Anapurna H3200i LED

Advanced Operator Manual (v1.0)

AGFA

STAY AHEAD. WITH AGFA GRAPHICS.

Legal text

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Preface

This manual must be considered as part of the :Anapurna H3200i LED Hybrid 6 Color White (referred to as H3200i LED hereafter). This manual explains how to use, operate and maintain the H3200i LED in order to keep it in optimal condition.

Anybody who uses the machine or who is responsible for it in some way must read this manual carefully before using the machine.

Keep this manual in a safe location, preferably close to the machine, so that it can be read when needed.

Remark:

The images and description of the User Interface and its operations in this document may not match on printers that were manufactured after the time of its writing. Please contact your local Agfa Representative for a copy of the most recent documentation for this printer.

Training

Besides reading this manual, the people who use the H3200i LED must be trained in how to use the printer.

The employer must ensure that the people who use the H3200i LED have read the manual and have been trained and are authorized to use the printer.

Report to Agfa

Despite the fact that this manual has been produced with the utmost care, it is possible that you may encounter an unsafe situation that is not described in this manual.

Agfa graphics strongly recommends you to report such situations to our local Agfa contact, see page 9.

Responsibility

Warning:

- Agfa points out that it is forbidden to make modifications without written permission of Agfa.
- Agfa cannot be held liable for injury, damage or excessive wear caused by improper maintenance, improper use or changes (mechanical, electrical or software) made to any part of the printer.
- Agfa accepts no responsibility for any damage or personal injury caused by disregarding the safety instructions indicated in this document or carelessness during operating or cleaning activities on/in the printer.

Symbols and warnings used in this manual

The following symbols and warnings are used in this manual:

Warning: *ignoring this warning may lead to:*

- Physical injury for the operator or people who carry out maintenance and repair work on the machine.
- Damage to the machine.

Remark:

- This symbol gives information, specific advice or suggestions.

Environment:

- This symbol indicates a situation where danger exists for environmental damage.

Table of Contents

1 Introduction

Congratulations on your purchase of an :Anapurna Inkjet Printer. This large format inkjet printer uses inks chemically formulated for use on a very wide range of materials with very high quality results.
This family of printers offers the following features and advantages:

- Colors are printed on different media.
- Day and night conversion for backlit applications.
- Able to change between small, medium & large format media with no setup time.
- Able to handle a wide range of media which enables use in applications such as: exhibit graphics, POP, back-lit, self-adhesive labels etc.

These features make :Anapurna printers perfect for short run, custom work in Sign & Poster Shops, Photo Labs and for Screen Printers. Niche applications such as custom DVD label printing, art reproduction, personalized or event-specific items and interior decor become possible and affordable.

The key mechanical features that enable this versatility are:

- A versatile hybrid media transport that can handle wide media with high precision.
- Versatile control over the ink curing process to optimize color and finish.
- Print head height adjustment with a maximum media thickness of 45 mm.
- Predefined color configurations that meet the ISO 12647-2 standard.

1.1 Support information

Printer SN: _____

Installation date: _____

Your local Agfa representative

Address: _____

_____

_____

Tel.: _____ (hardware)

_____ (software)

_____ (spare parts)

Fax.: _____

1.2 Technical specifications

1.2.1 Printer and table Weight & Dimensions

Specification	Anapurna H3200i LED	Small table	Large table
Dimensions (w x h x d)	5720 x 1770 x 1926 mm	3340 x 1080 x 640 mm	3340 x 1080 x 1850 mm
Weight	2800 kg	100 kg	150 kg

1.2.2 Electricity & software

Specification	Continent Voltage (V)	Frequency (Hz)	Max. Current ratting (A)	Fuse protection (Internal)
Europe	3-phase with neutral with ground star 400V +/-10%	50 Hz	21A	3 x 30A
USA	3-phase no neutral with ground 230V +/-10%	60 Hz	24A	3 x 30A
System Integration RIP	• Integrated production solution with Asanti, other RIPs on request. • Ready to use Anapurna H3200i LED media/ink profiles available (Asanti).			

1.2.3 Productivity (with starter pack inks)

Quality Mode	Printing speed		Ink consumption	
	up to m^2/h	*up to ft^2/h*	*Normal ink coverage ml/m^2*	*Blue solid ink coverage ml/m^2*
Draft	129	1389	4,6	8,1
Draft - 4C	129	1389	4,3	8,1
Express 1	87	936	6,5	12,8
Express 1 - 4C	87	936	5,0	12,8
Express 2	77	829	7,0	15,3
Express 2 - 4C	77	829	5,5	15,3
Production 1	64	689	7,7	15,8
Production 2	39	420	8,2	15,8
Standard 1	34	366	8,7	18,0
Standard 2	23	247	8,5	16,9
High-quality 1	19	204	8,8	18,0
High-quality 2	17	183	11,0	23,2
High-quality 3	9	97	11,0	23,2

* ink consumption contains Anapurna 1500 color + Anapurna 1040 W

1.2.4 Ink consumption White

Not every white application needs the same amount of ink

	Resolution (dpi)	Uni/Bi	Printer setting	Ink Density	Application	Complete white coverage up to	Printing speed
Standard	720 x 720	Bi	Quality FM/GR	100%	pre-white basic opacity	28 ml/m^2	17 m^2/h
				75%	post-white standard opacity	21 ml/m^2	
				50%	diffusion layer white	14 ml/m^2	
HQ W1	720 x 720	Uni	Quality FM/GR	100%	pre-white basic opacity	28 ml/m^2	9 m^2/h
				75%	post-white standard opacity	21 ml/m^2	
				50%	diffusion layer white	14 ml/m^2	
HQ W2	720 x 1440	Bi	Quality Gradient	100%	pre-white full opacity	37 ml/m^2	9 m^2/h
				75%	post-white standard opacity	28 ml/m^2	
				50%	diffusion layer white	18 ml/m^2	
HQ W3	720 x 1440	Uni	Quality Fine Mask	100%	pre-white full opacity	37 ml/m^2	5 m^2/h
				75%	post-white standard opacity	28 ml/m^2	
				50%	diffusion layer white	18 ml/m^2	

* ink consumption contains Anapurna 1500 color + Anapurna 1040 W

1.2.5 Print Heads

Specification	
Print heads	• 6 Konica-Minolta KM1024i-heads: 1024 nozzles/head with a droplet volume of 12pl (colors). • 2 Konica-Minolta KM1024i-heads: 30pl (white in line).

