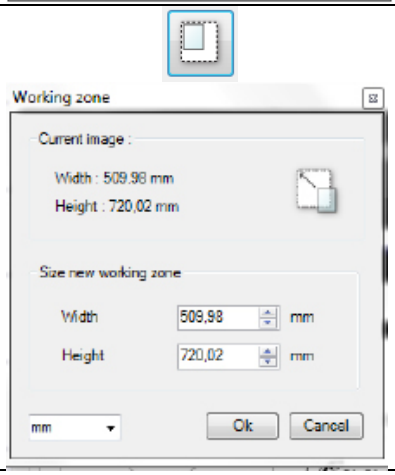
The Spot Varnish Editor is an embedded graphic file editor software. It can be accessed by double-clicking the file to be modified or clicking the edit button

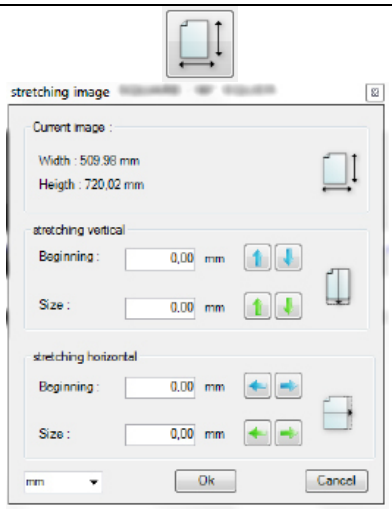
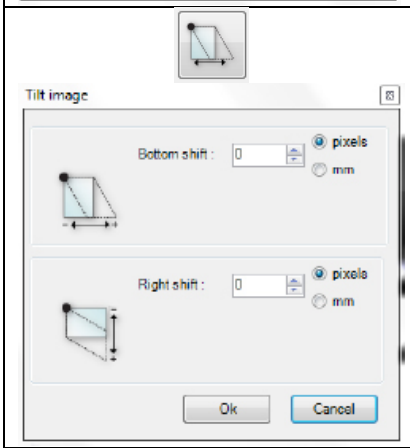
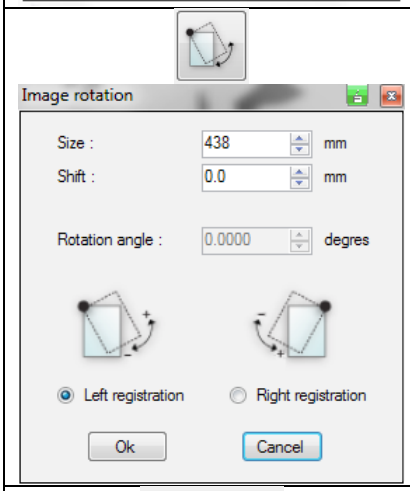
Edit Button

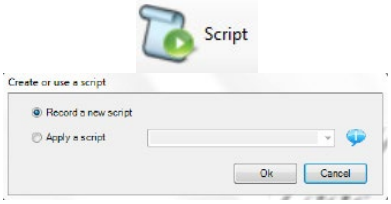
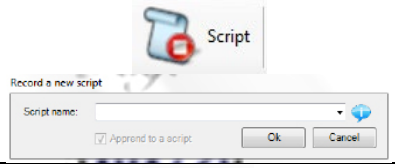
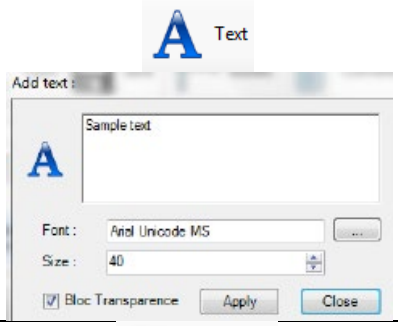
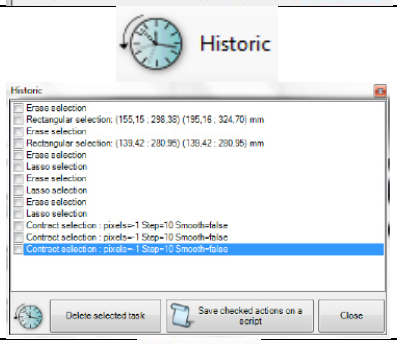
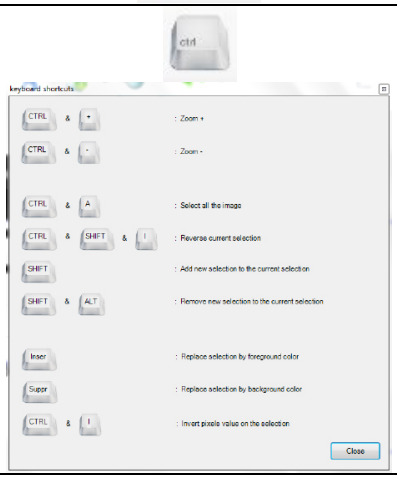
It is designed to make adjustments of all or part of the file to be printed.



Move tool		Used to move the image
Zoom tool		Used to zoom into a selected area
Selection tools		Used to make a rectangle selection of the image
		Used to make a selection using a magic wand tool on a shape as a function of its black density. Adjustment of the density tolerance is possible as well as activation or deactivation of the contiguous pixel parameter (all shapes having the same black density)
		Used to draw a random shape with no start and end point. This selection is of the lasso type.
		Used to draw using line segments a selection area having a start point and the same end point.
Selected tools		Used to move a selected area. Possibility of making up/down and right/left adjustments. Adjustments are made in pixels or millimeters (1 pixel = 0.07mm).
		Used to remove or add one or more pixels around a shape. This adjustment is particularly used in 3D mode to bold or unbold text or a shape.
		Used to erase the image within the selection.

		Used to fill a selection area according to a color percentage. Mainly used upon file misprocessing (90% black but not 100%).
		Used to stretch or compress a selected area along the vertical and horizontal axes. The stretch or compression is expressed in mm. inches or pixels. It is possible to fix a corner to stretch of compress proportionally in both directions.
		Used to rotate the selection area. with the fixed point being that at the top left of the area. This rotation is expressed in mm and the direction is negative in clockwise.
Image tools		Used to redefine the printing substrate format. This function trims or enlarges the working zone without modifying the image (maybe trimmed).

		Used to adjust the stretch of the printing substrate due to image stretching during printing. This stretch can be defined in length (printing substrate feed direction) or width.
		Used to adjust a trapeze effect on the global file.
		Used to set a general skew to the whole printed file. The operator must measure the skew as well as the position over the length at which the skew was measured.
		Used to rotate the total image clockwise or counter-clockwise. This rotation is of 90°.

Script		This function is used to apply an existed script or save a new set of settings (stretch. skew. etc.). and apply them to all selected files. This function is useful in two cases: • Machine compensation: if a printing machine regularly stretches on a given printing substrate. perhaps the setting is identical for all sheets output from this machine. and a script can be created for that machine on that type of printing substrate. • Variable data: lookup of page one then production following application of this script to all pages to be printed.
		To save a script. click on this icon. The software will automatically request for saving as a name to be defined.
Text		This function is used to add a text and define its font and letter size in the image. Click the icon and then select the desired text location using the cross. Define the text size and font and finally apply it for having it appearing on the image.
History		This icon is used to display the actions done on the Spot Varnish Editor from the last opening. You can still create a script from actions selected in the log.
		Used to return to the previous step. Caution: a selection is considered as an action.
Shortcuts		This icon is used to see all shortcuts available in this image retouching software. • Ctrl +: Zoom in • Ctrl -: Zoom out • Ctrl A: Select all the image • Ctrl Shift I: Reverse the current selection • Shift: Add a selection to the current selection • Shift Alt: Remove a selection to the current selection • Inser: Replace the selection by foreground color • Suppr: Replace the selection by back ground color • Ctrl I: Invert pixel value on the selection **Not on the list:** • Ctrl T: Texture menu

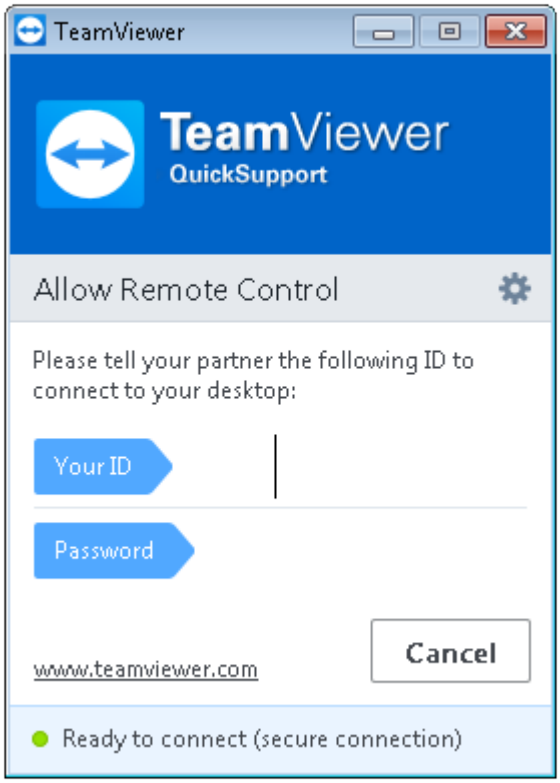
New utility
A new multimedia tool is available to show the main functions of the Spot Varnish Editor:

The Spot Varnish Editor Interactive Guide

It requires a PC with a Web browser to execute this utility.

12.10 Remote access

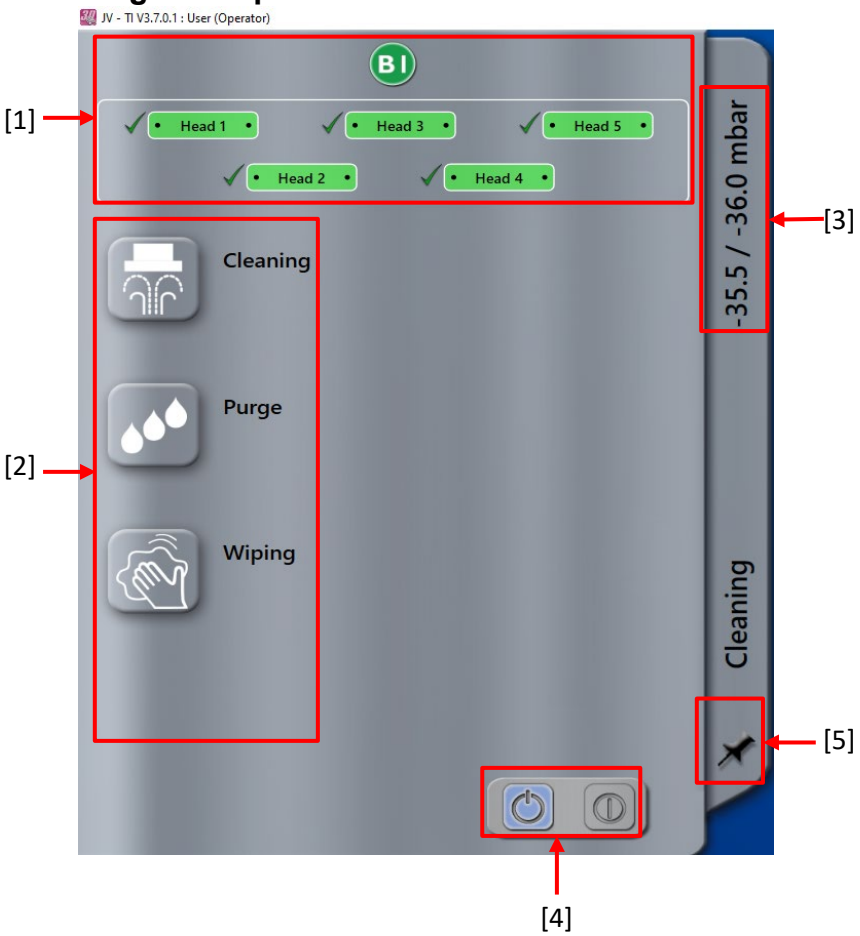
This icon starts the Remote Access software: TeamViewer (Refer to Chapter 12.2.1 Main menu)



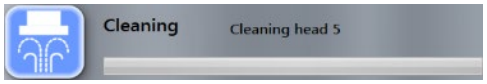
You have a 9 digits ID that you have to transfer your local Konica Minolta department by phone or email

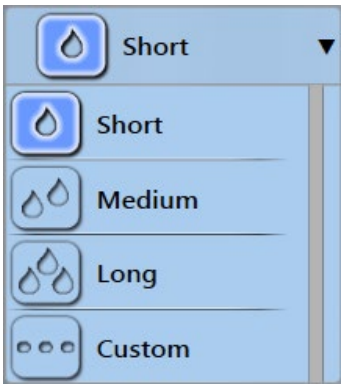
If you need to do a technical intervention on the machine, it is mandatory for a trained technician to be on site.

12.11 Automatic cleaning of the print heads

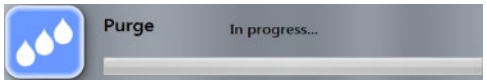


[1] Print heads selection You can select the entire print head by clicking on the BI icon. You can also select or deselect individually Head 1 a print head by clicking on its icon.		
[2] Cleaning maintenance selection		Cleaning of the print heads This action prevents varnish polymerization on the print heads. As cleaning the heads requires wiping, wiping is automatically selected when cleaning is selected. Two cases of cleaning are possible: - In the evening, after a working day all print heads are automatically cleaned but not wiped (MANDATORY ACTION). - On demand by the operator, with the possibility to select which print heads to clean. A wiping is mandatory to be able to print again.

		Once the start button is clicking to following window appear: Confirm your choice to clean the print heads. The following steps will be displayed. Wait until the cleaning is completed. 
		Purge A purge makes varnish run through all nozzles of all print heads in order to unblock these nozzles when missing lines appear on the printing. When the purging is selected wiping is mandatory and automatically selected too. The wiping is mandatory to be able to print again. Before starting a purge, select the duration of this one. You can select between Short (3 seconds), Medium (5 seconds) Long (8 seconds) or Custom (choose from 1 to 10 seconds).



When the duration is chosen. click on the starting button and wait that the procedure is completed.



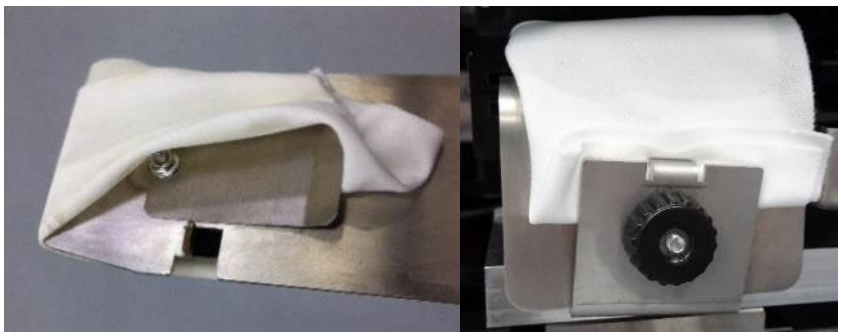
Wiping

Wiping can be done after a print head cleaning. and is mandatory after a purge of the AccurioShine 3600 printing system.

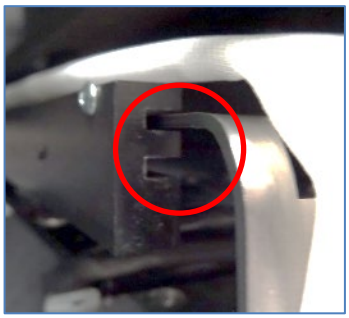
Wiping is common to all print heads of the machine.

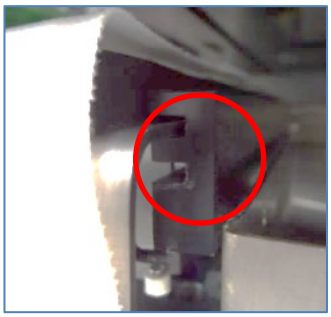
To make a wiping:

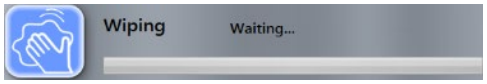
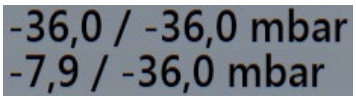
- Take out the wiping unit from the AccurioShine 3600 located on the back on the purging tray.
- Place a new wiping towel on the unit and lock it with the two holders at each end of the unit.



- Check that the wiping towel is flat.
- Put back the wiping unit into the machine in wiping position (top position).





		Once the wiping unit is in position the message for wiping can be acknowledge. Once the wiping is validated, the machine moves in wiping position. Wait until the wiping is completed. 
[3] Depressurization display The actual and standard value of depressurization into the Air/Varnish circuit.  		
[4] Starting and Stopping button 		
[5] Close icon 		

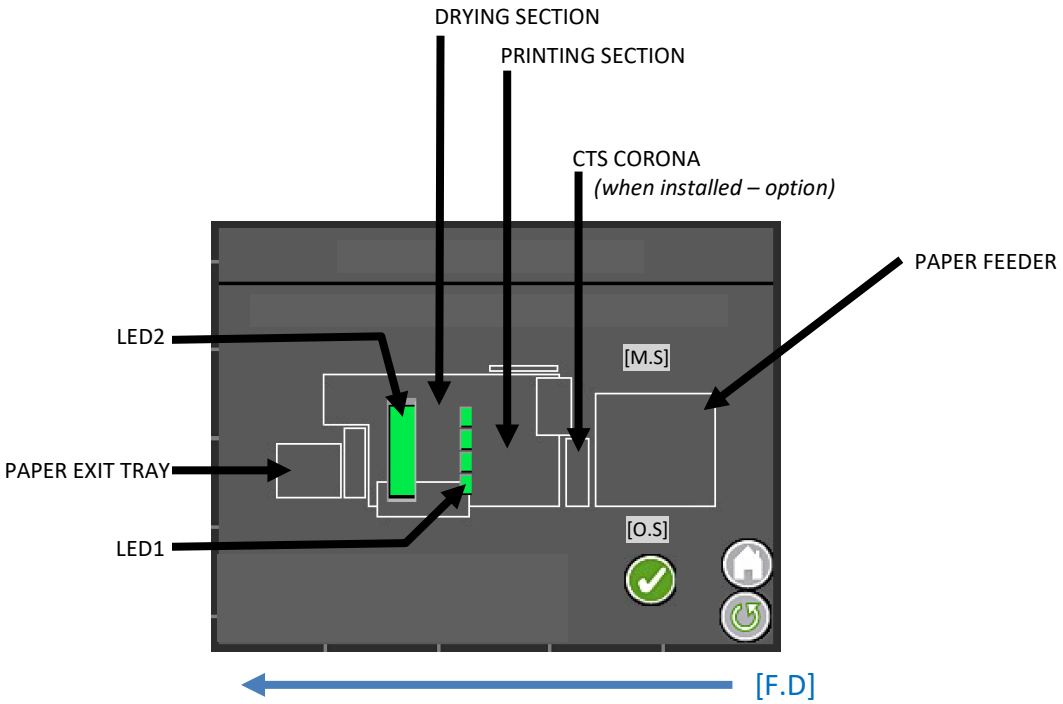
13 THE PILOT INTERFACE

The Pilot interface shows different menus or screens corresponding to either a user selection or an error reported by the equipment. This section is about

13.1 Pilot Error Screens

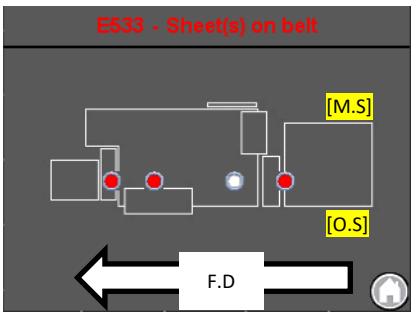
13.1.1 Graphical conventions

The Feeding Direction [F.D] arrow is not displayed in the screens. The [M.S] and [O.S] signs are not displayed either. It is there to make this document easier to read.

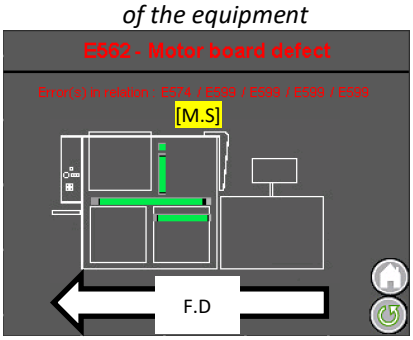


Top view – main modules & sections

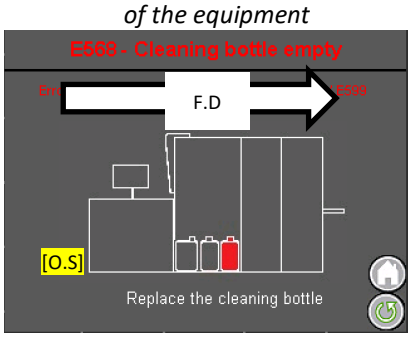
This is a top view of the equipment



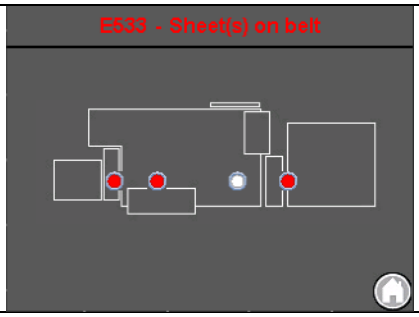
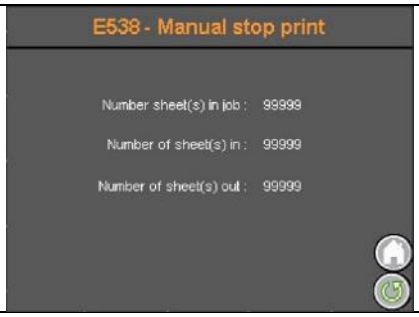
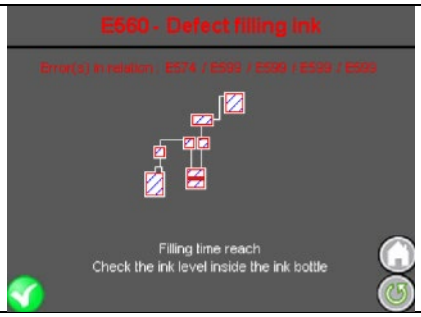
This a front view [Operator Side] of the equipment

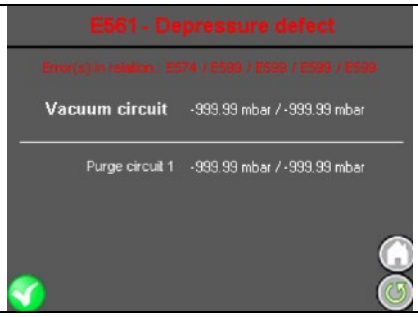
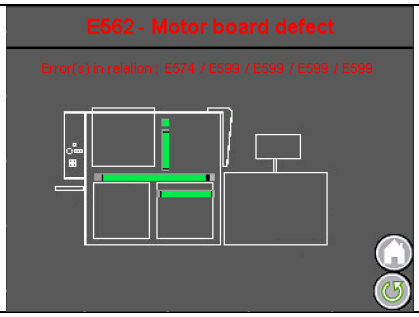
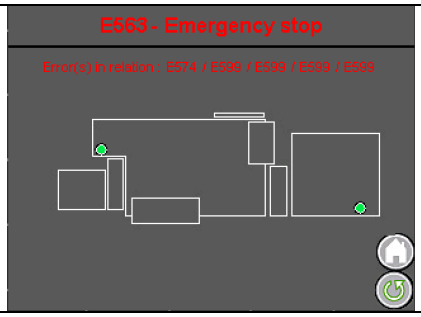


This a rear view [Maintenance Side] of the equipment

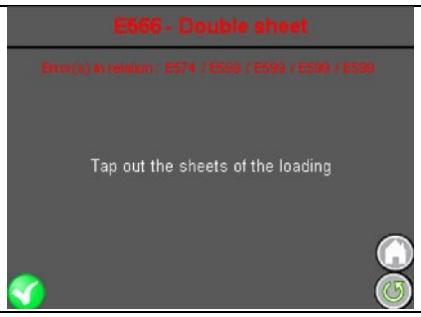


13.1.2 Errors from E533 to E563

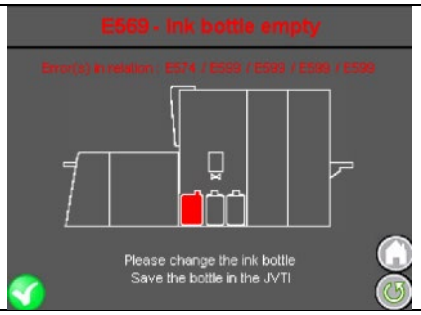
Error E533	Error E538	Error E560
		

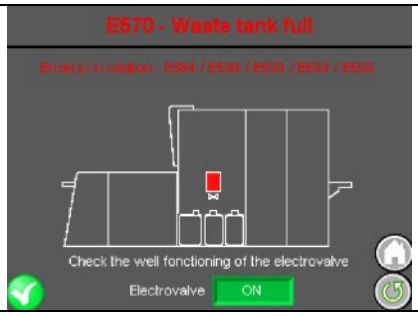
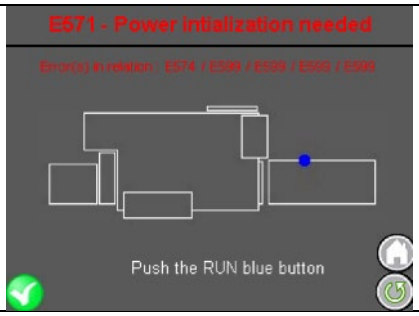
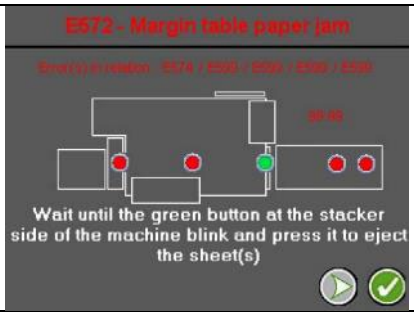
Error E561	Error E562	Error E563
		

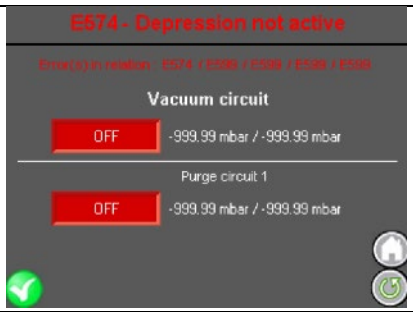
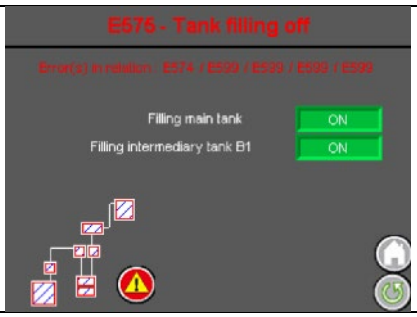
13.1.3 Errors from E564 to E575

Error E564	Error E565*	Error E566
		

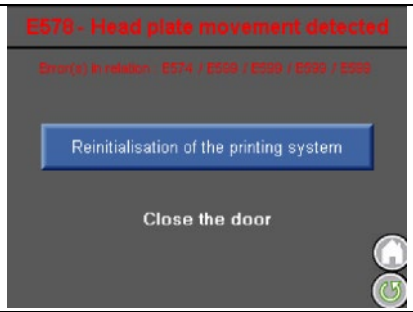
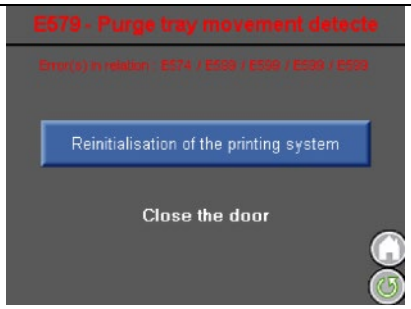
***For the Error E565, please see more details on the following pages**

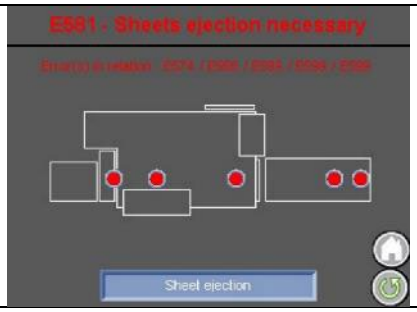
Error E567	Error E568	Error E569
		

Error E570	Error E571	Error E572
		

Error E573	Error E574	Error E575
		

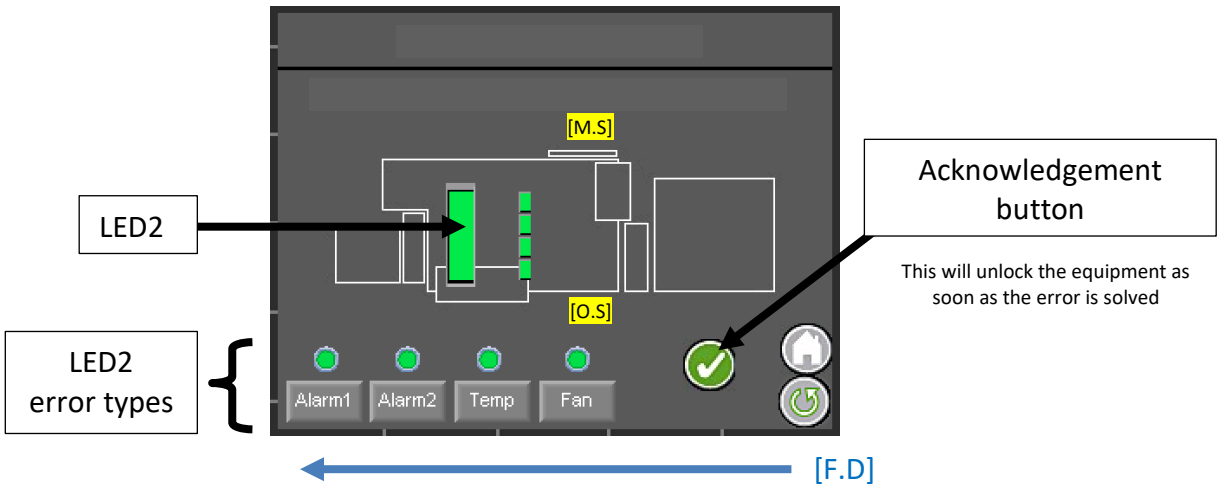
13.1.4 Errors from E578 to E581

Error E578	Error E579	Error E580
		

Error E581


13.1.5 Error E565 in details (and E599)

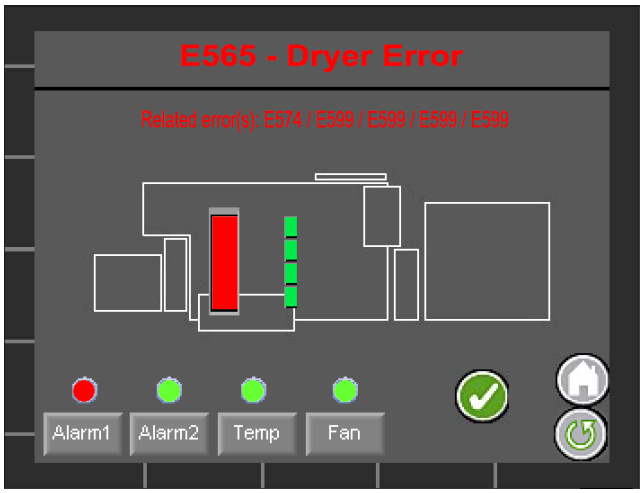
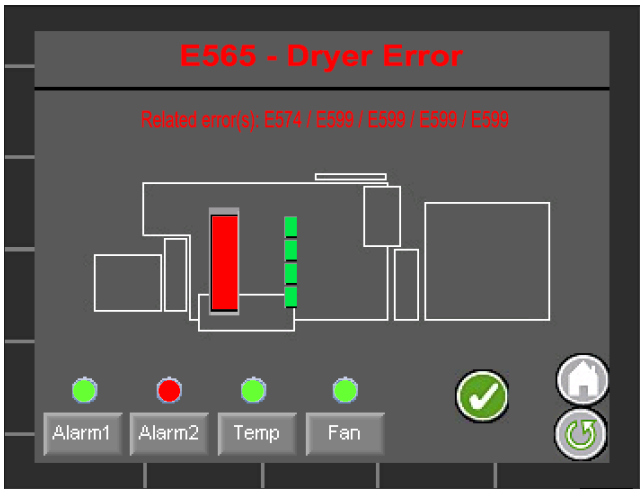
When running the PLC firmware from V1.31 and with the new LED2 wiring kit, this LED is better reporting the errors that occurred.

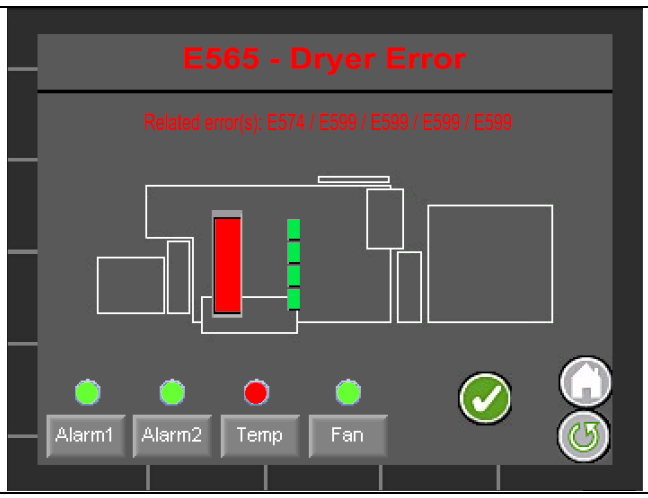


LED screen status – normal conditions

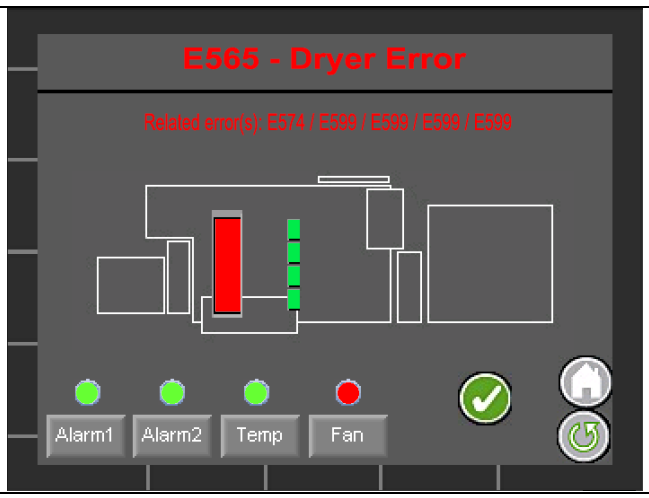
Up to 5 errors from the LED2 can be reported back to the operator

The LED2 module turns red and one or several dot(s) turn red, too.

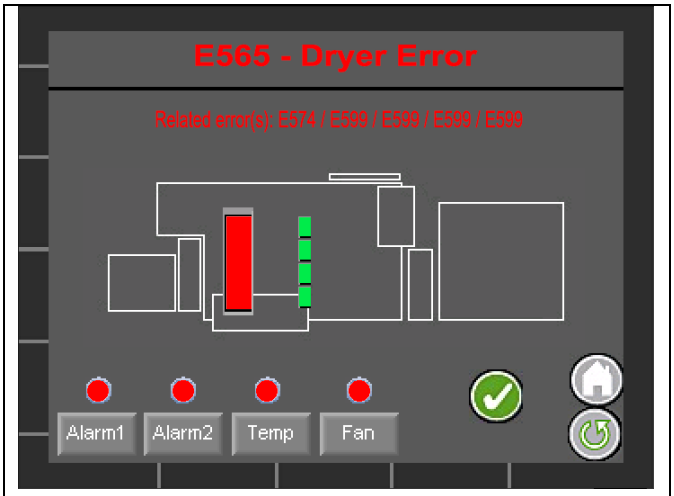
	
The Alarm1 is ON Please report it to your technician with all the details. When the **Alarm1** condition will be solved, the equipment restarts the production.	**The Alarm2 is ON** Please report it to your technician with all the details. When the **Alarm2** problem will be solved, the equipment restarts the production.



The Temp alarm is ON
Please report it to your technician with all the details. When the **Temperature** problem will be solved, the equipment restarts the production.



The Fan alarm is ON.
Please report it to your technician with all the details. When the **Fan** problem will be solved, the equipment restarts the production.



The four alarms are ON – Please report it to your technician with all the details. When the overall LED2 problem will be solved, the equipment restarts the production.