1.2.6 Ink type

ABC Code	*Ink Type*	*Ink Type*
40WM7	Anapurna 1040 White Ink	Anapurna 1040 White Ink 2x0,9L
40WAK	Anapurna 1500 Magenta Ink	Anapurna 1500 Magenta Ink 2x1L
40WBM	Anapurna 1500 Yellow Ink	Anapurna 1500 Yellow Ink 2x1L
40WCO	Anapurna 1500 Black Ink	Anapurna 1500 Black Ink 2x1L
40WDQ	Anapurna 1500 Cyan Light Ink	Anapurna 1500 Cyan Light Ink 2x1L
40WES	Anapurna 1500 Magenta Light Ink	Anapurna 1500 Magenta Light Ink 2x1L
40V9F	Anapurna 1500 Cyan Ink	Anapurna 1500 Cyan Ink 2x1L

1.2.7 Text Quality (only for color)

Specification	
Text quality positive	4 point
Text quality negative	6 point

1.2.8 Media/Substrate flexibility

Specification	
Minimum printable substrate size	• Rigid/sheet media (printing single board): A2 landscape (60 x 42 cm / 1,97 x 1,4 ft) • Flexible roll media: 60 cm wide (1,97 ft)

Flexible media

(roll-to-roll, roll-to-sheet and sheet printing).

All printable flexible media, except 'mesh' without liner.

Specification	
Media width	61-320 cm (24″-126″) Optional dual roll kit available: support for 2 rolls of 152.4 cm (60″)
Print width	Up to 320 cm Optional dual roll kit available: support for 2 rolls of 152.4 cm (60″)
Borderless printing	316 cm (124″)
Media thickness	Between 0.3 mm and 45 mm
Maximum roll weight (including aluminum shaft)	100 kg (150kg) based on 320 cm print width or 31,25 kg/m
Maximum roll diameter	36 cm (14.17″)
Core diameter	3″
Shafts	Steel shaft at input side Aluminum shaft at output side

Rigid Substrate

Specification	
Maximum width	• Media size: 320 cm (126″) • Printable size: 320 cm (126″) / 316 cm (124″) with borderless printing
Maximum length	• Supported by 1 rigid roller table: 140 cm (55″) • Supported by 1 rigid roller table + media extension table (default): 320 cm (126″)
Thickness	• Minimum: 1 mm (0,04″) • Maximum: 45 mm (1,77″)
Media weight	• Maximum: 10 kg/m² on printing table
Multiple board loading possible when using "registration blocks"	

1.2.9 Compressed air

Specifications	Value
Pressure compressed air supply	6 Bar
Air quality (category 1, ISO 8573-1)	Dry, clean and free from grease
Air temperature (category 4, ISO 8573-1)	+3°C - 50°C

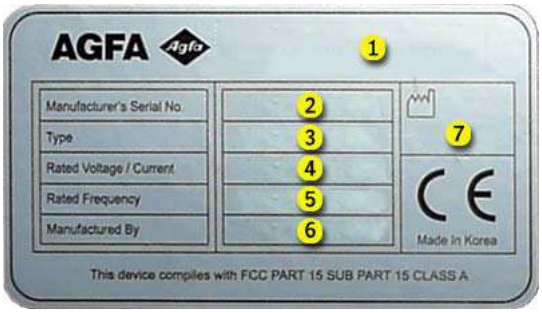
1.2.10 Options

Option	ABC Code
Dual Roll kit	OW3E6
Media lifter	O9W1N

1.3 Machine Identification

A type plate is located on the H3200i LED.

The type plates contain the following information:



1 Machine type and version
2 Serial number
3 Type
4 Rated Voltage / Current
5 Rated Frequency
6 Manufactured By
7 Year of Construction

The machine serial number is intended as a reference for the end user.

Please state this serial number when ordering parts and requests for information.

1.4 EU Declaration of conformity

The H3200i LED has been manufactured in accordance with the applicable European directives. A number of standards were observed when designing the machine in order to meet the fundamental requirements of the directives.

The CE mark has, therefore, been included on the machine's type plate.

The relevant directives and standards are given in the EU Declaration of Conformity.

Agfa Graphics NV reserves the right to make changes or improvements to the printer without prior notification.

1.5 Transport, (re)placement, installation and commissioning

Transport, (re)placement, installation and commissioning may only be done by your local Agfa representative. For that reason these activities are not written in this manual. Please contact your local Agfa representative for these activities.

2 Safety

Warning:

Anybody who uses the printer must read this chapter carefully before starting the machine. The safety instructions given in this chapter must be strictly observed together with the safety rules which are applicable in the company where the machine is used.

The Inkjet Printer is a machine with fast moving parts and powerful chemicals that present some risks.

Agfa Graphics has taken measures to mitigate these risks, but it is impossible to make the printer work completely risk-free. There are always (new) risks.

The printer may only be used if the requirements given below are met.

2.1 General safety regulations

- The printer may only be operated by people who have been trained and authorized to use it.
- Do not leave materials or empty pallets unattended on the floor where people may trip over them.
- Keep the floor around the printer clean and tidy. Immediately remove contamination, such as spilled ink or lubricant/maintenance materials. Slipping can cause serious injury.
- Make sure that the area around the machine is adequately illuminated, **but avoid direct sunlight on the machine**.
- Check the presence, state and function of the safety devices every day.
- Make sure you know where the emergency switches are located, and check to make sure they work correctly every day.
- The electrical box may only be opened by qualified personnel and must be closed while the machine is in operation!
- Do not leave the machine unattended while it is in use.
- Wear the specified personal protective equipment (see 2.6).
- Keep your hands and clothes out of the reach of moving parts.
- Tie up long hair and/or wear a hair-net.
- Always turn off the power supply (main switch) before carrying out maintenance or repair work in or on the printer.
- Never use the machine if there is a leak, a fault or any other unsafe situation.
- Never repair (electrical or mechanical) faults with the machine yourself. They may only be repaired by authorized personnel.

2.2 Safety devices

2.2.1 Safety sensors (light curtains)

Vertical safety light curtains are installed at the front and back of the printer. A safety light curtain consists of two opto-electronic beams with a sensing field (curtain) in between. The light curtains are used to detect the presence of a person's finger, hand, limb or other obstacle.

The light curtains are active during production. The machine goes into safety stop as soon as a sensing field is interrupted, (see 2.3).

2.2.2 Wing Sensors

Wing sensors are installed behind the ionization bars at both ends of the shuttle. The wing sensors prevent the print heads from coming into contact with anything on the media transport belt. This may occur when the media is not perfectly flat, when the media thickness was not properly set, or when something falls into the printing area of the media transport.

If a wing sensor is activated during movements of the shuttle, the machine goes into safety stop (see 2.3).

2.3 Safety stop

Interrupting a safety sensor (light curtain) or activating a wing sensor immediately results in a safety stop.

A safety stop has the following effects:

- Media transport and transport vacuum are switched OFF.
- LED units are switched OFF.
- The shuttle head lifts up to its highest position.
- The shuttle moves at low speed to home position.
- The ink pumps (ink flow) are stopped.

The following parts are switched or stay ON:

- The vacuum of the ink circuits stays on to prevent the ink flowing away.
- The printer's internal computer remains on to permit use of the control interface.
- The white ink maintenance circuit stays active (stirrer and ink circulation).

If the electrical mains supply falls away, the battery backup power supply circulates the white UV ink for 60 hours. The stirrer of the white ink tank will stop, as the electrical switch is NOT driven by the battery backup. An empty battery takes 5 days to completely charge again.

2.4 Emergency stop

2.4.1 Emergency stop switches

The Inkjet Printer is equipped with emergency stop switches on the front and back of the machine. An emergency stop switch is easily recognizable by its red color on yellow background.

The complete printer stops immediately as soon as one of the E-stop switches is pressed (power supply and compressed air system are disabled).

The pressed switch stays mechanically locked and it is not possible to (re)start the machine. Before you can (re)start the machine, the pressed switch must be unlocked by rotating it clockwise (direction arrows) until it returns to its normal position.

Warning:

- Only press an emergency stop switch in an emergency situation and not as a means to simply stop the machine during production, because there is a risk that the machine will be irreparably damaged.
- NEVER reset an emergency stop switch if you do not know who pressed the switch or why it was pressed.
- The printer may only be restarted after the emergency situation has been rectified, the machine is in a good condition and all the safety devices have been fitted and work correctly.

2.5 Unexpected printer stop

2.5.1 Malfunction of the compressed air system

When the supply of the compressed air unexpectedly stops, the printer:

- Sets off an alarm with an error 'Air Low' message.
- The shuttle head lifts up to its highest position
- The shuttle moves at low speed to home position.
- The ink pumps (ink flow) are stopped.

Follow the steps below to put the printer back in production:

1. Restore compressed air.
2. Confirm error window.

2.5.2 Outage electrical power supply

If the electrical mains supply falls away, the battery backup power supply circulates the white UV ink for 60 hours. The stirrer of the white ink tank will stop, as the electrical switch is NOT driven by the battery backup. An empty battery takes 5 days to completely charge again.

Restart the machine according to the normal start procedure.

2.6 Special points of danger

2.6.1 Ultraviolet Light

The UV LED units also produce very high intensity light that can cause sunburn on the skin or damage to the retina of the eyes if exposed.

Warning:

Wear UV resistant safety goggles and light blocking clothing, like a lab coat with long sleeves to the wrists to protect against contact burns.

2.6.2 Ultraviolet responsive inks

The UV inks used in the printer are chemical products that contain acrylates and pigments that will cause dermatitis if allowed to penetrate the skin. Dermatitis is an irritation of the deeper layers of the skin that can lead to permanent damage if left untreated. The symptoms of dermatitis include:

- Reddening of the skin
- Soreness of the skin not relieved by rubbing or washing
- Itching and/or rash
- Cracking or peeling of the skin

The most commonly affected parts of the body are the fingers, the webs between them, and the backs of the hands.

Warning:

- When performing maintenance tasks that involve UV inks take care to wear an outer garment with sleeves to the wrists, nitrile gloves with a thickness of at least 0.2 mm and safety glasses to prevent skin or eye contact.
- Agfa UV inks will penetrate even nitrile gloves in approximately 10 min. When there is contact with UV ink the gloves should be changed often (within 10 minutes).
- Latex gloves offer insufficient protection against UV inks and should not be used.

Expiry date and storage

- The :Anapurna inks have a an expiry date on the bottle that should be checked before using the ink in a machine.
- UV ink must be stored in sealed containers out of direct sunlight at room temperature.
- Dispose of uncured inks as chemical waste.
- Never mix uncured inks with any kind of solvent.
- Dispose used gloves as chemical waste.

In case of

- Eye contact: rinse eyes exhaustively with water.
- Skin contact: wash the area(s) of contact repeatedly with soap and water.
- A significant amount of uncured ink being spilled, and so forming a puddle, an absorbent floor cleaning material may be used to make cleanup easier. Smaller amounts of spilled ink can be mopped up using a cloth or paper towels. All such cleanup materials must be considered as chemical waste.

2.7 Material Safety Data Sheets (MSDS)

Material Safety Data Sheets (MSDS) about Agfa ultraviolet reactive inks are available from your local Agfa Graphics sales organization, or on the Agfa Graphics website: http://www.agfagraphics.com/msds.

2.8 Warning stickers and labels

Warning stickers on the machine and pictographs on packaging (of chemical substances) are used to provide information, such as to indicate a hazardous situation. Make sure you know the location of the stickers and their meaning and follow their instructions. They may be of vital importance.

Immediately replace damaged or illegible stickers.

	**WARNING** Moving parts can crush and cut. Keep guards in place. Keep hands clear. Switch Off power before servicing.
	**WARNING** UV Light. Do NOT look directly at the light beam. Wear protective glasses. Continued exposure may burn skin. Wear protective clothing.
	**WARNING** Burn hazard. Do Not Touch. Switch off power and allow to cool before servicing.
	**WARNING** Hazardous voltage. Contact may cause electric shock or burn. Switch Off and Disconnect electric supply before servicing.
	**WARNING** Avoid injury. Do Not operate with doors open. Close all doors before operating the machine.
	**WARNING** Carefully Read the Operator Manual and Safety instructions before using the printer.

2.9 Personal protective equipment (PPE)

It is not always possible to install sufficient technical safety features. Therefore, before starting work, make sure you know the safety regulations in force in your company and that you wear the correct personal protective equipment. For work on certain parts of the printer (for example, UV inks and UV LED units) wearing PPE is recommended. Read this manual to find out where PPE is necessary.

2.10 Lockout/tagout (locked)

Lockout/tagout is a safety procedure where the machine is turned off and locked from being switched on.

This procedure ensures:

- that people can safely perform maintenance and/or repair work on the machine.
- that unauthorized people cannot turn on the machine.

2.10.1 Lockout/tagout procedure

1 Shut down the printer, refer to chapter 5.
2 Turn the “Main power” switch off.
3 Lock the “Main power” switch with a padlock.

Warning:

When multiple people work on the printer, each person must attach his own padlock.