14 AIS SMARTSCANNER SYSTEM

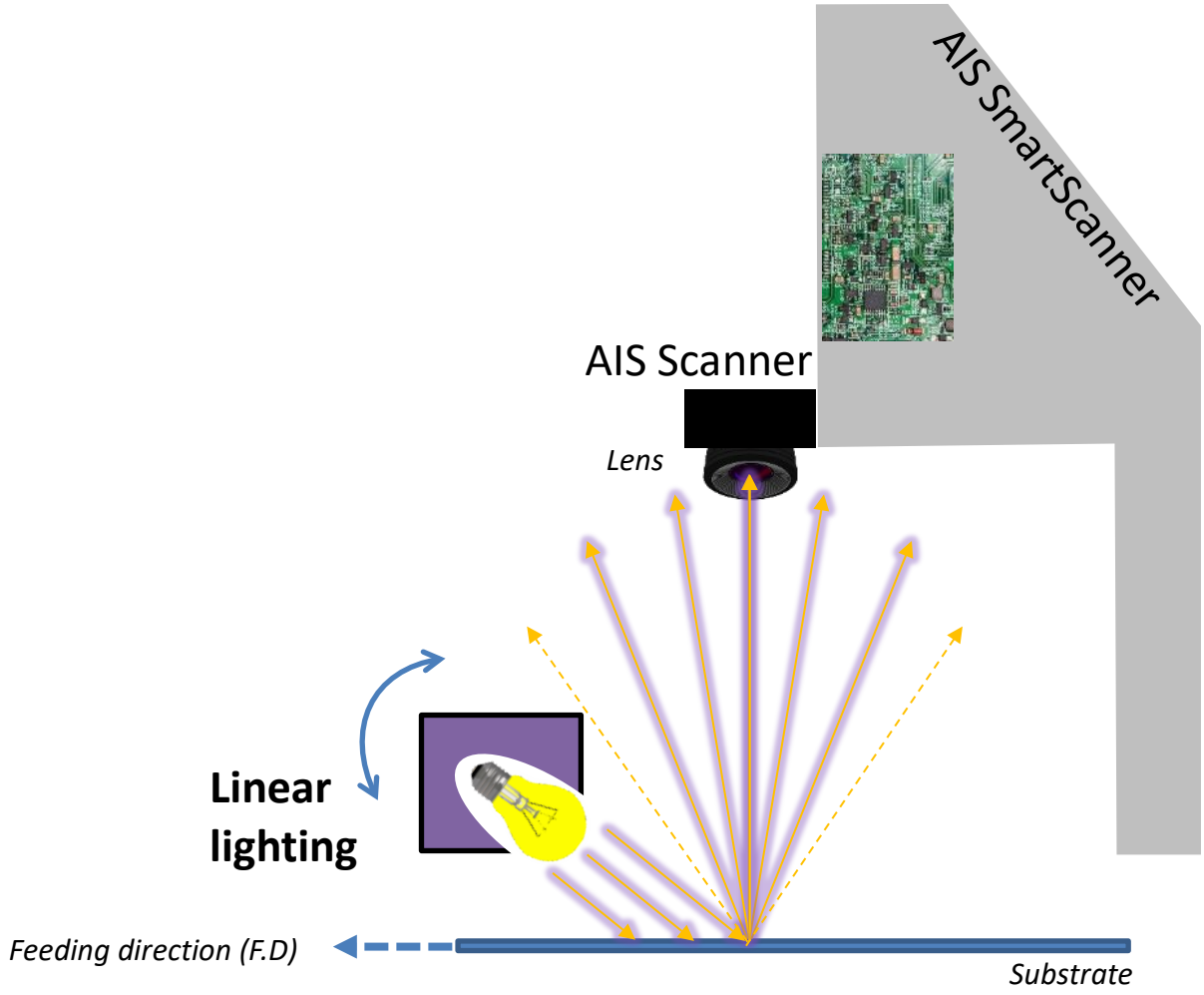
Please refer to the separate User Manual – *AIS SmartScanner User Manual*

15 LINEAR OR COAXIAL LIGHTING?

15.1 Linear lighting

By default, the AccurioShine 3600 comes with the AIS SmartScanner having a linear lighting. This is the perfect lighting method for lighting all kinds of paper, laminated surfaces and coated/uncoated substrates. The linear lighting can be adjusted with a tilt angle.

The working principle is the following:



AccurioShine 3600

Operator Side [O.S] – cross section

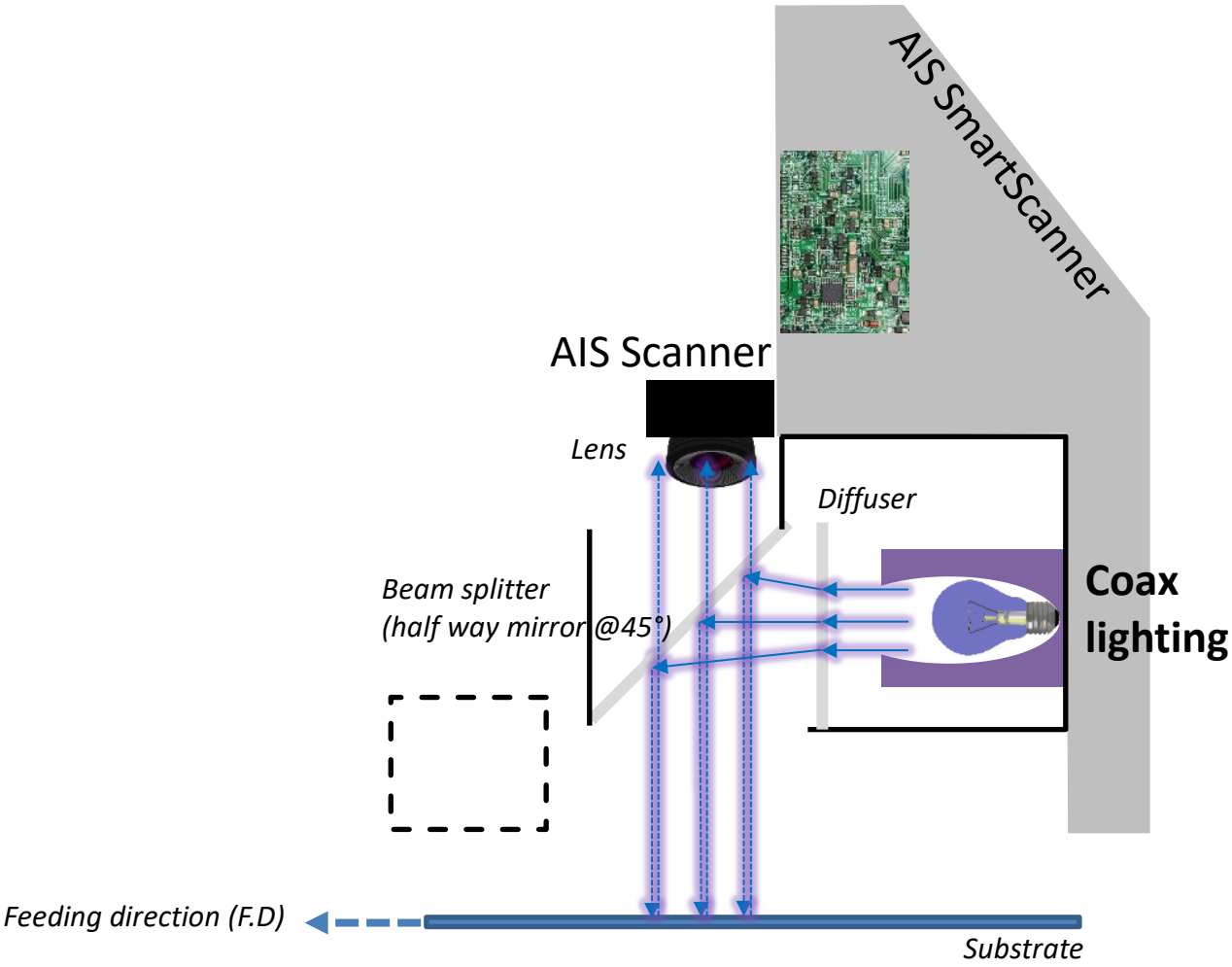
This limit of this lighting system (or lighting by diffusion) comes when the substrate is very reflective, such a foiled or a metallized surface. The AIS SmartScanner is becoming blind (partially or totally) and therefore, the image acquisition is no longer accurate and/or the keypoints are impossible to find.

15.2 Coaxial lighting

When ordered from factory or as a retrofit option, the AccurioShine 3600 may come with an additional coaxial lighting system specially designed for metallic substrates. This becomes a good lighting method for foiled and metallic surfaces. To activate this lighting, choose the “Special Substrate Mode” within the AIS Scanner tab in the JVTi.

In fact, when the Coaxial lighting is ON, the Linear lighting remains ON, too.

The Coaxial Lighting working principle is the following:



AccurioShine 3600

Operator Side [O.S] – cross section

The light and its light beams are blue, but this is for an illustration purpose only.
The color of this light is really **white**

The following pictures show how a highly reflective object (a metallic ruler) reacts when lighted by the two lighting methods:

Linear lighting

Coaxial lighting

a) Linear lighting
When using the linear lighting diffusion onto a reflective object, this one is seen with blurry edges and too strong contrasts. It is **NOT OK** for the AIS SmartScanner/keypoints.

b) Coaxial lighting
When using the coaxial lighting onto a reflective object, this one is seen with sharp edges and homogeneous contrast. It is **OK** for the AIS SmartScanner/keypoints.

Please note when the coaxial lighting is installed and activated, the **linear lighting** is still ON and helps to the overall lighting quality. The only way to activate the coaxial lighting is to activate, through the JVTI, the Special Substrate mode. Please refer to the AIS SmartScanner User Manual.

16 WORKING METHOD WITH THE ACCURIOSHINE 3600

The following steps have to be followed in order to register a job to be varnished and it covers the simplest working method for operating the AccurioShine 3600.

1- Load a paper pile into the Paper Feeder

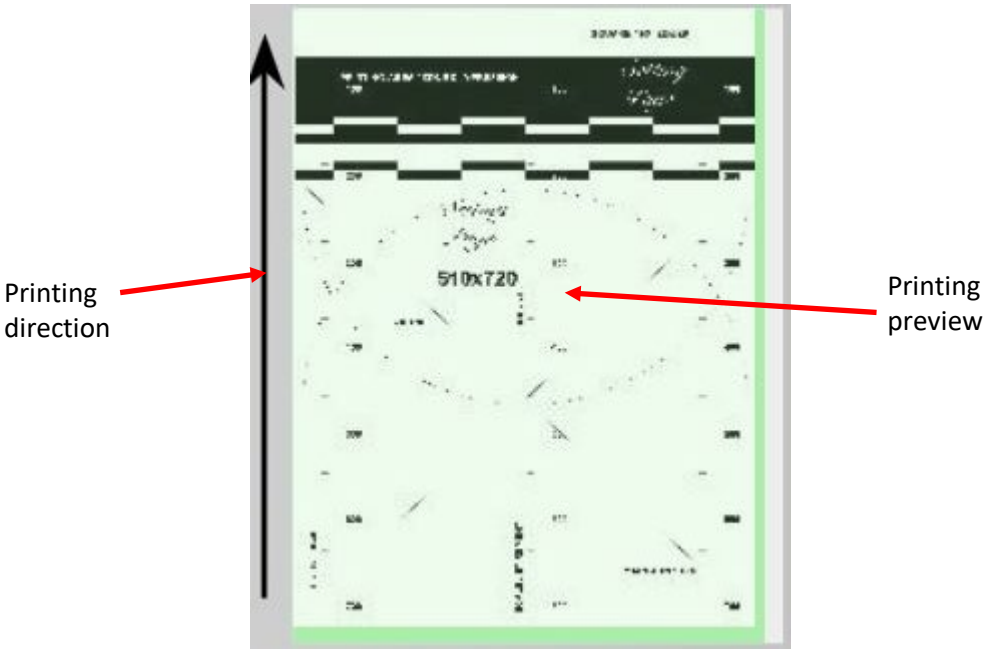
2- Select the file to be printed in standard mode

Select the folder in which the file was located and then select the file to be printed.

Press print button in order to open the printing parameters of the job to be varnished.

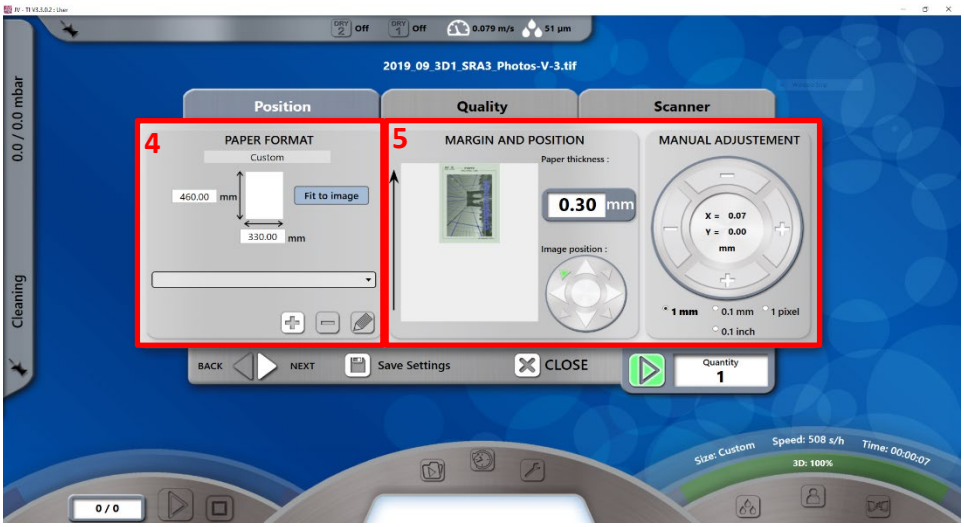
3- Check that the file and printing substrate feed are consistent

In the correct direction given by the preview on the JVTi (if this is not the case. it must be edited in the Spot Varnish Editor using the 90° rotation function).



4- In the position tab, set the printing substrate format or create it if it does not exist.

5- In the position tab, set the image position (left or right or file position in center).



6- The profile is used to automate the setting part (thickness printing mode, machine speed, drying, etc.).

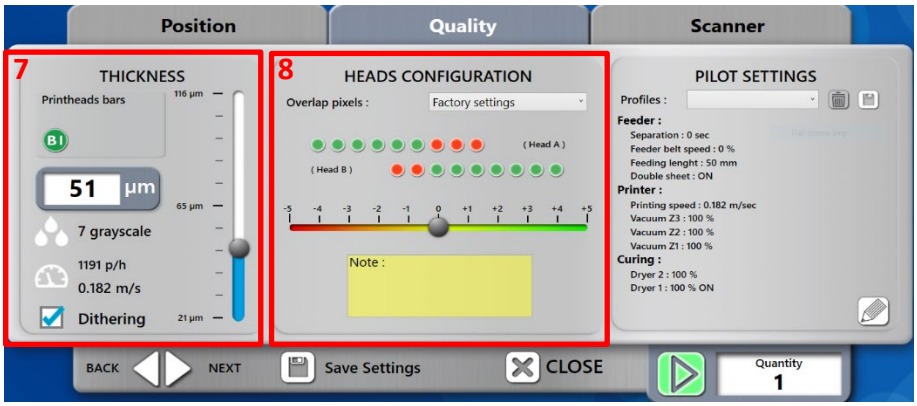
A profile is associated with a varnish thickness which determines a printing speed, drying, and many other parameters.

If no profile was defined, please follow the following steps; if a profile is selected, please skip steps 7, 12, 13 and 14.

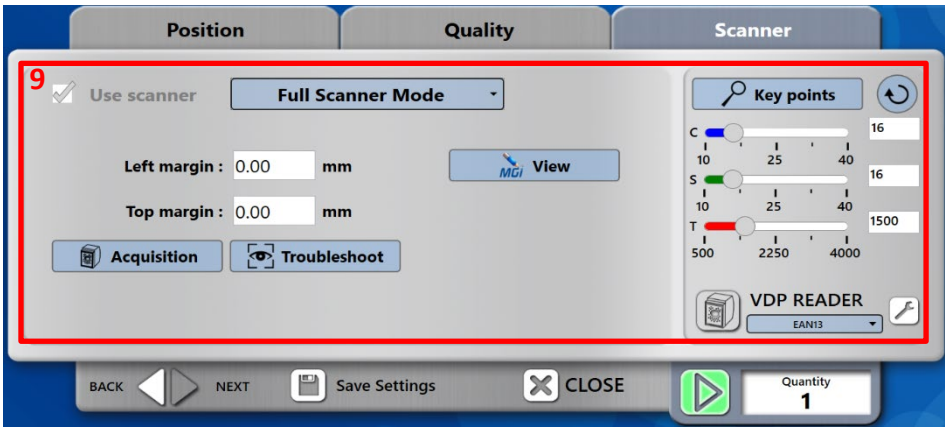
7- In the Quality tab, please indicate the maximum thickness desired on the document (black thickness at 100% in the tiff file).

8- In the Quality tab, please select the printing mode:

2D, 3D or custom, according to the user application. This parameter sets the inkjet print head overlap as a function of the varnish thickness. Manual adjustment is possible should printing defects be visible.



9- In the Scanner tab, select the scanner mode and options you want to use.



Within the AccurioShine 3600, the "**Use scanner**" mode is always selected.

Then, the simplest and most efficient way to use the scanner is to run in "Full Scanner Mode"

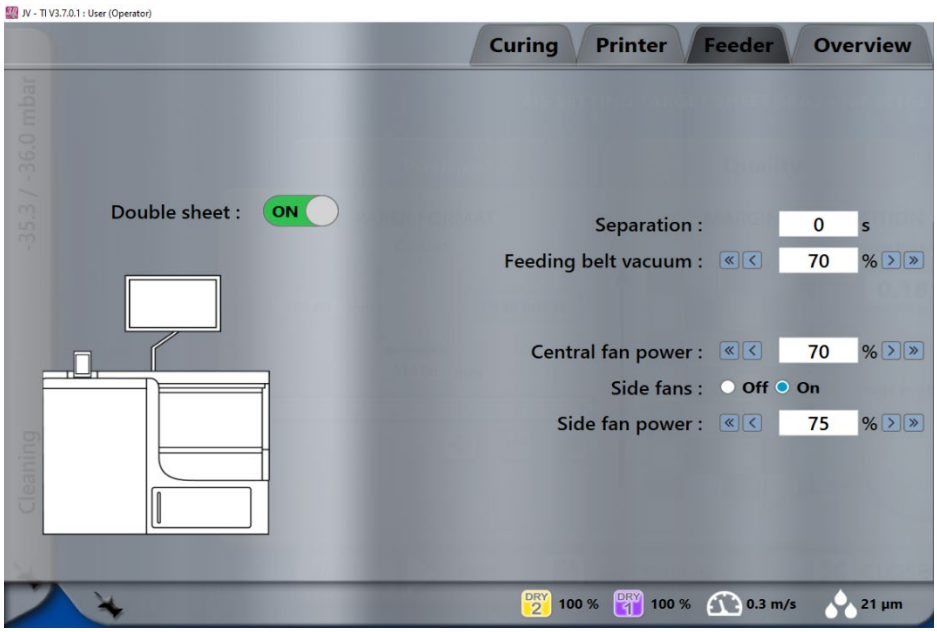
With a standard AccurioShine 3600, the "**Special Substrate**" mode is not showing up. It dynamically appears when the optional A*IS Lighting System for metallized substrates* is installed (at the factory or any time, as a retrofit)

To learn more about the AIS SmartScanner, please refer to an external User Manual "*JV3D Serie – AIS SmartScanner User Manual*".

10- Set the Quantity of printing at 1 sheet.

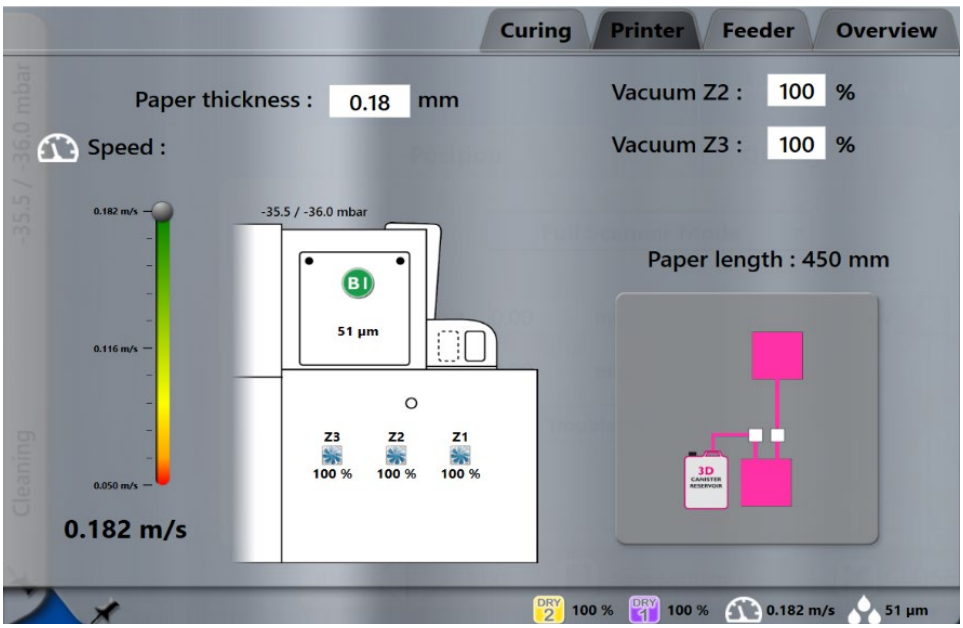
11- Click on the to access to the parameters

12- Select the Feeder tab, and set the following parameters



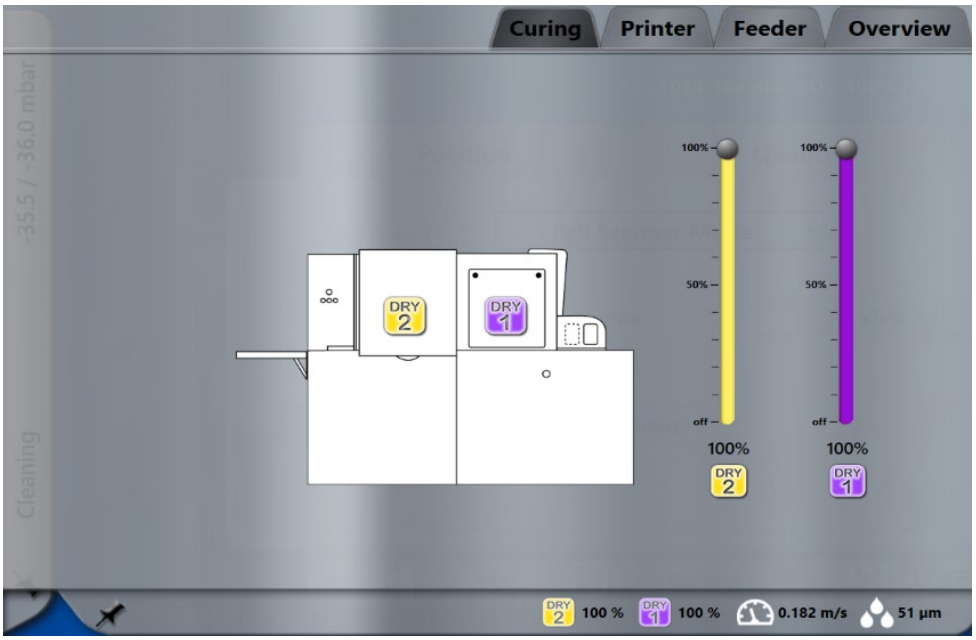
- Double sheet sensor = ON

13- Select the Printer tab and set the following parameters



- Z2 = 100%
- Z3 = 100%
- Paper thickness = must be compliant with the value of the paper currently loaded in the Paper Feeder
- Speed = Default speed is linked to the number of varnish drops previously selected. If you have a curing/drying issue, the Speed slider can help you reducing the production speed and therefore, increasing the time spent under the UV LEDs. This will translate into a better (deeper and longer) curing stage.

14- Select the Curing tab and check the following parameters

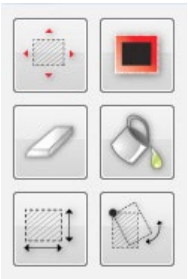


- Dry 1 = **100%** (default value)
- Dry 2 = **100%** (default value)

15- Once theses parameters are set, you can click on the green flashing button ④

16- The Paper Feeder picks up a sheet and carry it to the printing belt. Once arrived on the printing belt, the scanner analyses the sheet for a possible error correction. Then, the print heads fire the varnish according to the TIFF image previously selected by you (with/without any error correction). Immediately after, the fresh varnish is frozen by the LED1 which is deeply cured by the LED2. Then the sheet is ejected in the paper exit tray.

If the tiff file is accurately placed on the CMYK image within the file, the scanner will read the image on the sheet as it passes, and in real time it will create a new tiff file, which it will automatically adjust for stretch/skew/registration etc, (within a tolerance of +/- 200 microns).
If you need to adjust the tiff file further, you can use the Spot Varnish Editor to adjust any object (bold/unbold, move, stretch, skew, etc.)



Now that varnish is registered with the CMYK print, please enter the number of copies to be printed, and validate with OK.

17- **If the Paper Feeder does not succeed to pick up a sheet after 2 minutes of unsuccessful attempts, then, the equipment goes automatically in Pause mode.** If the equipment stays in pause mode for more than 10 minutes, the job in memory is flushed and the Print cradle moves over the purge tray. The equipment goes in “Idle mode” and is waiting for another job.

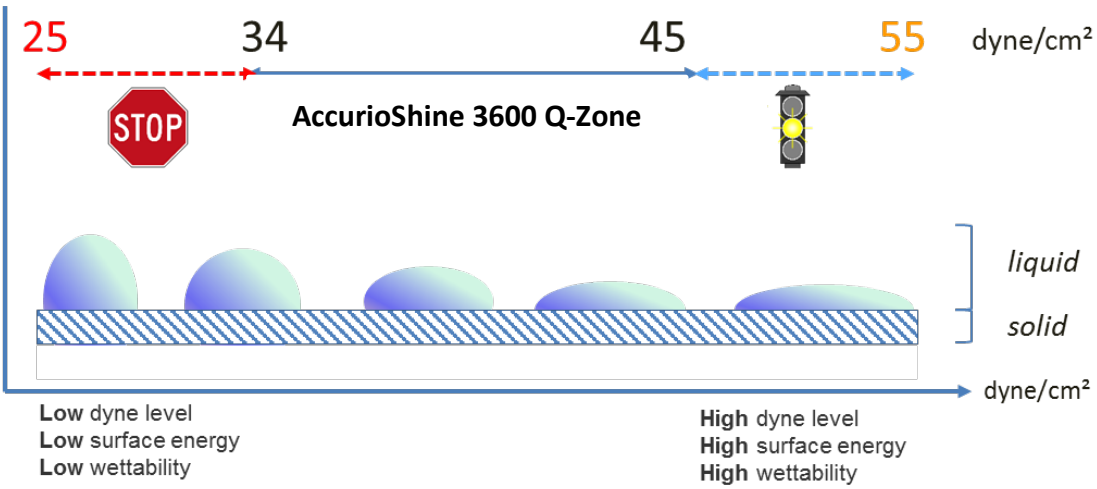
17 WETTABILITY & DYNE LEVEL

17.1 What is the “dyne level”?

Dyne level is a standard level to express how easily liquids (such as ink/glue/varnish), can be spread across the surface of the solid receiving these liquids. This is the wettability concept. In general, it can be said that higher the dyne level is, easier the liquid is spread on the surface (see the graphic below).
For example, a plastic material has a lower dyne level, and needs surface treatment. However, how far the dyne level has to be increased is different depending on the application.
Using a dyne pen set, the user can easily determine the wettability. Always use dyne pens which are within their expiry date when the wettability is measured.

17.2 Dyne level (wettability)

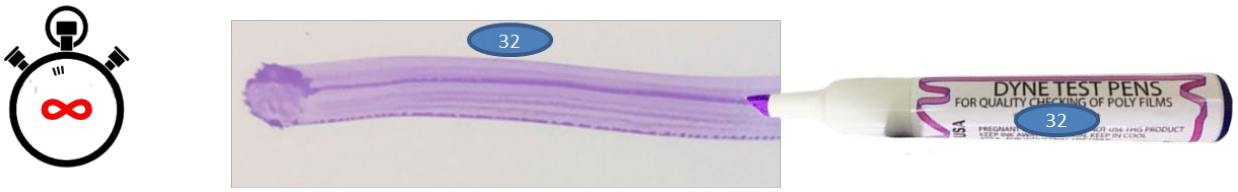
In general, substrates higher in dyne level increase the smoothness of the varnish. On the other hand, lower dyne level substrates improve the quality of thin lines whereas smooth flat surfaces are degraded. For the AccurioShine 3600, the minimum Dyne level should reach **34**. Make sure the dyne level using a dyne pen in a preparation test. **Other dynes value greater than 34 are OK.** The higher it is, the better is the wettability unless you are reaching a too strong wettability leading to an unrecoverable deterioration of the sharpness.



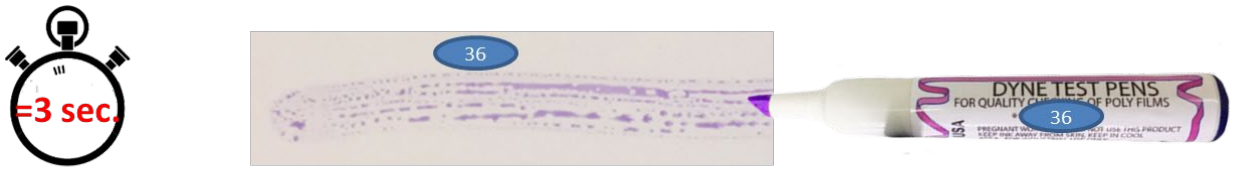
The wettability of some substrates/inks can be now improved when installing the option CTS Corona module.

17.3 Dyne pen results

Result of tests using dyne pens from the BOUSSEY-CONTROL



The ink does not break into droplets – **32**, is not the right dyne value



The ink breaks into droplets at 3 sec. – This is the right dyne value = **36**

Please refer to the “AccurioShine 3600 - Customer Expectation Guide” which has more details on this topic.

18 PERIODICAL MAINTENANCE

18.1 Operator cleaning table

COMPONENTS	ACTIONS	FREQUENCY	P/N to order
Printheads	Beginning of the day: Purge and wiping (if necessary)	Daily	n/a
Printheads	End of the day as part of extinction process: Automatic cleaning with capping stations and Flush*	Daily	Cleaning Foams: 7898B Flush: 8484S
Sensor reflectors	Cleaning with dry cleaning foams? Flush and cleaning agents **are forbidden**	Weekly	Cleaning Foams: 7898B
Printing belt	Cleaning by scratching dried varnish with plastic card and vacuum cleaner. Flush and cleaning agents **are forbidden**	Weekly	n/a
Machine covers	Dusting the covers of the machine with non-aggressive cleaning agent. Flush **is forbidden**	Weekly	Box of cleaning towels: 5110
Machine interior	Cleaning the machine interior with isopropyl alcohol** on unpainted metallic surfaces. Flush **is forbidden**	Monthly	Box of cleaning towels: 5110
UV LED Filters	Dust cleaning with compressed air. Take the filters are out the equipment before cleaning.	Monthly	n/a
Cover Fan Filters	Dust cleaning with compressed air. Take the filters are out the equipment before cleaning.	Every 6 months	n/a

*Flush is the official Cleaning Liquid - PN: 8484S

**isopropyl alcohol is also known under the name "IPA". This liquid is not provided nor sold by MGI. It should be sourced locally.

18.2 Cleaning the print heads

Warning: Print heads are fragile parts that require great care to remain it operational as long as possible. A scratched nozzle plate can cause missing nozzles which deteriorate print quality.

Caution: Use only cleaning solutions and cleaning foam validated by the manufacturer. Use only one foam per head. Do not use a used foam stick.

During this operation wear protective equipment (gloves and glasses).

Caution: Wipe the heads with the foam in a horizontal position. without applying excessive pressure. (see pictures below)

Skin and Hand protections:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Wear eye/face protection such as chemical splash proof goggles or face shield. Barrier creams may help to protect the exposed areas of the skin. they should however not be applied once exposure has occurred. Nitrile rubber gloves. Do not use natural rubber gloves. Do not wear PVC gloves as PVC absorbs acrylates. Replace gloves immediately when torn or any change in appearance (dimension. color. flexibility. etc.) is noticed.

Eye protection:

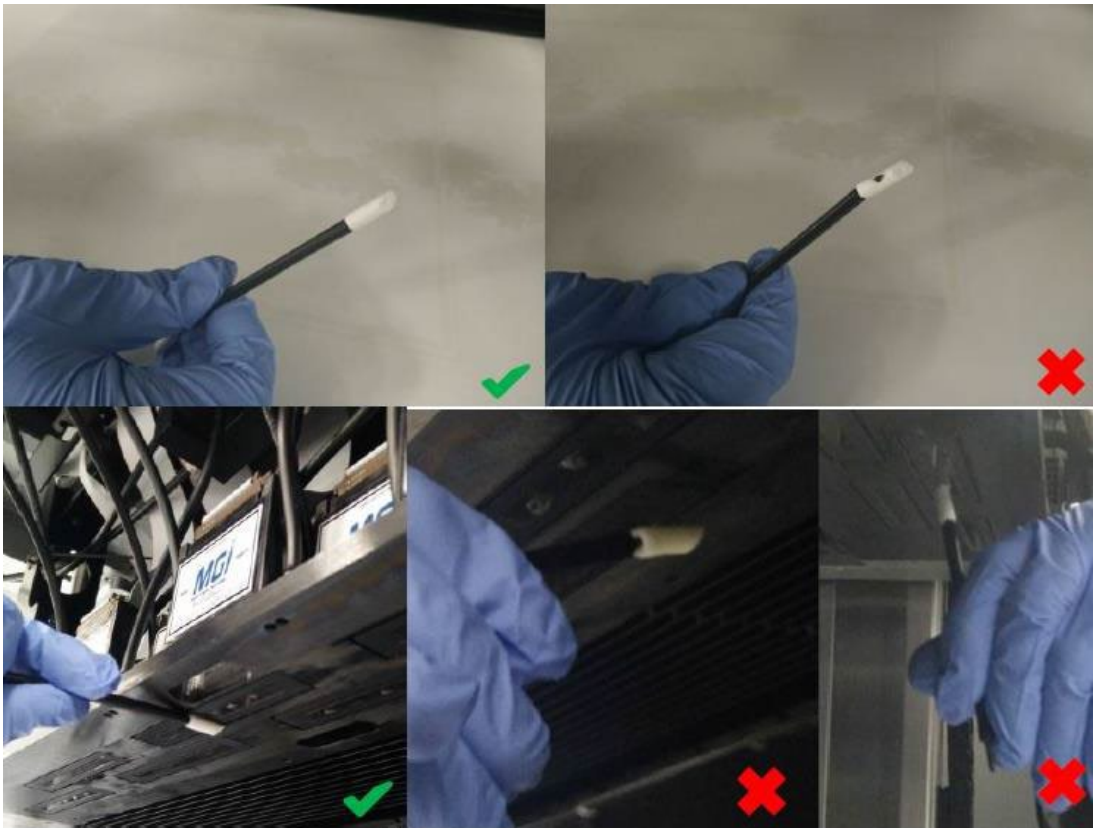
Wear eye/face protection such as chemical splash proof UV goggles or face shield.

The only cleaning solution certified for the AccurioShine 3600 printheads is:

Part Name	Part Number
JET Series – PRINTHEAD CLEANING FLUSH LIQUID - 5L	8484S

Do not shake the flush container prior to using it!

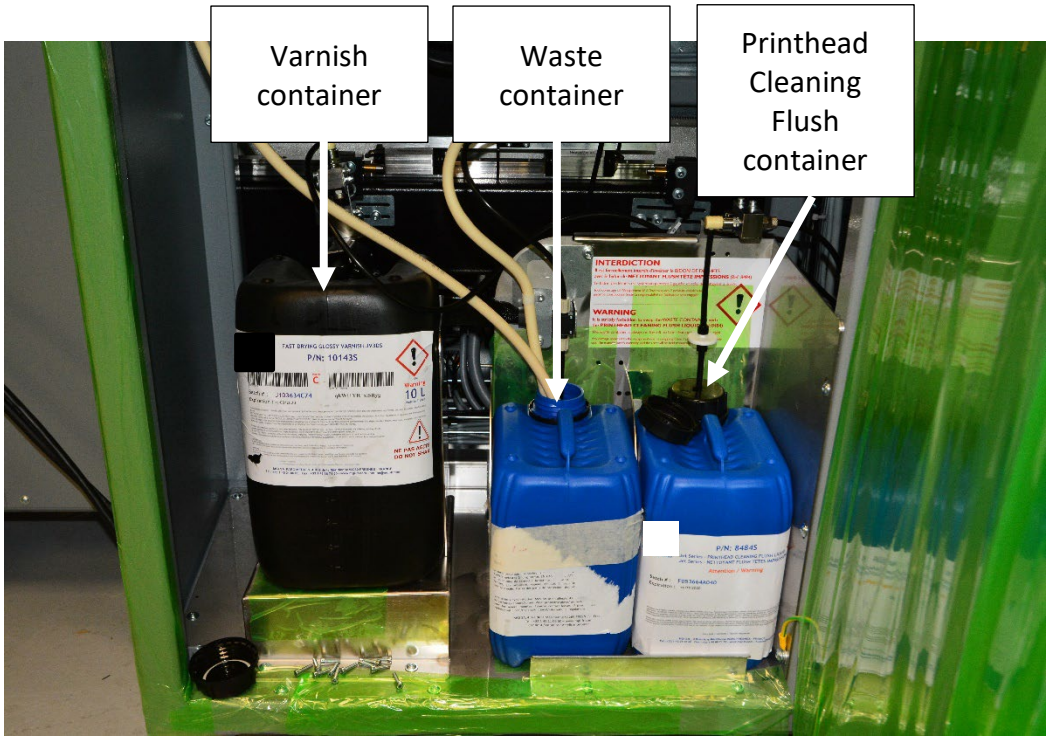
How to properly handle the cleaning materials and clean the IJ print heads



Attention
After any varnish/flush handling, please clean the Workstation mouse in case of varnish/flush contamination on this device.

18.3 Accurioshine 3600 containers & possible errors

AccurioShine 3600 equipment are using 3 containers:



AccurioShine 3600 container storage cabinet - [M.S]

AccurioShine 3600 Configuration

- The **left** position is **ALWAYS** dedicated to the **Varnish container** (10-liter black container).
- The **central (middle)** position is **ALWAYS** dedicated to the **Waste container**. It contains Print head Cleaning liquid mixed with old varnish residues (5-liter blue container).
- The **right** position is **ALWAYS** dedicated to the **Printhead Cleaning flush liquid container** (PN 8484S) (5-liter blue container).