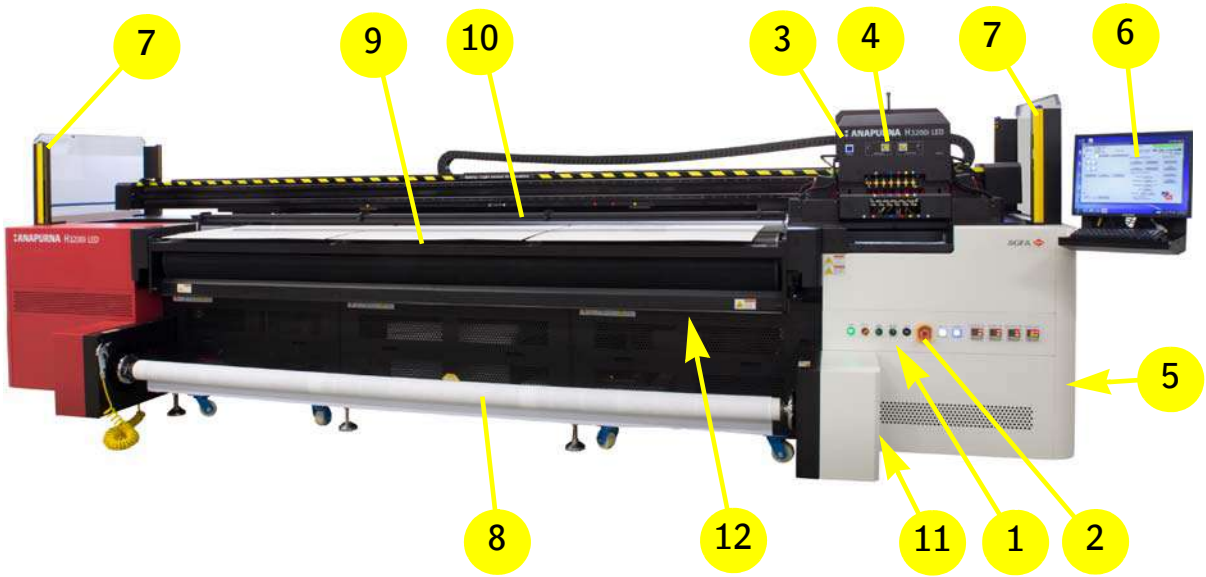
2.10.2 Removing the padlock

Warning:

Once the work has been completed, everybody who has fitted a padlock must remove it themselves. It is not permitted for people to remove somebody else’s padlock or to have their own padlock removed by somebody else.

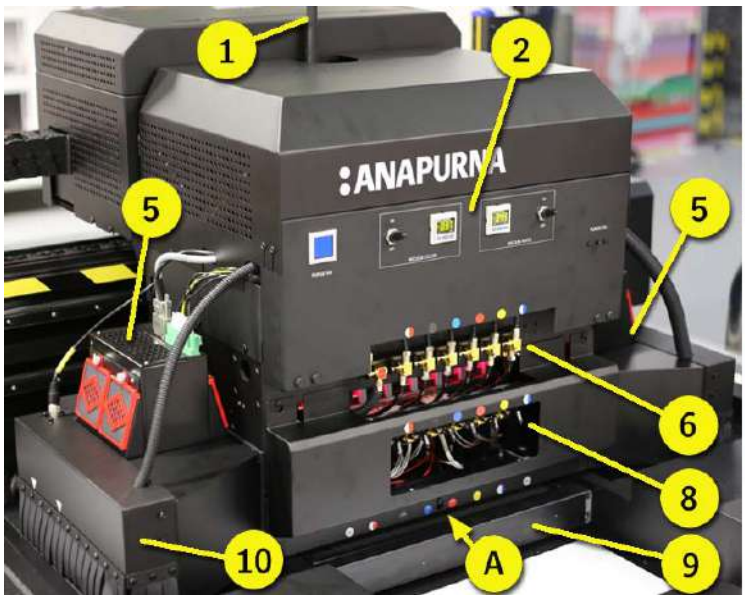
3 Description of printer parts

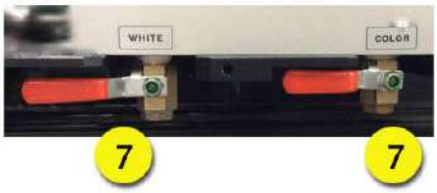
3.1 Front



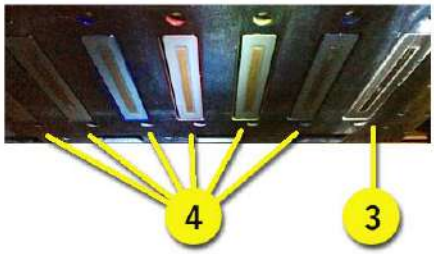
No.	Printer part	Refer to
1	Front control panel	4.1
2	Emergency stop switch	2.4.1
3	Shuttle (in Home position)	3.1.1
4	Vacuum control panel	4.3
5	Ink supply drawer (on right side of printer)	3.1.2
6	iGUI operator panel (touch screen)	4.4
7	Optical safety sensors (light curtain)	2.2.1
8	Powered take-up axle for roll media	3.1.3
9	Vacuum media transport belt	3.1.4
10	Front media set bar	3.1.5
11	Roll to roll media controller	6.5
12	Cutting slit	3.1.6

3.1.1 Shuttle





Side View (A)



The shuttle is used for printing on the media. The shuttle consists of:

No.	Shuttle part	Refer to
1	Manual height adjustment (only in power off mode).	
2	Vacuum control. The vacuum system allows for a very precise control of the ink flow during printing and prevents the ink nozzles from dripping in home position.	4.3
3	2 white circuits / print heads.	
4	6 color circuits / print heads. The print area of the print heads is shown by two white arrows on cover [10] of the shuttle.	
5	UV LED units for curing the ink.	
6	Ink flow valves.	
7	Sub air tanks (at back of shuttle). If the vacuum system has sucked the ink too far, it will be collected in two tanks (1 color/1 white) with level control.	
8	Drain valves. Each color ink circuit has a drain valve to remove air from the circuit or to inject storage flush to clear a blocked print head.	
9	Ink drip tray.	
10	Cover ionization bar / wing sensors.	

3.1.2 Ink supply drawer

The ink supply drawer is located on the right side of the printer.

The ink supply drawer consists of:

1 White container.

2 Six color containers.
- Light magenta
- Light cyan
- Yellow
- Magenta
- Cyan
- Black

3 Solution container.
Note: The term “Solution” is a traditional word for what is now called “Storage Flush” and some labels on the machine still use the short form “Sol”

4 Eight ink filters (one per container).
The function of the ink filter is to keep inpurities (are larger particles), that could have entered the main ink tank, away from the print nozzles.

5 Ink refill panel.
The indication light shows when a container needs filling.

- Green is lit: container full.
- Red is lit: container empty and must be topped up with 1 liter.
- Manual feeding: Button to pump ink manually to the sub ink tanks.