- **PROBLEM REPORTED**
  We have seen customers putting the *Waste Container* in the *right position* and vice-versa. This means that the AccurioShine 3600 will pump a mix of old varnish and diluted Print Head Cleaning liquid to wash the print heads and varnish circuit. THERE IS A MAJOR RISK TO DAMAGE THE PRINT HEADS and/or THE VARNISH CIRCUIT. **These damages are not covered by the warranty or the Service Contract.** The customer will be fully charged to repair the equipment.

Since September 2019, the container storage location is wearing a sticker warning the operators about this risk.

Maintenance Side [M.S]

INTERDICTION

Il est formellement interdit d'inverser le BIDON DE DÉCHETS
avec le bidon de **NETTOYANT FLUSH TÊTE IMPRESSIONS** (Ref : 8484S)

Le bidon de déchets est systématiquement à gauche et celui du nettoyant à droite.

Tout dommage de l'équipement lié à l'inversion des 2 produits annulera la garantie constructeur. Seule la responsabilité de l'utilisateur sera engagée.

WARNING

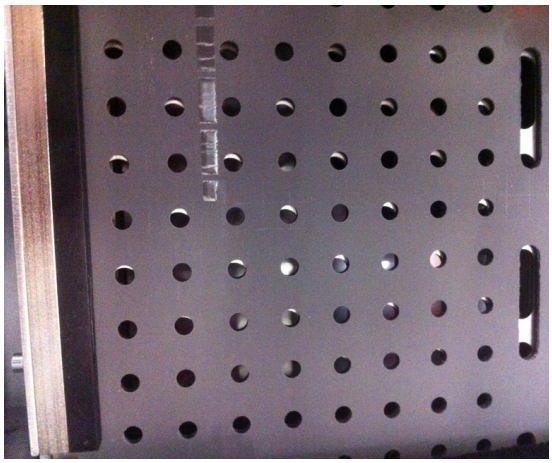
It is strictly forbidden to swap the WASTE CONTAINER with
the **PRINTHEAD CLEANING FLUSH LIQUID** (PN: 8484S)

The waste container is always on the left and the cleaning liquid on the right.

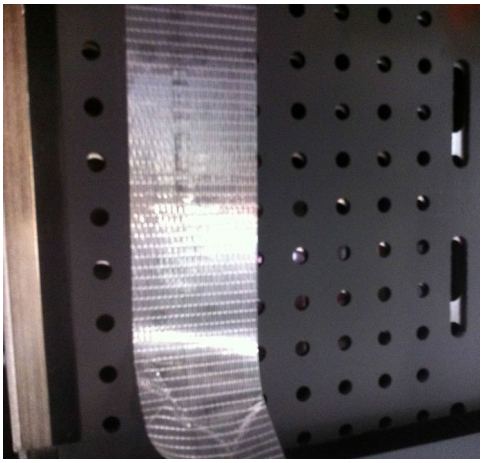
Any damage incurred to the equipment due to swapping these 2 products will immediately void the manufacturer's warranty and the user will be held responsible for all damages.

18.4 Printing belt cleaning

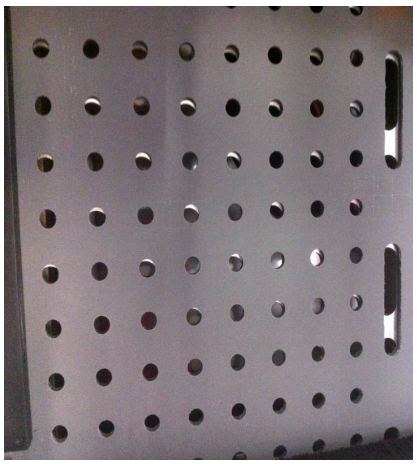
- Locate a cured varnish area on the printing belt.



- Apply a very strong tape on this varnish layer.

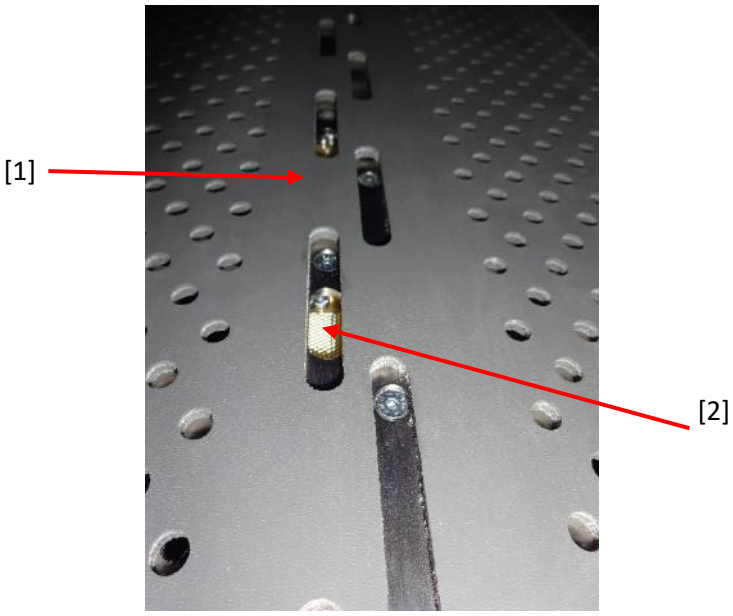


- Remove quickly the tape. If the varnish does not stick onto the tape, please find another tape with a stronger glue.



- Repeat the operation for all area covered by cured varnish.

18.5 Cleaning the top cell reflectors



[1] Printing belt
[2] Reflector

Caution: Use only dry lint-free towel to clean the reflectors

19 TROUBLESHOOTING

19.1 Error codes & messages

The error messages are color coded.

	GREEN – This is an information. Operator has nothing to do, the equipment is OK
	ORANGE – There is a warning, but the equipment keeps working.
	RED – There is an error and the equipment cannot continue. The operator is expected to do something

In most the of cases, the beacon of the equipment will display a light in the same color.
The status message in the JVTi is displayed in this same color (same example below)

This error code list is used within the JVTi – extract done on June 2021

Error Codes	Error Messages
500	E500- No message in progress
501	E501- Machine in stand-by
502	E502- Ready to print
503	E503- Not used
504	E504- Not used
505	E505- Not used
506	E506- Not used
507	E507- Not used
508	E508- Not used
509	E509- Not used
510	E510- Not used
511	E511- Not used
512	E512- Not used
513	E513- Not used
514	E514- Not used
515	E515- Not used
516	E516- Not used
517	E517- Not used
518	E518- Not used
519	E519- Not used
520	E520- Not used
521	E521- Not used
522	E522- Not used
523	E523- Not used
524	E524- Not used
525	E525- Not used
526	E526- Not used
527	E527- Not used
528	E528- Not used
529	E529- Not used
530	E530- Purge in progress
531	E531- Cleaning all printing heads
532	E532- Cleaning one printing head
533	E533- Paper on belt(s)
534	E534- Manual stop printing
535	E535- Print head moving
536	E536- Cleaning in progress
537	E537- Filling ink in progress
538	E538- Wiping in progress
539	E539- Machine warming up
540	E540- Printing in progress
541	E541- JVTI not connected

542	E542- Feeder not in Auto mode
543	E543- Not used
544	E544- Not used
545	E545- Not used
546	E546- Not used
547	E547- Not used
548	E548- Not used
549	E549- Not used
550	E550- Not used
551	E551- Not used
552	E552- Not used
553	E553- Not used
554	E554- Not used
555	E555- Not used
556	E556- Not used
557	E557- Not used
558	E558- Not used
559	E559- Not used
560	E560- Defect filling varnish
561	E561- Depressurization defect
562	E562- Motor board defect
563	E563- Emergency stop
564	E564- Door(s) open
565	E565- Dryer error
566	E566- Double-sheets detected
567	E567- Waste container full
568	E568- Cleaning container empty
569	E569- Varnish container empty
570	E570- Waste tank full
571	E571- Power initialization needed
572	E572- Feeder jam
573	E573- Depressurization sensor error
574	E574- Depressurization not activated
575	E575- Tank filling off
576	E576- Stacker full / not in Auto mode
577	E577- Wiper in unknown position
578	E578- Head plate movement detected
579	E579- Purge tray movement detected
580	E580- Degassing system error
581	E581- Sheet(s) ejection necessary
582	E582- Wiper in wiping position
583	E583- Door not locked
584	E584- Printing system not initialized
585	E585- Incorrect paper thickness
586	E586- Paper missing
587	E587- Cleaning capping station necessary
588	E588- Air tank(s) full
589	E589- Stacker full
590	E590- Varnish rising
591	E591- C.T.S CAN com default
592	E592- CAN com default
593	E593- Motor feeder blocked
594	E594- Motor aspi. blocked
595	E595- C.T.S Error

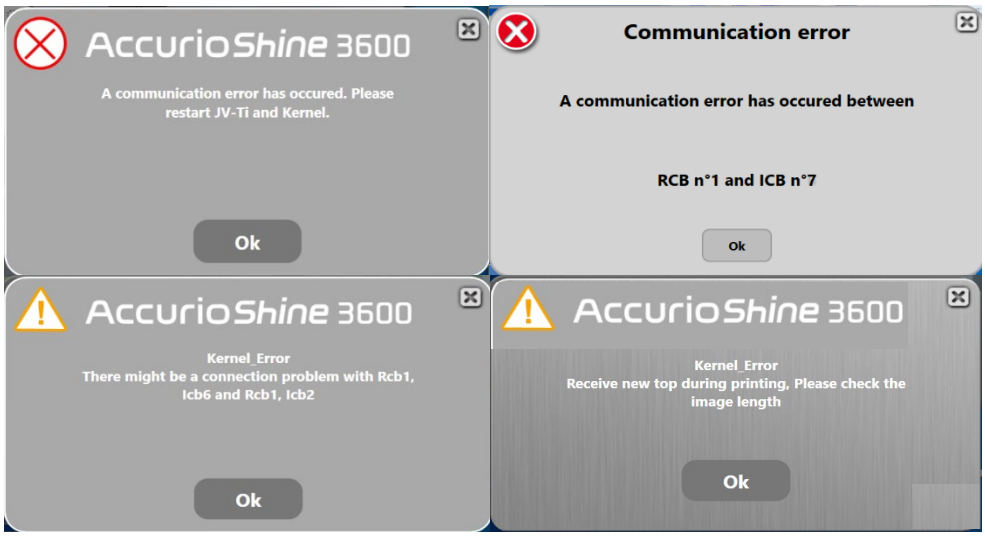
596	E596- Printer jam
597	E597- LED jam
598	E598- Stacker jam
599	E599- C.T.S jam

19.2 Abnormal images or Communication error troubleshooting

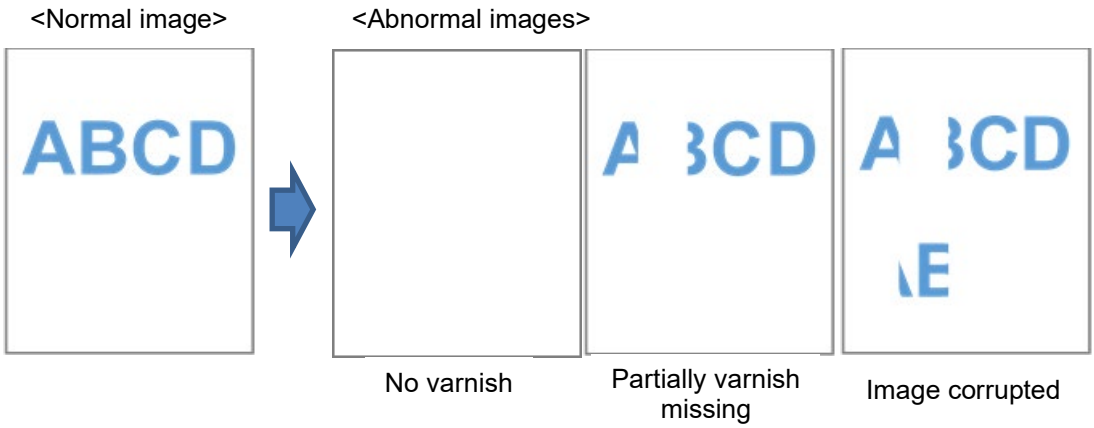
Some random abnormal images are coming from communication failure between JVTi and IJ head control. Once the failure detected, JVTi shows the communication failure. Please follow the troubleshooting as below.

<Problem>

- Communication error message (KERNEL/Communication Error with RCB, ICB, JVTi) such as:
    - Kernel_Error There might be a connection problem with RCB*n*, ICB*n*
    - Kernel_Error Receive new top during printing, please check the image length
    - A communication error has occurred between Network card and RCB n°*n*
    - A communication error has occurred. Please restart JVTi and kernel.

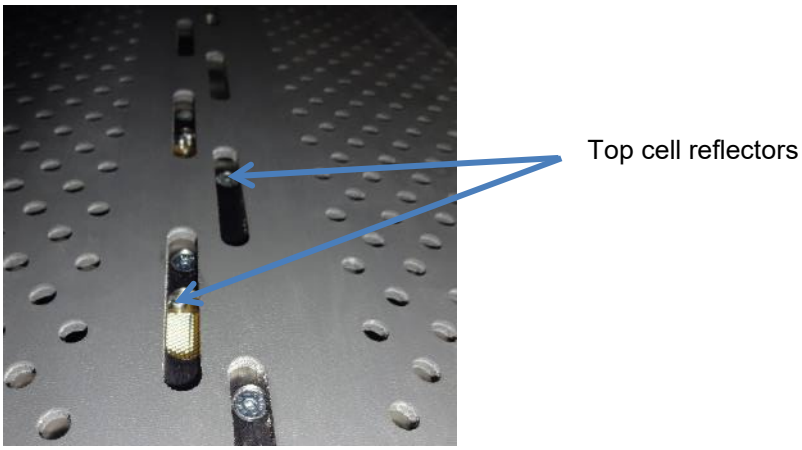


- Printing image issues such as:
    - No printed varnish
    - Corrupted image printed

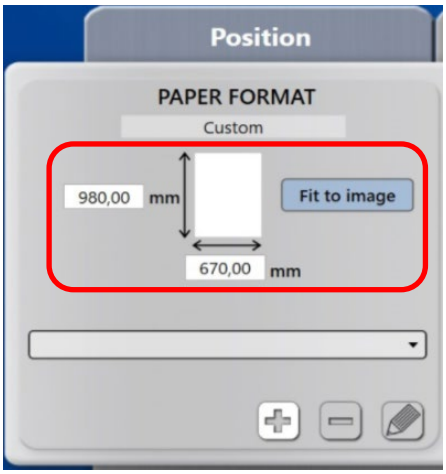


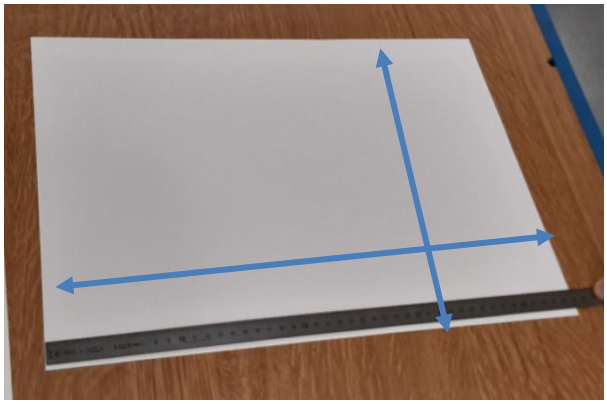
<Solution>

- (In case of “No varnish”) Check & clean the top cell reflectors.
  For the procedure refer to the “Periodical maintenance” section.

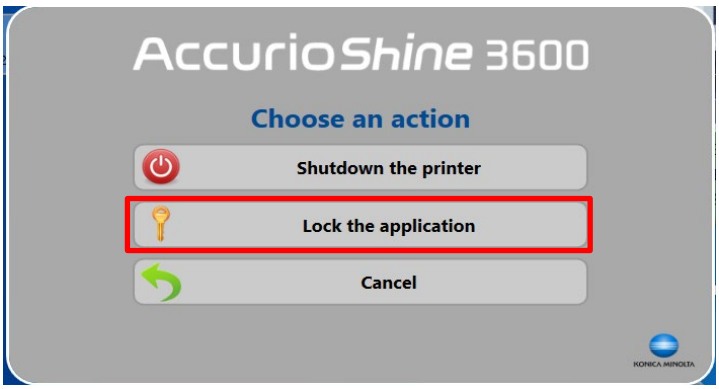


- Check if the sheet size is the same between settings on JVTi and the actual substrate.

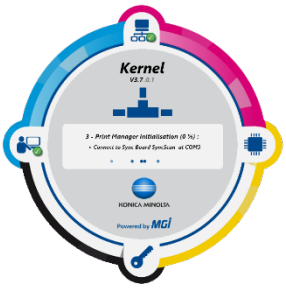




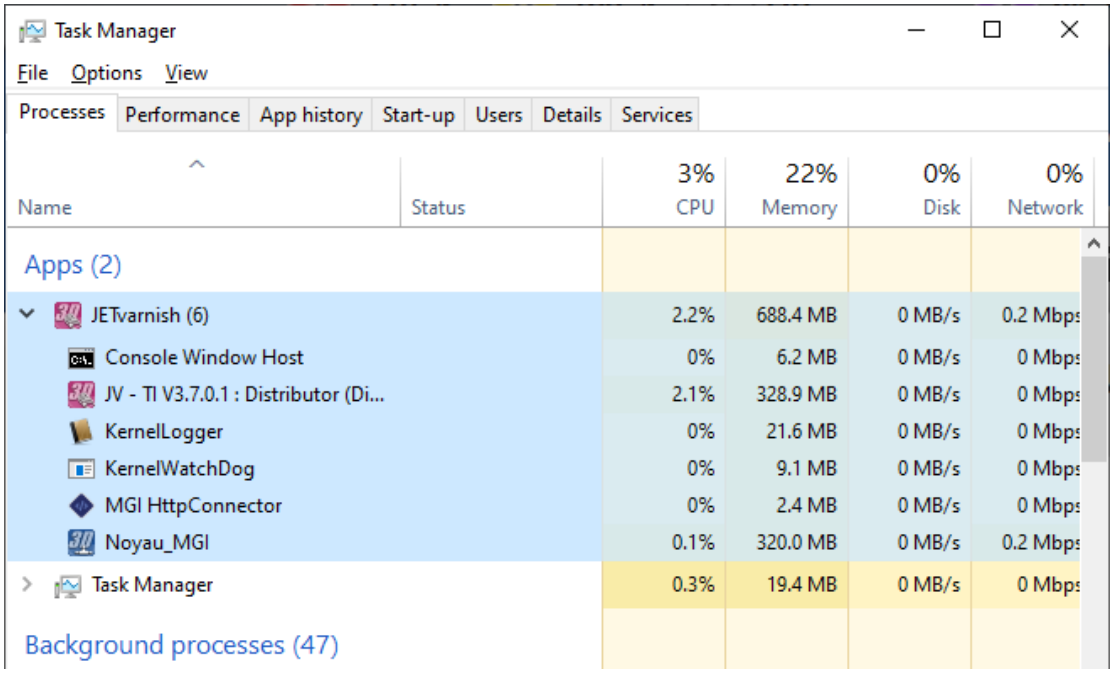
- Finish the current production and close the JVTi with “Lock the application”



Then restart the JVTi.

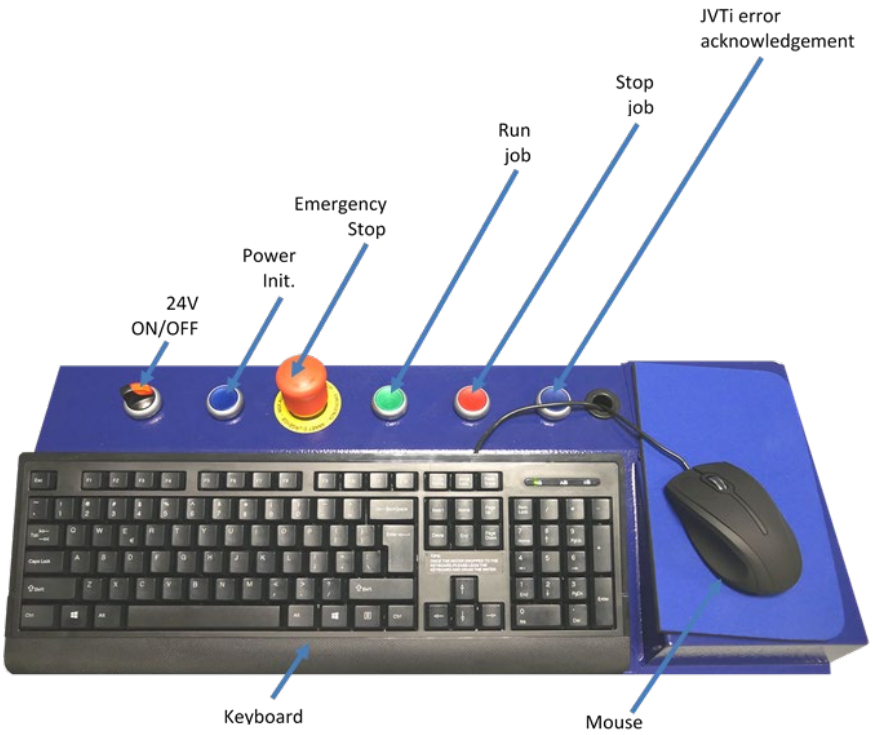


* If you cannot launch the JVTi, check the following JVTi software and related service are not running in the task manager.



- If you still have the failure after restarting JVTi, shutdown the JVTi again.

- Then turn OFF and ON the 24V panel switch to reset the related device like ICB, RCB, Scanner.



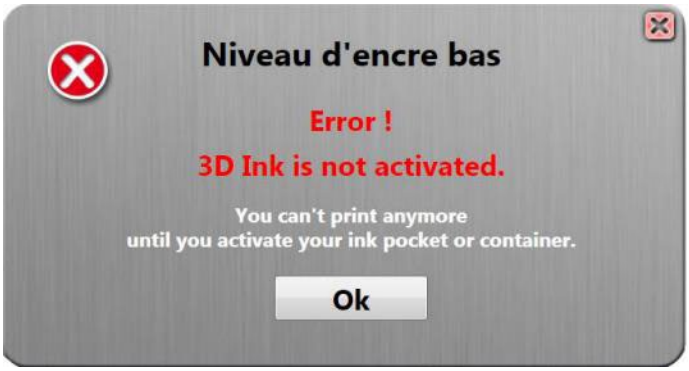
Wait for 30 seconds to boot the RCB and ICBs. Then, launch the JVTi.

- Even if done the solution, but the same problem continues to occur several times,
  Call your distributor for the assistance, mentioning the error message or state of the machine.

19.3 Other error messages

A non-registered consumable can only be used up to 10% of its capacity. This message warns the user that a consumable is not registered on the Internet. and hence has no license for the varnish container.

A non-registered consumable can only be used up to 10% of its maximum capacity. This message warns the user that a consumable is not registered and hence can no longer print.



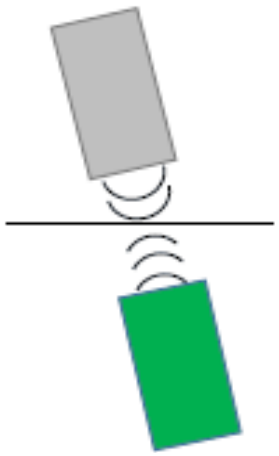
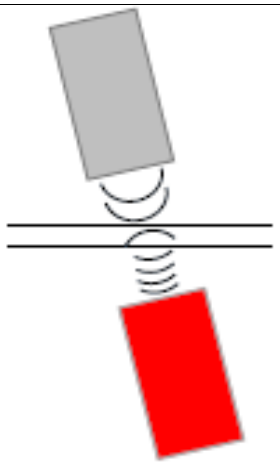
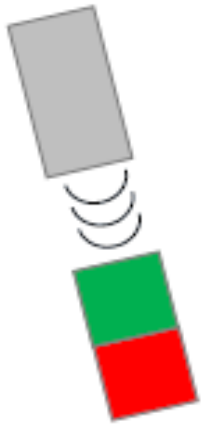
19.4 Jam procedure

19.4.1 Jam detection principle

Jams may happen during the print.

The causes of jam detection come from the following reasons:

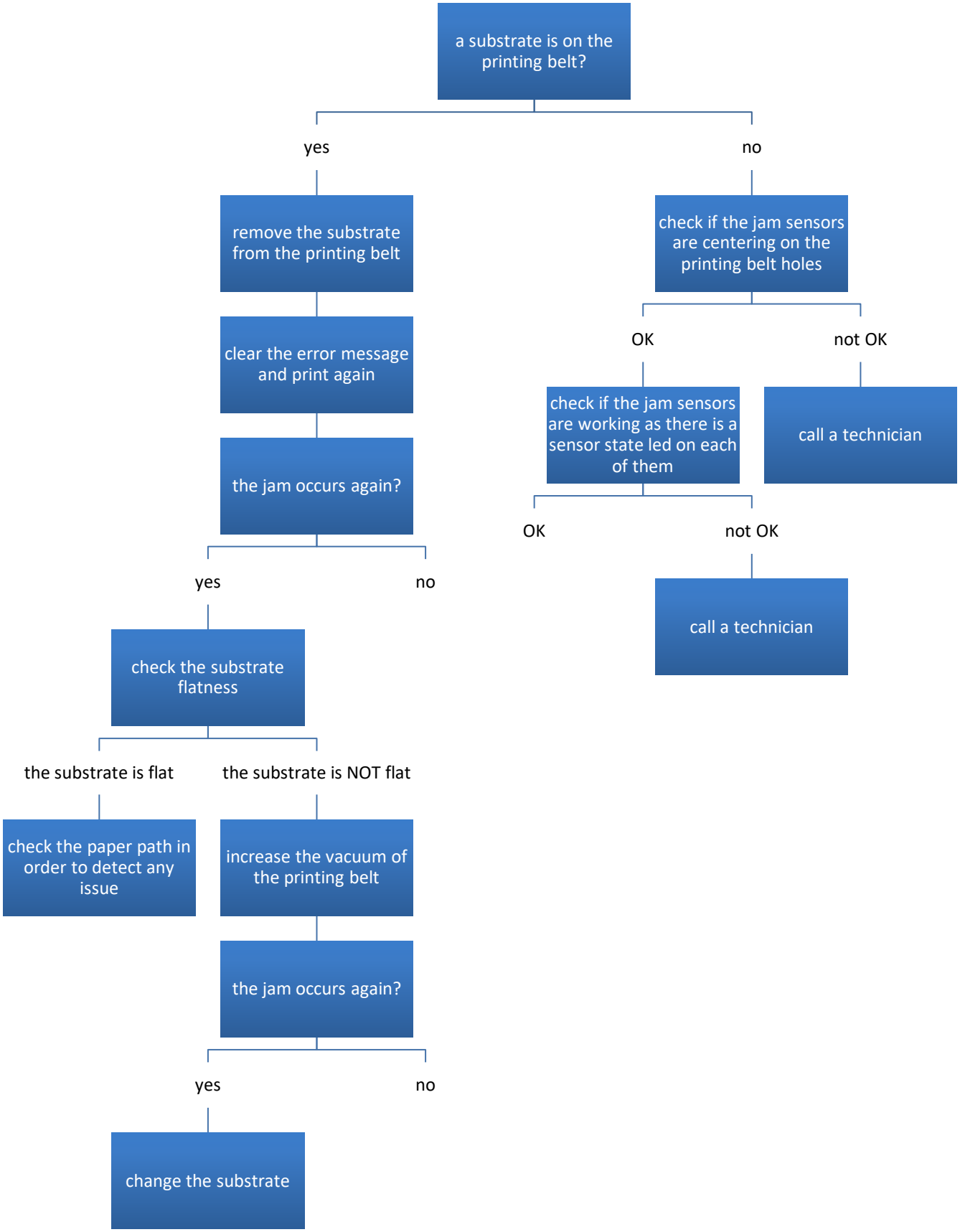
- E-566: Double sheets: This error is due to the detection of two sheet on the feeder entrance (C2). Below is explained the different double sheets sensor state. In case of double sheet sensor detection. please remove every sheets detect by the double sheets sensor before clearing the double sheets detection error message.

			
No double sheets detected. Only one sheet passed between the transmitter and receiver. The receptor light up green (no blinking). No error.	Double sheets detected. The receiver light up red (No blinking). E-566: Double sheets error on the pilot screen and on the JVTi	No sheet detected between the transmitter and receiver. The receptor lights up both red and green (blinking) No error.	The transmitter and receiver are not facing each other. As result the error E-566 appears just after the print launch. E-566: Double sheets error on the pilot screen and on the JVTi

- E-572: Paper Jam: Each job is set according to a printing substrate length defined in the JVTi. Jams may occur if one of the jam detection sensor detects a printing substrate for more than a specified time/distance.

Unjamming procedure

In case of jam. please check the following rules:



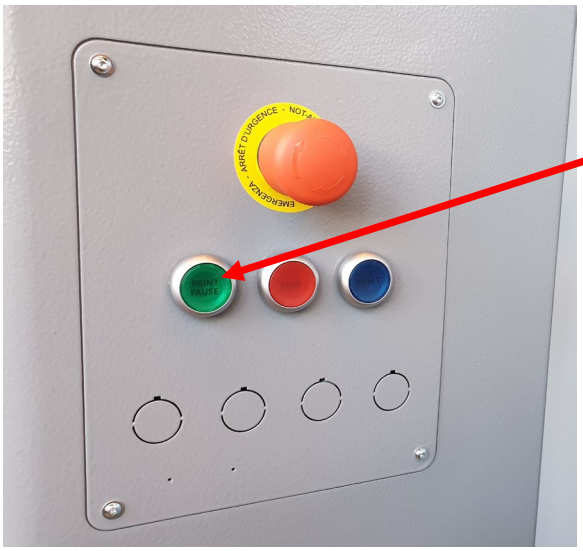
19.4.2 How to remove jam substrate

First remove the jammed substrate indicated on the Pilot screen by a green or a red dot.

The possible error Pilot screens are the following:
- E533
- E572
- E581

Please refer the Chapter Pilot Error Screens to discover these Pilot screens

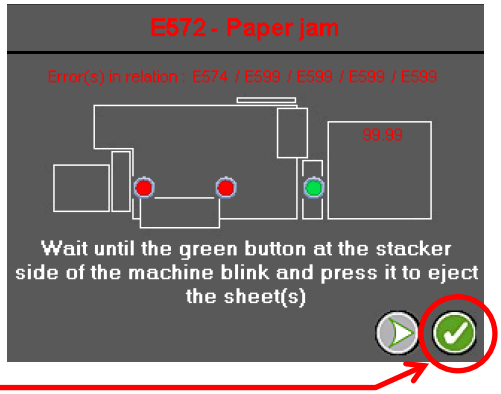
Once the jammed substrate is removed, press on “Sheet ejection” (**B3**) on the Pilot screen and wait few seconds. The green “PRINT” button at the stacker side (above the paper exit) will blink.



Press the green “PRINT” button continuously until all sheets are ejected on to the exit tray.

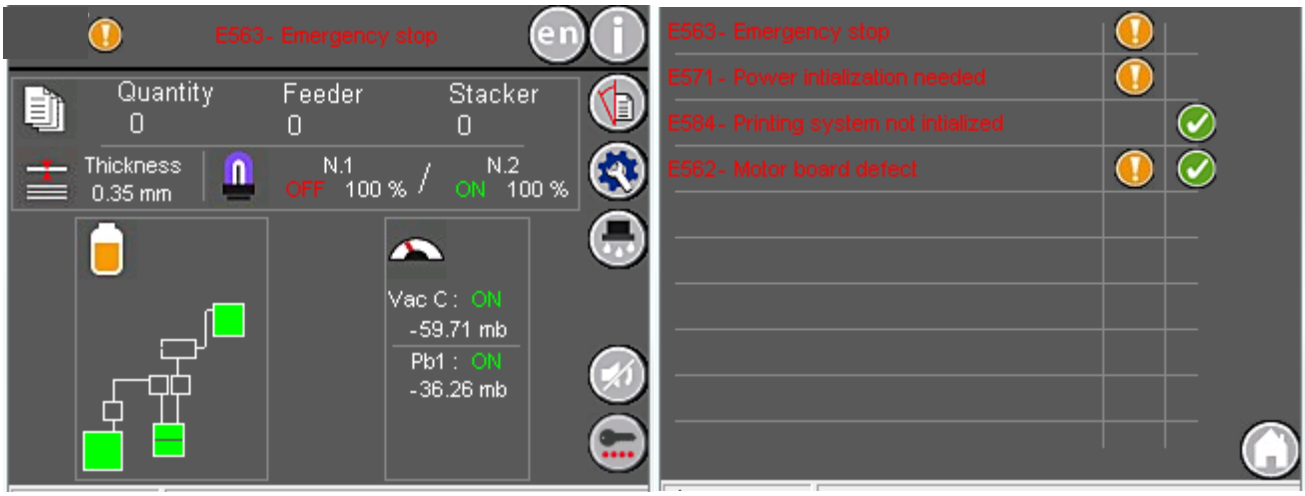
Keep this button pressed to make the printing belt turn and to activate the UV LED to cure the varnish before the sheets exit to the stacker. Once all substrates are out of the machine, you can acknowledge the jam error message

After all jammed sheets are ejected, acknowledge the error message by touching this button on the Pilot screen.



19.5 Emergency stop procedure

If an emergency button is activated, the machine is automatically stopped.
If the machine was printing. follow the Unjam procedure to remove all substrates inside the machine (Refer to 19.2.2 for How to remove jam substrate).

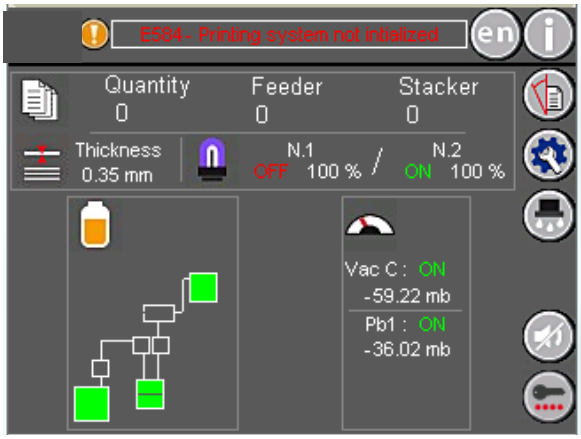


CAUTION

Before doing anything else. you need to solve the problem which required an emergency stop of the machine. If necessary, contact a technician.
Once the problem is solved, you can clear all the error messages following the next steps:

1. Release all emergency buttons
2. The power needs to be initialized: press the blue RUN button above the keyboard.

3. The printing system lost its position and need to be initialized. press the flashing blue RESET button next the keyboard



4. You are ready to print again.

19.6 Power failure procedure

In case of power failure:

Remove manually any sheets which were being printing.

Caution: sheets between print head and curing module number 2 are not dry. It is recommended to use gloves to remove these sheets

Please Note:

The machine must always be powered, or varnish will eventually purge from the heads. The machine has a backup battery installed which will keep the air pressure in the manifolds stable until the power is restored.
However, the battery only has a duration of approx. 2 hours; if you are expecting the power to be turned off for longer than this period:

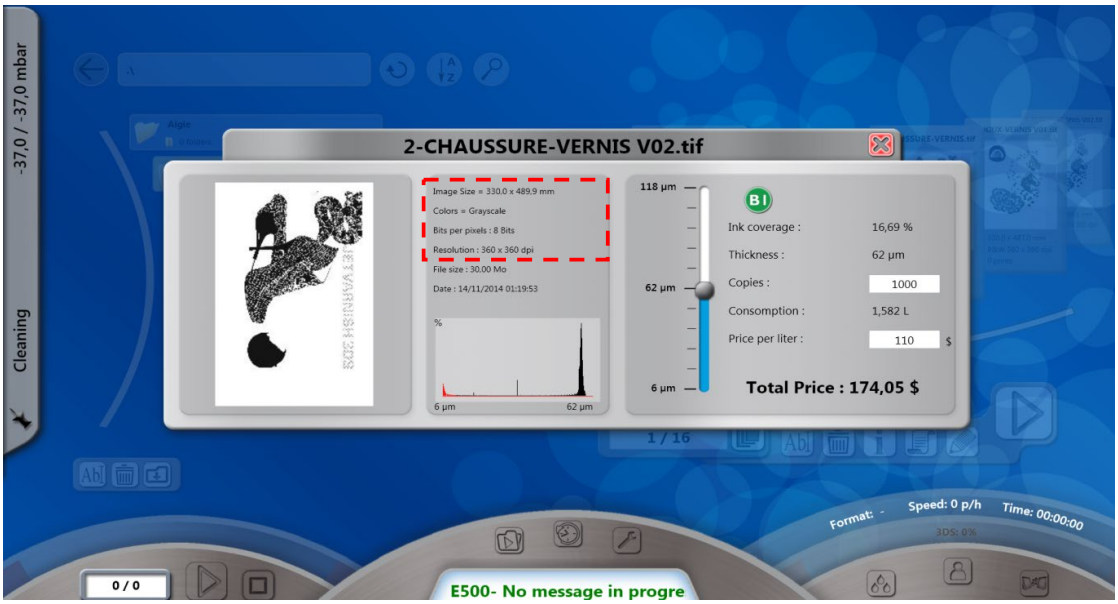
You can unplug the depressure: (Please ask your local trained technician how to do this)

Call a technician!