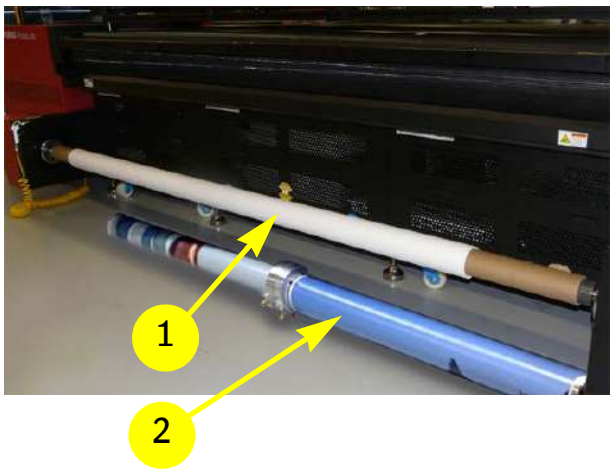
3.1.3 Powered winding axle

The roll axle [1] at the front of the printer is powered by a motor. The powered winding axle winds the media and keeps the media under tension. The direction of rotation of the powered axle can be changed so that the roll can be winded up with the print on the inside or on the outside.

The media roll is clamped to the axle by bellows, which move out of the axle when compressed air is supplied to the nozzle of the axle.

The :Anapurna H3200i LED can also handle a dual winding axle [2]. The dual winding axle has a clutch and flanges to limit the media roll in a lateral direction on the axle. The clutch and flanges need to be re-adjusted for different widths of media rolls.

The powered winding axle is an aluminum axle that can carry a media roll with weight up to 300 gram per centimeter media width (96 kg in case media of 3200mm width is loaded).



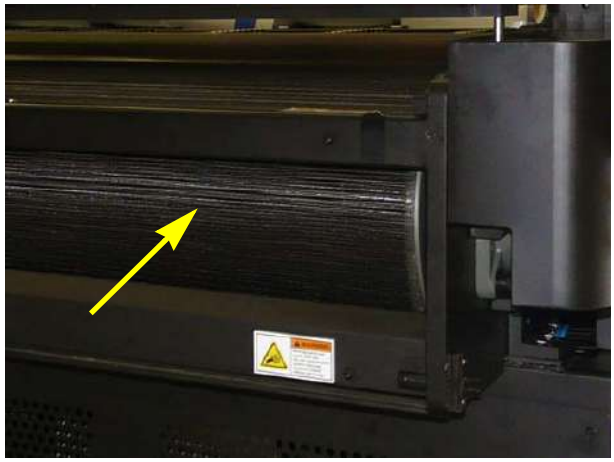
3.1.4 Media transport belt

The media transport belt moves the media under the printing shuttle while it is held securely by vacuum pressure from below.

The vacuum is applied over the area of the transport bed in four individually controlled areas as shown by the yellow arrows on the shuttle beam.

The vacuum is switched ON or OFF by turning the green switch “Vacuum” on the front panel.

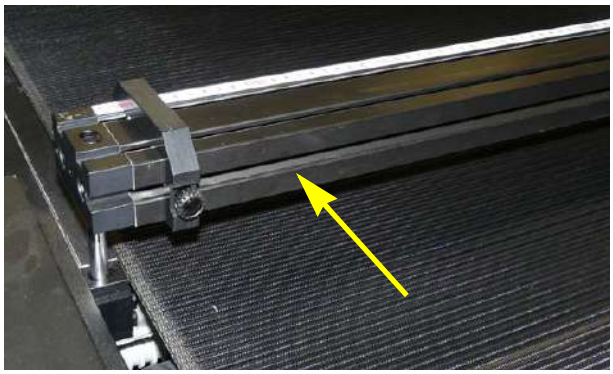
For more information, see chapter 6.



3.1.5 Front media set bar

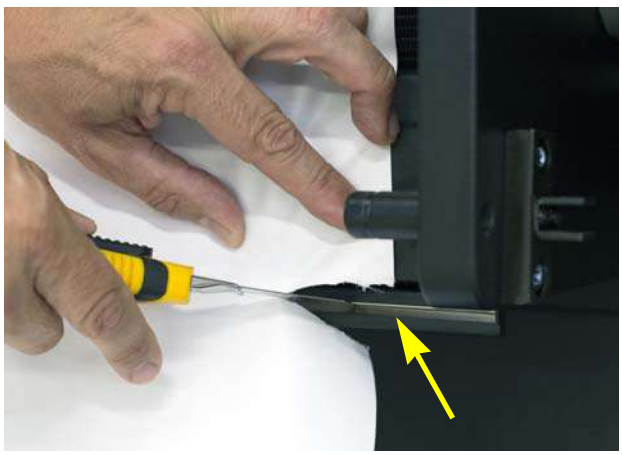
The bar is used to align the position of sheet media on the media transport belt relative to the shuttle (print heads).

The bar can be lowered or lifted by turning the red switch “Media set” on the front panel.

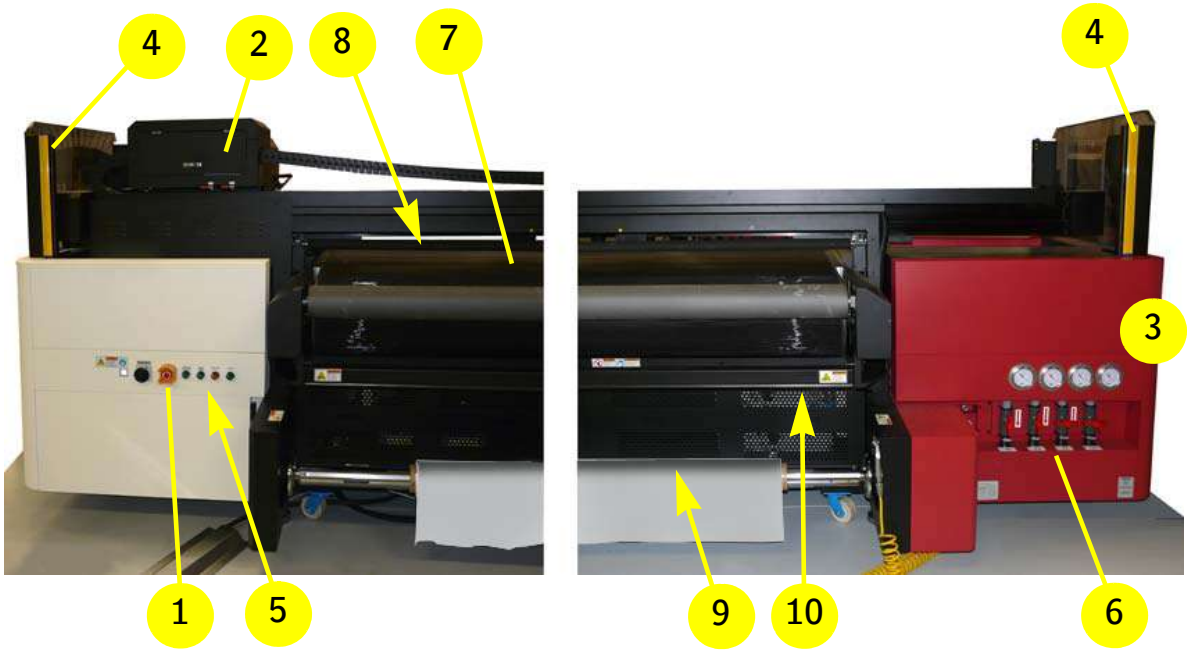


3.1.6 Cutting slit

At the front and back of the printer is a cutting slit. The cutting slit is meant to guide the knife during the cutting of the roll media.



3.2 Back



No.	Printer part	Refer to
1	Emergency stop switch	2.4.1
2	Shuttle (in Home position)	3.1.1
3	Vacuum unit (on left side of printer)	3.2.1
4	Optical safety sensors (light curtain)	2.2.1
5	Back control panel	5.2
6	Transport vacuum controls	3.2.2
7	Vacuum media transport belt	3.1.4
8	Media tension roll	3.2.3
9	Unwinding axle for roll media	3.2.4
10	Cutting slit	3.1.6

3.2.1 Vacuum unit

The vacuum unit, on the left side of the printer, supplies the vacuum to the media transport belt.

3.2.2 Transport vacuum regulators

Media is held securely on the media transport belt by vacuum pressure from below.

The vacuum is applied over the area of the transport bed in four individually controlled areas as shown by the yellow arrows on the shuttle beam. Each area can be controlled individually via a vacuum regulator.

3.2.3 Media tension roll

The tension roll [1] keeps the media tight so that it doesn't crease while printing.

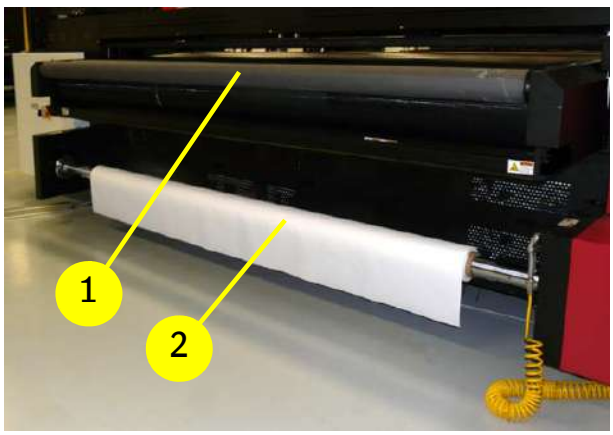
3.2.4 Unwinding axle for roll media

A new roll of media is placed on the unwinding axle [2] at the back of the printer. The unwinding axle has a motor to keep the media under tension. The rotational direction of the unwinding motor is opposite to the direction of rotation of the winding motor. The rotation power of the motors is controlled via controllers.

The media roll is clamped to the axle by bellows, which move out of the axle when compressed air is supplied to the nozzle of the axle.

The :Anapurna H3200i LED can also handle a dual unwinding axle [2]. The dual unwinding axle has a clutch and flanges to limit the media roll in a lateral direction on the axle. The clutch and flanges need to be re-adjusted for different widths of media rolls.

The :unwinding axle is a steel axle that can carry a media roll with weight upto 300 gram per centimeter media width (96 kg in case media of 3200mm width is loaded).



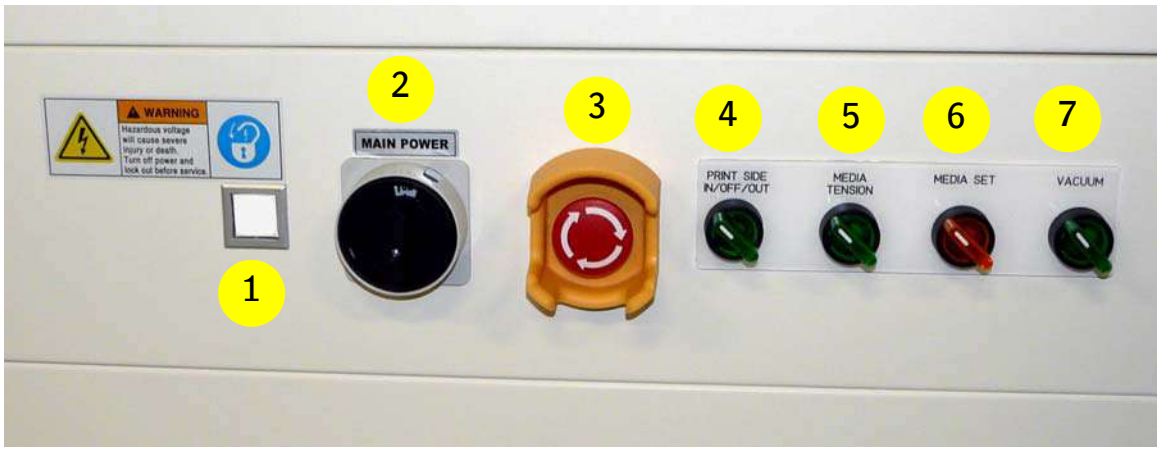
4 Operator panels

4.1 Front control panel

No.	Name	Description
1	Vacuum	Switch to put the vacuum of the media transport belt ON or OFF.
2	Media set	Switch to send the front media set bar UP or DOWN.
3	Media tension	Switch to set the tension of the media roll.
4	Print side IN/OFF/OUT	Switch to change the wind up direction of the take up axle: • IN: media is winded up with the print on the inside. • OFF: the take up axle is switched off. • OUT: media is winded up with the print on the outside.
5	Buzzer	Buzzer.
6	Emergency switch	Push button to switch the complete printer OFF in case of an emergency.
7	START ON	Push button with white indicator to start the printer. Press the white button to start the printer. The white lamp is lit when the printer is on.
8	PC ON/OFF	The printer can be operated via the iGUI touch screen panel. Press the blue button on the front of the operator panel to start the PC of the printer. The blue lamp is lit when the PC is on.
9	White Sub-Ink Temp	PID: shows the temperature of the white ink tank. • red digits: processing value indicator (actual measured value)* • green digits: setting value indicator (target value)*
10	Head Base Temp	PID: shows the temperature of the head base. • red digits: processing value indicator (actual measured value)* • green digits: setting value indicator (target value)*
11	Color Sub-Ink Temp	PID: shows the temperature of the color ink tanks. • red digits: processing value indicator (actual measured value)* • green digits: setting value indicator (target value)*
12	Vacuum Control	PID: shows the pressure of applied vacuum. • red digits: processing value indicator (actual measured value)* • green digits: setting value indicator (target value)*

* For more information, see chapter 12 “Varia”.