19.7 File troubleshooting

To avoid troubleshoot during printing and to be able to use fully the AccurioShine 3600 your printing file need to have some specifics features.

You can see a summary of these features in this screen.



4 features are really important to avoid troubleshoot and use fully the AccurioShine 3600:

- Image size
- Colors
- Bits per pixels
- Resolution

19.7.1 Image size

Size of image that you want to must be including between the smallest and the largest formats that the AccurioShine 3600 can print.

- 21.0 x 29.7 cm ≤ **your image size** ≤ 36.4 x 75.0 cm

19.7.2 Colors

Color of image that you want to print must be **grayscale** to be recognized by the software.

19.7.3 Bits per pixels

Bits per pixels of image that you want to print must be **8 bits** to be able to put different thickness of varnish on the same print.

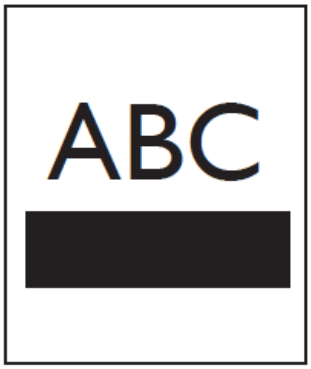
19.7.4 Resolution

Resolution of image that you want to print must be **360 x 360 dpi without compression**. If resolution is lower than 360 x 360 dpi your image will be stretch and if resolution is upper than 360 x 360 dpi your image will be squeezed.

19.8 Varnish image troubleshooting

The following varnish image troubleshooting's are the most commonly encountered on the AccurioShine 3600.

For all examples. please note that the CMYK and varnish prints are those below:



CMYK print

Varnish print

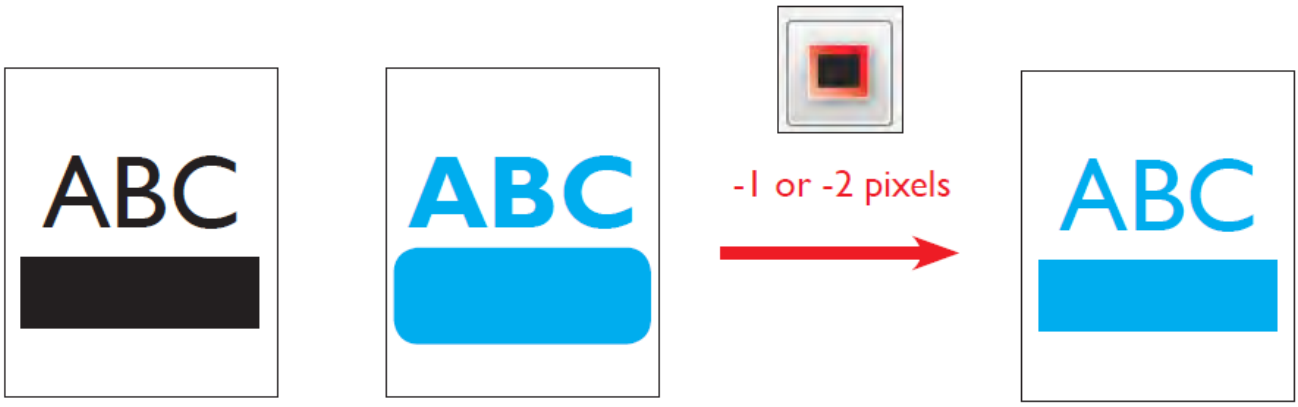
19.8.1 Problem 1 - Varnish spreads on the print. which renders the text and designs excessively bold

19.8.1.1 Explanation

This phenomenon is explained by the surface energy of the substrate. The more significant the surface energy. the more varnish spreads. and vice versa. On some lamination. this phenomenon is even worst.

19.8.1.2 Solution

5. Check the printing substrate thickness entered in the JVTi; it should correspond to that of the printing substrate used.
6. Open the file in the Spot Varnish Editor and reduce a zone of the varnished image by 1 or 2 pixel(s).



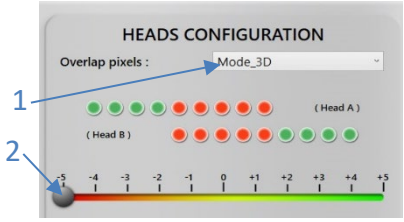
19.8.2 Problem 2 - Lines or bumps appear on the print

19.8.2.1 Explanation

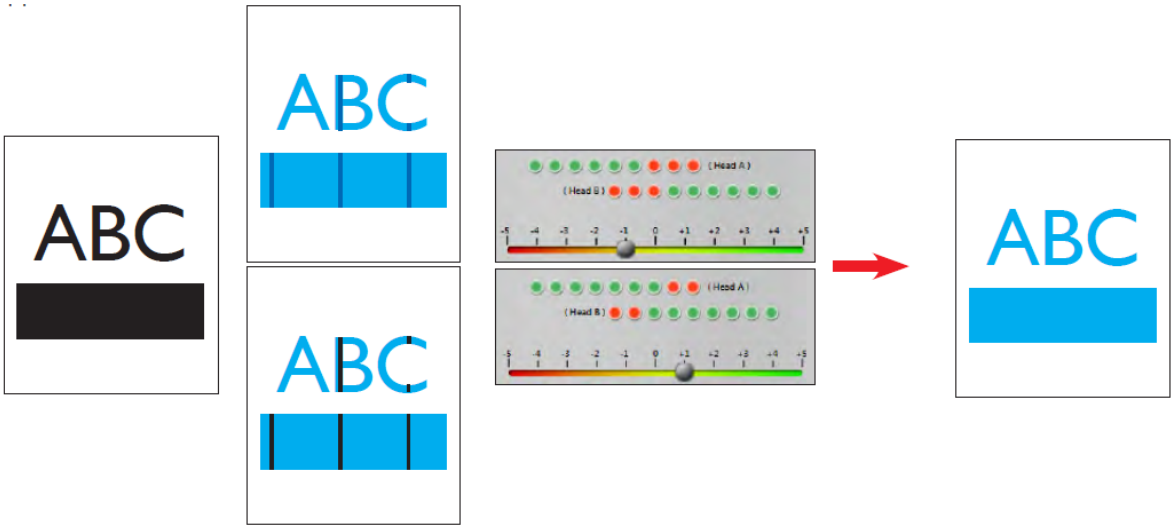
This phenomenon is explained by the print head overlap. This phenomenon may be more or less present depending on the varnish thickness used and surface energy of the substrate used.

19.8.2.2 Solution

7. Check that the pixel overlap mode (1) is set to 2D (for a varnish thickness between 15/21 and 31 microns) or to 3D (for a varnish thickness between 36 and 100/116 microns).
8. Check that this phenomenon is related to the print head overlap by setting the pixel overlap to -5. (2)



If the missing varnish lines appear at the same level as the bumps and dents. then the problem is effectively a pixel overlap problem.



19.8.3 Problem 3 - Dots appear in varnish

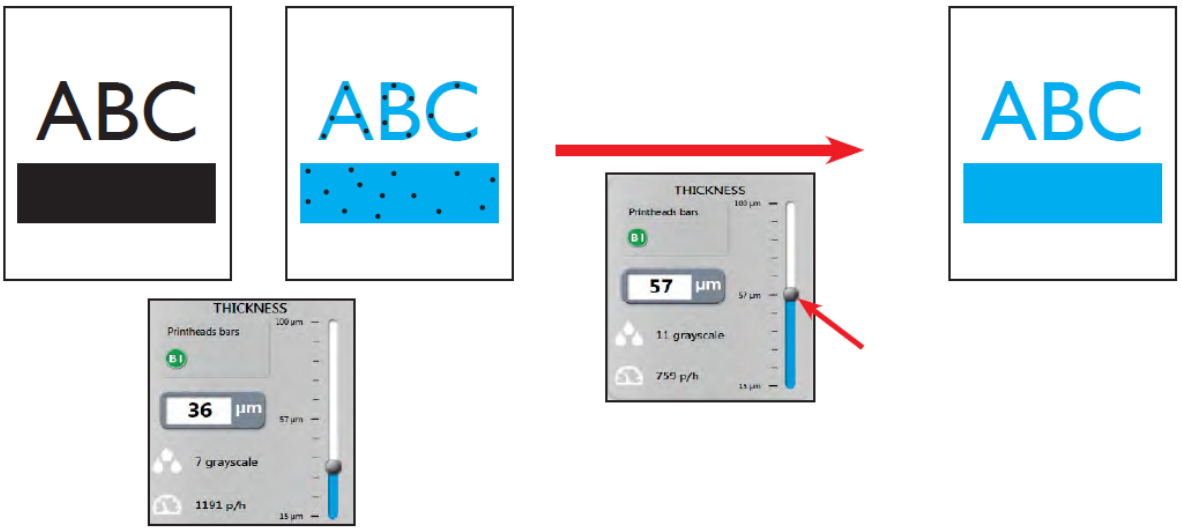
19.8.3.1 Explanation

This phenomenon is explained by dust on the printing substrate or offset printing powder or printing substrate surface texture.

19.8.3.2 Solution

9. Check the cleaning brush for cleanliness underneath the AIS SmartScanner
10. Run the same test with another printing substrate in order to see whether the phenomenon is due to the printing substrate or not (example: problem on matte lamination. run a test on glossy coated paper without lamination).

11.Increase the varnish thickness on that substrate so as to cover the phenomenon of dots.



19.8.4 Problem 4 - Lines are present on the print page at a given position

19.8.4.1 Explanation

Inkjet print heads eject varnish through nozzles of the order of few microns; should dust adhere to the print heads. some areas will be unprinted.

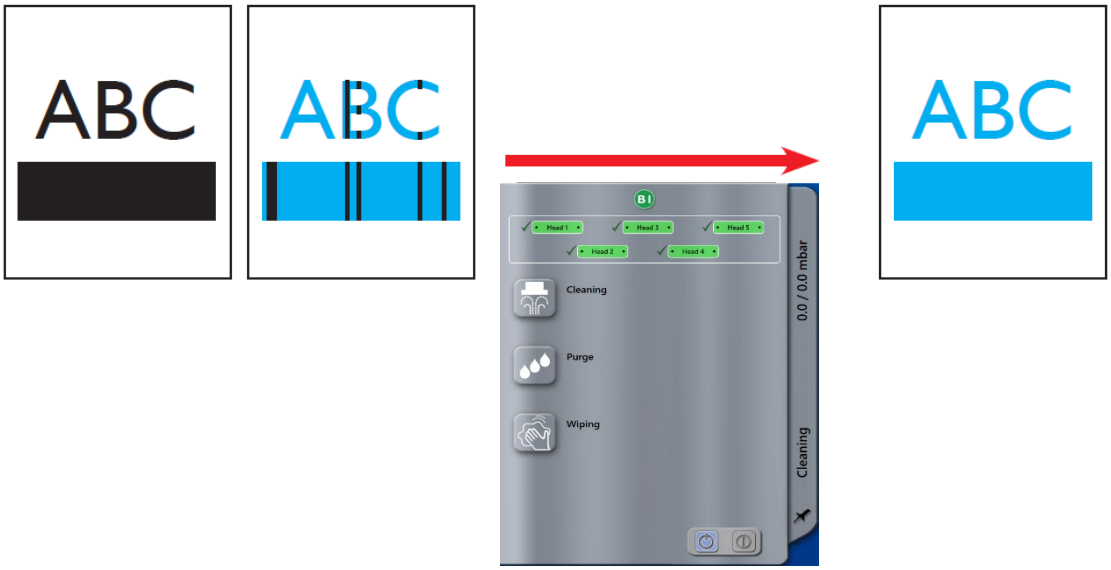
19.8.4.2 Solution

12.Check the printing substrate thickness entered in the JVTi; it should correspond to that of the printing substrate used.

13.Increase the varnish thickness.

14.Try another substrate.

15.Run purging and cleaning so as to remove dust from the print head.



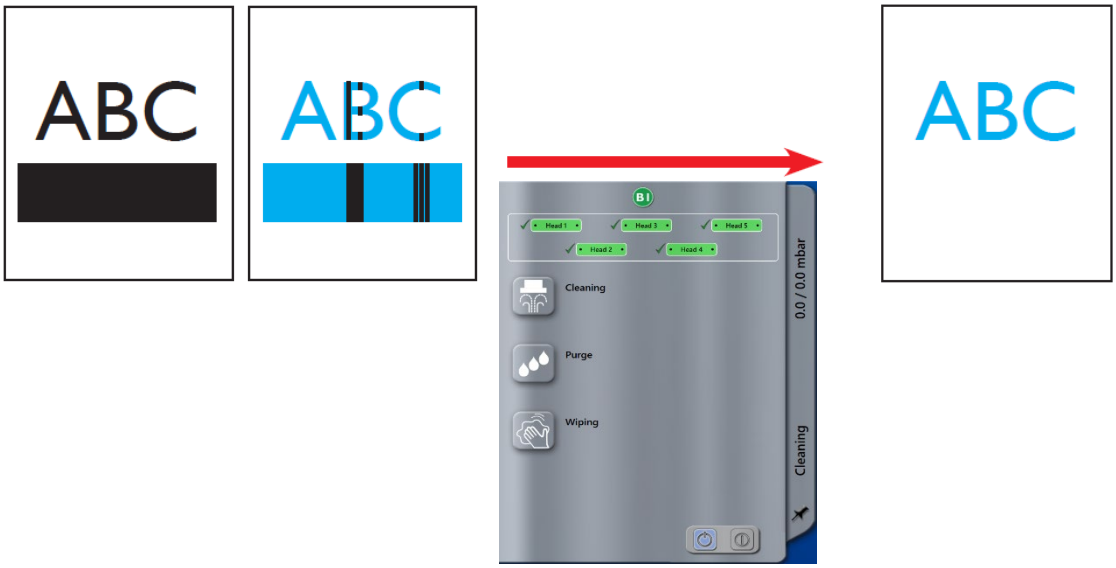
19.8.5 Problem 5 - More and more lines are present on the print

19.8.5.1 Explanation

Air bubbles are present in the varnish system.

19.8.5.2 Solution

16. Purge and wipe the system. To completely remove the air from the system, try a short, medium and long purge if necessary. If you still have air in the system after this: **Call a Trained technician!**



19.8.6 Problem 6 - Varnish "spreads" at the start and on the sides of the print

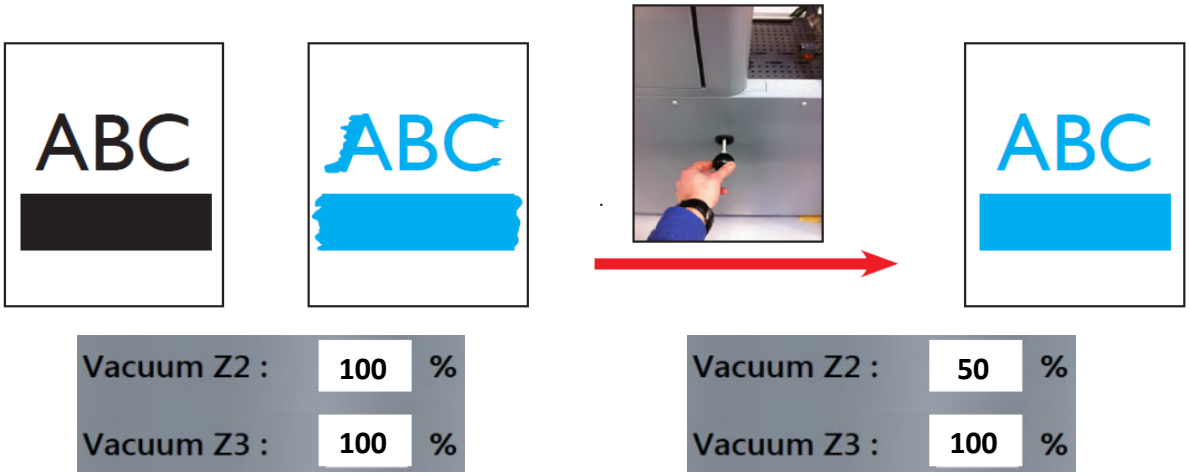
19.8.6.1 Explanation

Varnish is a liquid which is ejected from the inkjet print heads during printing. Should an airflow disturb this drop during ejection on to the substrate, the varnish spot is deviated.

19.8.6.2 Solution

17. Check the printing substrate thickness entered in the JVTi; it should correspond to that of the printing substrate used.
18. Check that the side vacuum handle corresponds to the printing substrate width.

19.Reduce the printing substrate vacuum under the inkjet print heads.



19.8.7 Problem 5 - Varnish "spreads" at the end of the print as if it had been in contact with something during printing

19.8.7.1 Explanation

The substrate is pressed against the printing belt and the print heads are 1.8 mm height from the substrate. If the substrate is not flat, there may be collision between the print heads and the printing substrate.

CAUTION: Print heads are consumables; their price is much higher than the job to be printed. If the printing substrate is not flat, it is more sensible to NOT proceed with printing rather than risking damaging one or more print heads.

19.8.7.2 Solution

20.Check the printing substrate thickness entered in the JVTi; it should correspond to the printing substrate used.

21.Check that the side vacuum handle corresponds to the printing substrate width.

22.Increase the printing substrate vacuum under the inkjet print heads.

23.Run inkjet print head wiping.

24.Change printing substrate if the phenomenon persists.

19.9 Too dark or too light image – metallized substrate

When trying to do an acquisition onto a metallized substrate, you are getting either a too dark or a too light image, and then, the key points cannot be found.

Please refer to the section of the “Linear or Coaxial lightings” to understand the issue and the solution for handling metallized/foiled substrates.