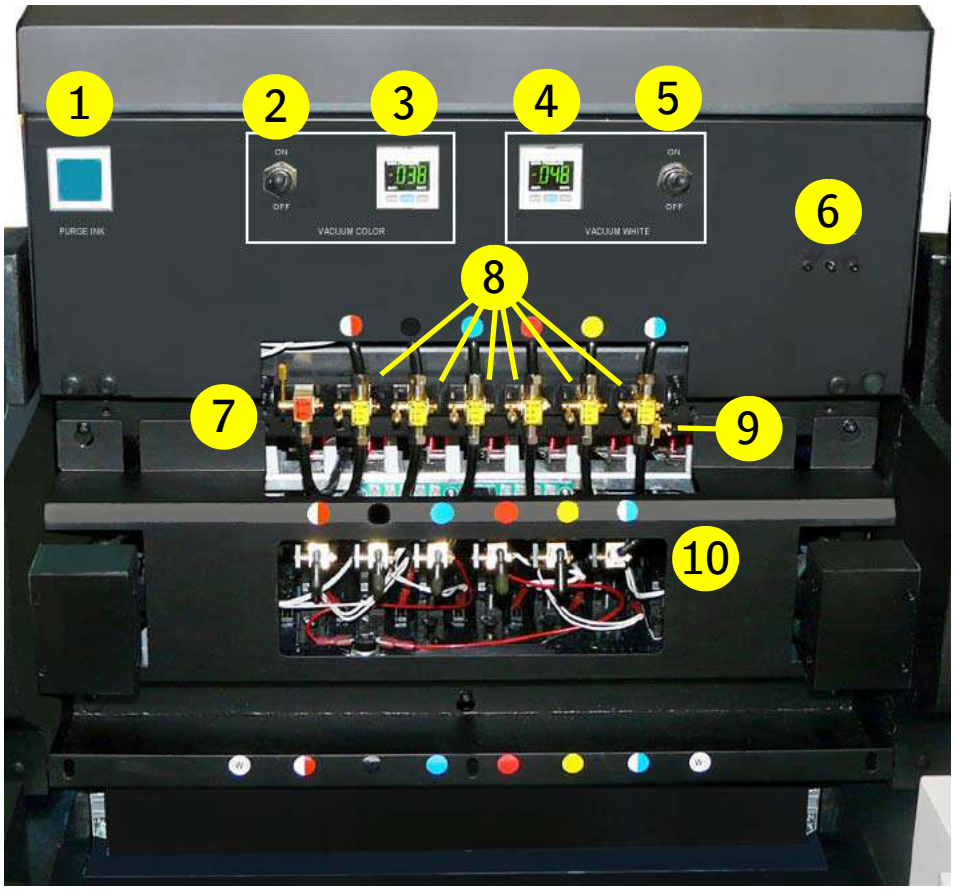
4.2 Back control panel



No.	Name	Description
1	Indicator	• Indicator off: Main power (switch) OFF • Indicator is lit: Main power (switch) ON
2	Main power	Main switch to switch the main power supply of the printer ON or OFF
3	Emergency switch	Push button to switch the complete printer OFF in case of an emergency.
4	Print side IN/OFF/OUT	Switch to change the wind up direction of the take up axle: • IN: media is winded up with the print on the inside. • OFF: the take up axle is switched off. • OUT: media is winded up with the print on the outside.
5	Media tension	Switch to set the tension of the media roll.
6	Media set	Switch to send the media set bar UP or DOWN.
7	Vacuum	Switch to put the vacuum of the media transport ON or OFF.

4.3 Shuttle control panel

The shuttle contains the controls that control the flow of ink to the print heads.



No.	Name	Description
1	Purge ink	The Push button with blue indicator has two functions. • Status indicator during normal operation (vacuum ON): Indicator is lit if there is an error. • Push button for purging the print heads (vacuum OFF): Indicator flashes during the purging process.
2	Vacuum color	Switch to turn the vacuum for the colors On or OFF. • Switch up: vacuum ON • Switch down: vacuum OFF
3	Vacuum color	Color ink vacuum pressure controller, see 4.3.1.
4	Vacuum white	White ink vacuum pressure controller, see 4.3.1.
5	Vacuum white	Switch to turn the vacuum for white On or OFF. • Switch up: vacuum ON • Switch down: vacuum OFF
6	Purge solution	Purge solution through the print heads.
7	Flow control storage flush	Valve to control the flow of storage flush
8	Flow control color ink	Each color ink circuit has a valve to control the flow of the ink to the print head. See also 4.3.2
9	Storage flush drain valve	Valve to rinse the storage flush supply.
10	Drain valves	Each color ink circuit has a drain valve to remove air from the circuit.

4.3.1 Vacuum control print heads

The standard negative pressure value (= vacuum) is preset in the factory for the default ink and should not be changed unless performance issues require it or other ink types are used.

- Pressure value color ink circuits: -.038 Bar.
- Pressure value white ink circuit: -.048 Bar.

4.3.2 Ink and storage flush flow control

The storage flush has a valve (red label) to control the flow of storage flush.

Position lever

- Vertically up (CLOSE): delivery of storage flush closed.
- Vertically down (SOL.): delivery of storage flush opened.