20 GLOSSARY

Name	Definition
Air bubble	Bubbles present in the varnish system following installation or leakage. and which may damage the print heads. and create random lines on the printed substrate.
Air filter	Filter which purifies air upon venting.
Air pipe (transparent)	Transparent plastic pipe for the air system.
Air pump	Pump used to make air flow in the air system.
Air system	Set of purging and vacuum systems, made up of air pipes (transparent).
Black Lueur lock	Connector for varnish between a varnish pipe and a varnish filter.
Blowing holes	Holes through which air is blown to separate the printing substrates from the printing substrate feeder pile.
Camera 3 (1D and 2D barcode camera)	The Camera 3 or the Barcode camera reads the 1D (barcode) and 2D (DataMatrix) codes printed on the preprinted pages. It is used for the VDP mode
Cleaning brush	Static brush in charge of cleaning the printed substrates
Container	Varnish tank used to feed the AccurioShine 3600
Crop mark	Symbol which enables the AIS SmartScanner to locate remarkable key points
Curing or UV Curing	The UV curing is based on a photochemical reaction, using a UV light instead of heat. When exposed to UV light, the varnish cures and dries instantly as a result
Double sheet	When two sheets (or more) are picked up by the paper feeder system
DPI	Drops Per Inch: unit which defines the resolution of a print.
DPI	Dots Per Inch: unit which defines the resolution of a print file.
Fast coupling (female)	Clamp-type coupling fitted with a ball providing for pressure-tight closing.
Fast coupling (male)	Clamp-type coupling fitted with a ball providing for pressure-tight closing.
Fill Ink	Action which forces the print head ejection mechanism used to clean the nozzles
Foam	Soft material used to prevent damage to the print heads during transportation (print head protective support).
ICB	Interface Control Board. Electronic board which controls the print head and connected to the RCB.
Inkjet cleaning agent	Varnish cleaning product.
Inkjet cleaning agent filter	Filter which purifies the varnish cleaning agent.
Inkjet print head	Device intended to project varnish onto the printing substrate.
Inkjet print head connector	Female connector used to connect the connecting ribbon cable between the print head and the ICB.
Inkjet print head input pipe	Pipe allowing for varnish flowing into the print head.
Inkjet print head purging pipe	Pipe intended to purge the print head.
Inkjet print head support height sensor	Sensor which detects the positions of the print head plate in relation to the printing substrate.
Inkjet print head-ICB ribbon cable	Connection used for communication between the print head and the ICB.
Intermediate tank	Second tank supplied by the main tank and attached to the manifold for supplying it.
AccurioShine 3600	Digital UV Spot Coating equipment
JVTi	Graphical User Interface mainly used by the Operator to prepare the job & settings prior to, and during the production. Daily maintenance operations are also accessible.
Level sensor (Floating switch)	Float which detects the high or low tank level.
Long format/Banner extension	Long tray (at the machine infeed and outfeed) which supports the printing substrates and long format prints during printing.
Main tank	First tank into which varnish is pumped from the varnish container. and supplying the intermediate tank.
Manifold	Bar with drilled holes feeding the print heads.
Manifold purging pipe	Pipes intended to purge the manifold and intermediate tank.

Name	Definition
AIS SmartScanner	State-of-the-art registration system. It comes with a scanner and a powerful workstation. The Artificial Intelligence SmartScanner is the totally new registration system. It is an intelligent and adaptive registration system.
Micrometer screw	Device intended to adjust the cleaning unit when changing printing substrate.
Nozzle	Hole which enables the varnish spot to go out of the print head.
Nozzle plate	Plate consisting of nozzles and located at the bottom of the print head.
Opening/Closing blowing shutters	Adjustment devices used to open the blowing holes to a more or less extent.
O-ring	Round-shaped plastic ring which seals any setup.
Paper detection holes	Elongated holes placed alternately on the printing belt in order to let the printing substrate paper detection laser beam pass or not.
Paper detection holes	Elongated holes placed alternately on the printing belt in order to let the sheet paper detection laser beam pass or not.
Paper detection laser	Light beam intended to detect the front edge of the printing substrate under the printing plate.
Paper detection laser	Light beam intended to detect the front edge of the sheet under the printing plate.
Pile holding weight	Weight which holds the sheet pile against the printing substrate pick-up feeder.
Pilot	Operator/Technical interface which manages the automatic control system.
Pipe cutter	Tool designed to cleanly cut the pipes without pinching them.
Pixel overlap	Overlap area between two staggered print heads.
Polymerization	Chemical reaction which dries and hardens varnish under ultraviolet light.
Positioning pin	Pin used to accurately position one part in relation to another.
Power inverter	Device which continuously supplies electrical power in case of power failure.
Printed substrate	Substrate onto which varnish has been deposited (machine outfeed).
Printhead cleaning	Process intended to apply inkjet cleaning agent to the print heads.
Printhead protective support	Plate which protects the print heads during transportation through foam soaked with cleaning agent.
Printhead wiping	Action of wiping the print heads by hand using a print head cleaning cotton pad. or through the machine by making the print heads wipe against a special tissue.
Printing belt	Conveyor which moves the printing substrates under the printing plate and drying units.
Printing plate	Plate to which the print head supports and print heads are attached.
Printing substrate	Substrate onto which the print is deposited (machine infeed).
Printing substrate feeder	Automatic feeder which is sending the sheets on the Printing belt
Printing substrate path	Set of components used to transport the printing substrate.
Printing substrate pick-up	Action of picking up the printing substrate from the printing substrate feeder
Printing table	Flat metal plate which supports the printing belt.
Purge	Venting principle intended to make varnish flow out for removing all air bubbles from the ink system or any impurities from the nozzles.
Purge tray	Tray placed below the printing plate for purging purposes.
Purging cap	Caps fitted to the ends of the purging pipes (print heads and manifold) in order to close them hermetically.
Purging system	System designed to remove varnish from the print heads through purging. This by inverting negative pressure to positive pressure.
Rack and pinion	Mechanism designed to translate the printing and purging plates.
RCB	Repartition Control Board. Electronic board which distributes the data to all ICBs. and directly connected to the user interface.
RCB-ICB communication cable	RJ45 Ethernet cable which connects the RCB to the ICB.
RCB-top printing detection cable	Cable which connects the RCB to the printing substrate front edge detector.
Side (right and left) stack cleats	Guide to lock up the printing substrate stack sidewise at the printing substrate feeder infeed. or the printing substrate stack at the stacker.
Spot Varnish Editor	Image retouching software for varnish printing purposes.
Spot varnish file/mask (.tiff)	File necessary for selective varnish printing.

Name	Definition
Stack top cleat (stacker)	Cleat used to stop the stack in length when the printing substrate is output to the stacker.
Paper Exit Tray	Exit Tray in charge of collecting and stacking the paper sheets right after being varnished and cured
Surface energy	Energy presents on the surface of a solid, i.e. the paper sheet
Three-way electro valve	Electrically controlled valve featuring three inputs/outputs.
Transport ball recess	Recess which retains the ball on the transport ball support ruler.
Two-way electro valve	Electrically controlled valve featuring two inputs/outputs.
Upper pile limit sensor	Sensor which is used to detect the sheet pile height.
UV curing LED	LED which emits ultraviolet rays in order to cure varnish.
UV curing unit	Device consisting of UV LEDs and placed after the printing plate in order to dry varnish.
UV dissipator	Guard attached to the LEDs to prevent UV light from reaching the print heads.
Varnish filter	Filter which purifies varnish prior to sending it into the print heads.
Varnish pipes (black)	Opaque black pipe intended to supply varnish to the system.
Varnish print head support	Support where the print heads are placed.
Varnish pump	Pump used to make varnish flow in the varnish system.
Varnish system	Whole varnish system made up of varnish pipes (black).
Venting	Venting of the varnish system so as to allow varnish to freely flow out by natural gravity
VDP	VDP or Variable Data Printing is a process created to manage varnished pages using different TIFF files within the same job. The Barcode camera reads the preprinted barcodes and tells the JVTI to select the corresponding image (or TIFF file).
Venting pipe	Pipe fitted with a filter used to vent the varnish system.
X start	Electronic correction used to position print heads in the perpendicular direction upon feeding of the printing substrate.
Y start	Electronic correction used to position print heads in the direction of transport of the printing substrate.

21 APPENDIX

21.1 EC Declaration of Conformity – Printer (batch #1)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-0186AS to S/N JV3D1-0351AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018, EN 60825-1 :2014
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS :	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:	**Johann LEBON / MGI Digital Technology** 4, rue de la Méridienne 94260 Fresnes FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on: June 4th, 2021 Fresnes (France)	Signature: Mr. Victor ABERGEL Executive Vice President

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 Code APE 2899A Banque C.I.A.I. Mulhouse N°TVA Intracommunautaire : FR 57 324 357 151 Filiale MGI USA, Inc. Melbourne Floride
www.mgi-fr.com – www.mgi-usa.com

21.2 EC Declaration of Conformity – Printer (batch #2)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-0352AS to S/N JV3D1-0550AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018, EN 60825-1 :2014
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS:	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:	**Johann LEBON / MGI Digital Technology** 4, rue de la Méridienne 94260 Fresnes FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on: October 21st, 2024 Fresnes (France)	Signature: Mr. Jean-Pierre DIOGO R&D Director

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
www.mgi-fr.com

21.3 EC Declaration of Conformity – Printer (batch #3)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-0551AS to S/N JV3D1-0750AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018, EN 60825-1 :2014
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS:	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:

Johann LEBON / MGI Digital Technology
4, rue de la Méridienne
94260 Fresnes
FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on:
October 21st, 2024
Fresnes (France)

Signature:
Mr. Jean-Pierre DIOGO
R&D Director

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
www.mgi-fr.com

21.4 EC Declaration of Conformity – Universal Feeder (batch #1)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**Universal Feeder**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0186AS to S/N JV3D1-0351AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018, EN 60825-1 :2014
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS :	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:

Johann LEBON / MGI Digital Technology
4, rue de la Méridienne
94260 Fresnes
FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on:
June 4th, 2021
Fresnes (France)

Signature:
Mr. Victor ABERGEL
Executive Vice President

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 Code APE 2899A Banque C.I.A.L Mulhouse N°TVA Intracommunautaire : FR 57 324 357 151 Filiale MGI USA, Inc. Melbourne Floride
www.mgi-fr.com – www.mgi-usa.com

21.5 EC Declaration of Conformity – Universal Feeder (batch #2)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**Universal Feeder**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0352AS to S/N JV3D1-0550AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018, EN 60825-1 :2014
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS:	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:	**Johann LEBON / MGI Digital Technology** 4, rue de la Méridienne 94260 Fresnes FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on: October 21st, 2024 Fresnes (France)	Signature: Mr. Jean-Pierre DIOGO R&D Director

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
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21.6 EC Declaration of Conformity – Universal Feeder (batch #3)

MGI Digital Technology

EC DECLARATION OF CONFORMITY

according to EN 17050-1

Manufacturer:	**MGI Digital Technology**
Address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**Universal Feeder**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0551AS to S/N JV3D1-0750AS

The manufacturer hereby declares that the product identified above is in conformity with the applicable requirements of following EC directives:

SAFETY:	**2006/42/EC amended: Machinery directive**
EMC:	**2014/30/EU: EMC directive**
RoHS:	**2011/65/EU: RoHS II directive, amended by 2015/863/EU: RoHS III directive**

The product's conformity was checked in accordance with the following harmonized EN standards:

SAFETY:	EN 12100 :2010, EN 13849-1 :2015, EN 60204-1:2018
EMC:	EN 61000-6-4 :2007/A1 :2011, EN 61000-6-2 :2005
EMF:	EN 62311 :2008
RoHS:	EN IEC 63000 :2018

Person authorized to compile the technical file in accordance with Annex VII of Directive 2006/42/EC:

Johann LEBON / MGI Digital Technology
4, rue de la Méridienne
94260 Fresnes
FRANCE

The undersigned declares that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The product complies with all the applicable Essential Health and Safety Requirements of the Directive.

Signed on:
October 21st, 2024
Fresnes (France)

Signature:
Mr. Jean-Pierre DIOGO
R&D Director

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
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21.7 UK Declaration of Conformity – Printer (batch #1)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-0186AS to S/N JV3D1AS-0386AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015 EN 60204-1: 2018, EN 60825-1 :2014
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: May 11th, 2021

Signature: Victor ABERGEL
Position: Executive Vice President
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.I. Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151 – Filiale MGI USA, Inc. – Melbourne – Floride
www.mgi-fr.com – www.mgi-usa.com

21.8 UK Declaration of Conformity – Printer (batch #2)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-03876AS to S/N JV3D1AS-0550AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015 EN 60204-1: 2018, EN 60825-1 :2014
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: October 21st, 2024

Signature: Jean-Pierre DIOGO
Position: R&D Director
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
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21.9 UK Declaration of Conformity – Printer (batch #3)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**AccurioShine 3600**
Product Type:	Digital spot UV coater
Product Lot:	From S/N JV3D1-0551AS to S/N JV3D1AS-0750AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015 EN 60204-1: 2018, EN 60825-1 :2014
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: October 21st, 2024

Signature: Jean-Pierre DIOGO
Position: R&D Director
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
www.mgi-fr.com

21.10 UK Declaration of Conformity – Universal Feeder (batch #1)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**UNIVERSAL FEEDER**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0186AS to S/N JV3D1-0386AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015
	EN 60204-1: 2018
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
	EN 61000-3-11 :2000, EN 61000-3-12 :2011
	EN 61000-3-3 :2013, EN 61000-3-2 :2014
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: May 11th, 2021

Signature: Victor ABERGEL
Position: Executive Vice President
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151 – Filiale MGI USA, Inc. – Melbourne – Floride
www.mgi-fr.com – www.mgi-usa.com

21.11 UK Declaration of Conformity – Universal Feeder (batch #2)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**UNIVERSAL FEEDER**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0387AS to S/N JV3D1-0550AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015 EN 60204-1: 2018
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: October 21st, 2024

Signature: Jean-Pierre DIOGO
Position: R&D Director
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
www.mgi-fr.com

21.12 UK Declaration of Conformity – Universal Feeder (batch #3)

MGI Digital Technology

UK DECLARATION OF CONFORMITY

according to ISO/IEC 17050-1 and UK Government guidance

Manufacturer:	**MGI Digital Technology**
Manufacturer's address:	**4, rue de la Méridienne** **94260 Fresnes** **FRANCE**
Product Name:	**UNIVERSAL FEEDER**
Product Type:	Feeder for digital spot UV coater or printer
Product Lot:	From S/N JV3D1-0551AS to S/N JV3D1-0750AS

We declare under our sole responsibility that the product complies with the following legislations and Standards.

LEGISLATIONS

S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008
S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016
S.I. 2012/3032	Restriction of the use of certain hazardous substances (RoHS) 2018

STANDARD

Safety	EN ISO 12100: 2010, EN ISO 13849-1: 2015 EN 60204-1: 2018
EMC	EN 61000-6-4:2007/A1:2011, EN 61000-6-2:2016
RoHS	EN IEC 63000 :2018

Importer / Distributor for Great Britain

Name:	Konica Minolta Business Solutions (UK) Ltd.
Address:	Miles Gray Road, Basildon, Essex SS14 3AR, UNITED KINGDOM

Place: Fresnes - FRANCE
Date: October 21st, 2024

Signature: Jean-Pierre DIOGO
Position: R&D Director
Address: 4, rue de la Méridienne -94260 Fresnes - FRANCE
Tel: +33 (0)1 45 21 06 60

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 6.195.480 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151
www.mgi-fr.com

21.13 RoHS Declaration of Compliance (EU)

MGI Digital Technology

EU RoHS 3
Declaration of Compliance

Manufacturer: **MGI Digital Technology**
Address: **4, rue de la Méridienne**
94260 Fresnes
FRANCE

Product Name: **AccurioShine 3600**
Product Type: Digital spot UV coater

The manufacturer hereby declares that the product identified above is in conformity with the following requirements:

EU RoHS: 2015/863/EU : RoHS III directive (Annex to 2011/65/EU : RoHS II directive)

The product identified above does not contain toxic and hazardous substances above following limits:

- Lead / Mercury / Hexavalent chromium and their compounds < 1000 ppm (0.1% weight)
- Cadmium and its compounds < 100 ppm (0.01% weight)
- Polybrominated Diphenyl Ethers (PBDE) < 1000 ppm (0.1% weight)
- Polybrominated Biphenyl (PBB) < 1000 ppm (0.1% weight)
- Di (2-ethyl hexyl ester) phthalate (DEHP) < 1000 ppm (0.1% weight)
- Butyl benzyl phthalate (BBP) < 1000 ppm (0.1% weight)
- Dibutyl phthalate (DBP) < 1000 ppm (0.1% weight)
- Di Iso Butyl Ortho phthalate (DIBP) < 1000 ppm (0.1% weight)

This declaration is based on information provided by our suppliers, based on reasonable inquiry.

Signed on:
May 11th, 2021
Fresnes (France)

Signature:
Mr. Victor ABERGEL
Executive Vice President

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151 – Filiale MGI USA, Inc. – Melbourne – Floride
www.mgi-fr.com – www.mgi-usa.com

21.14 RoHS Declaration of Compliance (CHINA)

MGI Digital Technology

中国 RoHS 符合性声明
China RoHS Declaration of Compliance

制造商 / Manufacturer: **MGI Digital Technology**
地址 / Address: **4, rue de la Méridienne**
94260 Fresnes
FRANCE

产品名称 / Product Name: **AccurioShine 3600**
产品类别 / Product Type: 数码点涂机 /Digital spot UV coater

部件名称 Parts Name	「品中有害物」的名称及含量 Hazardous substance Table					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
金属框架及零件 Metal frame and parts	O	O	O	O	O	O
印刷电路板组件 * Printed Circuit board assembly *	X	O	O	O	O	O
电线电缆 Wires and cables	O	O	O	O	O	O
M12 电缆 M12 cables	X	O	O	O	O	O
接线配件 Wiring accessories	O	O	O	O	O	O
电源 Power supplies	X	O	X	O	O	O
电器元件 Electric components	O	O	O	O	O	O
微型机械继电器 Miniature mechanical relay	X	O	X	O	O	O
马达和马达驱动器 Motors and motors drivers	O	O	O	O	O	O
24V 不间断电源电池 24V UPS battery	X	O	O	O	O	O
触摸屏显示 Touchscreen display	O	O	O	O	O	O
电脑 Computer	X	O	O	O	O	O

本表格依据 SJ/T 11364 的规定编制。This form has been prepared in compliance with the provisions of SJ/T 11364.

O：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

O: Indicates that the content of said hazardous substance in all of the homogenous materials in the component is within the limits required by GB/T 26572.

X：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。 此表中所有名称中含 "X" 的部件均符合欧盟 RoHS 立法。

X: Indicates that the content of said hazardous substance exceeds the limits required by GB/T 26572 in at least one homogenous material in the component.

* 印刷电路板组件: 包括印刷电路板及其构成的零部件

Printed circuit board components: including printed circuit boards and their components.

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151 – Filiale MGI USA, Inc. – Melbourne – Floride
www.mgi-fr.com www.mgi-usa.com

中国 RoHS 符合性声明
China RoHS Declaration of Compliance

注：此表格包括了产品及其配套的所有选购件的有害物质信息。
Note：This table includes information on hazardous substances in the product and all optional accessories.

产品环保期限使用条件的注意事项。
Precautions about Conditions of the Use for the product's Environmental Protection Period

产品环保使用期限的使用条件。
Term of Use for the product's Environmental Protection Period.

在中国销售的电器电子产品的环保使用期限。表示按照本产品的安全使用注意事项使用的情况下。
从生产日开始，在标志的年限内使用，本产品含有的有害物质不会对环境，人身和财产造成严重影响。
The environmental protection use period of electrical and electronic products sold in China. Indicates that the product is used in accordance with the precautions for safe use of this product. From the date of production, use within the sign period, the harmful substances contained in this product will not cause serious impact on the environment, personal and property.

MGI S.A – 4, rue de la Méridienne 94260 Fresnes - FRANCE – Tel : +33 (0)1 45 21 06 60 – Fax : +33 (0)1 46 68 71 55
S.A au capital de 5.503.660 € - SIRET 324 357 151 00079 – Code APE 2899A – Banque C.I.A.L Mulhouse – N°TVA Intracommunautaire : FR 57 324 357 151 – Filiale MGI USA, Inc. – Melbourne – Floride
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- end -