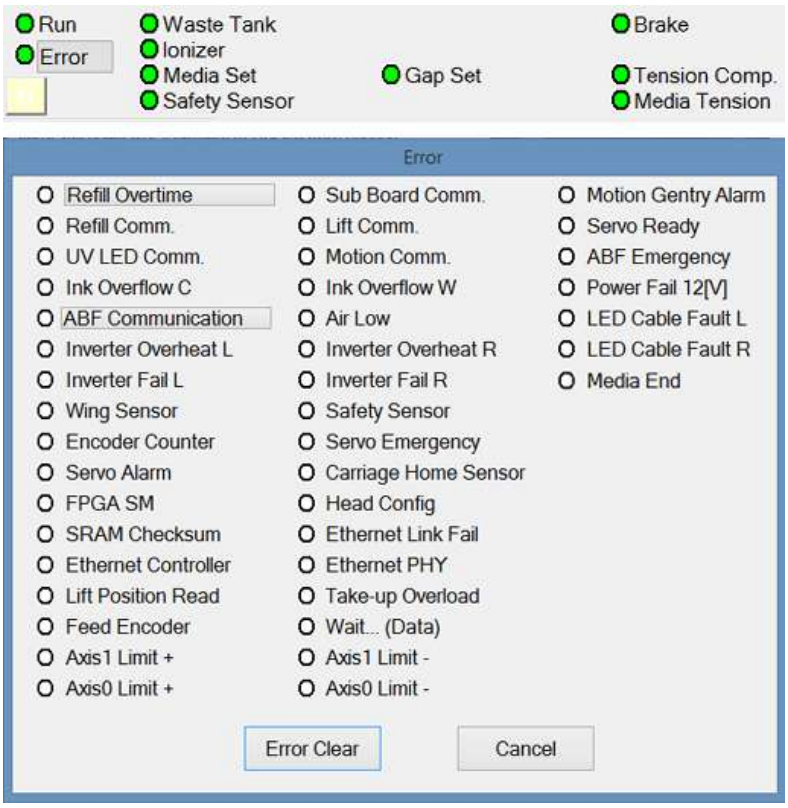
Each color ink circuit has a valve (yellow label) to control the flow of ink or storage flush to the print head.

Position lever

- Vertically up (CLOSE): delivery of ink or storage flush closed.
- Horizontally middle (INK): delivery of ink opened.
- Vertically down (SOL.): delivery of storage flush opened to clear a blocked print head.

4.4 iGUI Touch screen control Panel: Common elements

4.4.1 Status and error indicators



The status indicators for the modules of the printer are located in the upper left corner of the screen.

- Indicator is lit green: status OK or active.
- Indicator is lit red: status NOT OK or not active.

Error

In case of an error:

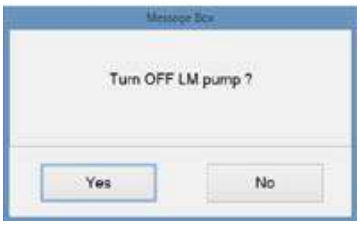
1. Press “Error” to check which malfunction has occurred.
2. Fix the malfunction.
3. Press ”Clear Error” to clear the error in the program.

4.4.2 Ink/storage flush level indicators

The ink status and level indicators are located in the upper right corner of the screen.

- The green buttons indicate whether the pumps are activated. When the capital letter changes into a small letter, the sub ink tank is almost empty, and the pump is active.
- 5 blocks indicate the amount of ink in the main tank.
- The capital red letter E indicates that the main tank is almost empty.

4.4.2.1 Pump Ink/storage flush ON/OFF



The delivery pump of each ink circuit and the storage flush can be individually enabled or disabled.

The status of each pump is shown by the button above the level indicator.

- Button green: the delivery pump is turned ON.
- Button red: the delivery pump is turned OFF (eg LM).

How to turn a pump ON or OFF:

1 Press the (green/red) button.

2 A message box pops up (eg 'Turn OFF LM pump').

3 Press 'Yes' or 'No'.

4.4.2.2 Ink level indicators

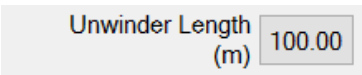
Main ink tank

When a main ink tank is almost empty, a red letter E appears in the button above the level indicator. Sufficient ink is available to finish the print job.

Sub ink tank

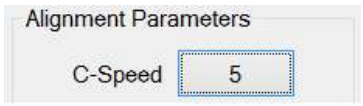
When a sub ink tank is almost empty, the capital letter in the green button changes into a small letter (e.g. m of magenta).

4.4.3 Unwinder Length



Shows the remaining length (in meters) of available roll media that can be printed. This value is important to calculate the right winder/unwinder (PORA), (see section 6.5).

4.4.4 Changing a parameter value



Parameter values are shown as buttons with numeric values as their title. Pressing one of these buttons (e.g. Carriage speed), opens a value setting pop-up:

To change a value:

1 Use the numeric buttons and/or mouse pointer.
(The new value appears in the 'Input Value' field).

2 Press 'OK' to confirm the changed value.

The buttons:

Clear: deletes the entire new entry.

Delete: deletes the last digit entered respectively.

Min: fills the minimum value allowed in.

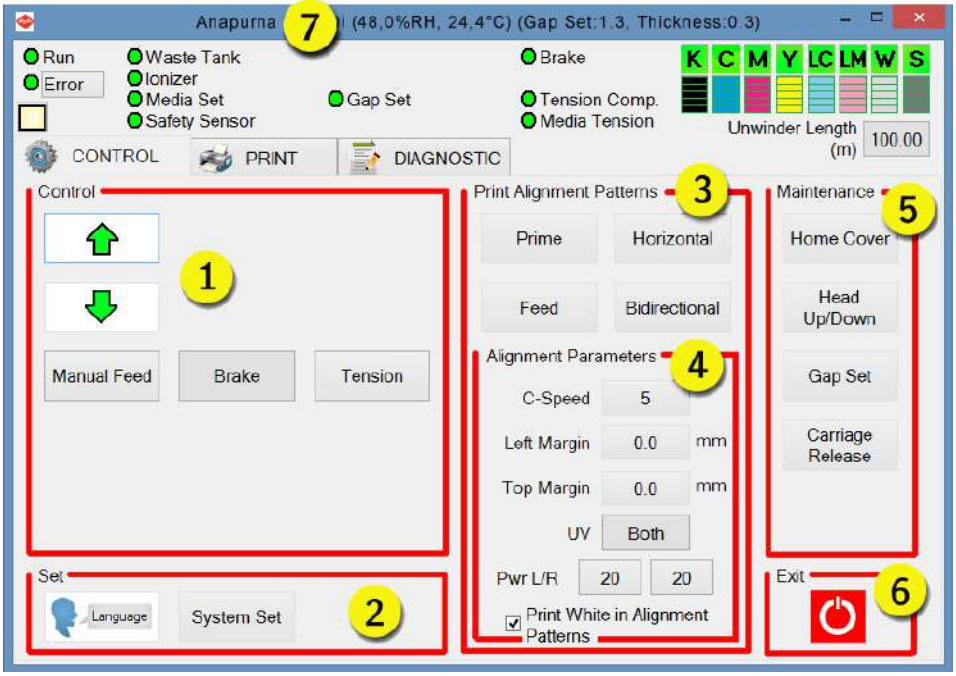
Max: fills the maximum value allowed in.

Cancel: leaves the current value untouched.

4.5 Control screen

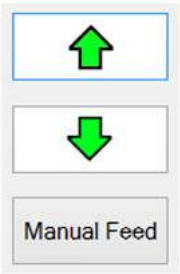
Pressing the Control Tab opens the Control screen.

This screen provides control over the motion and alignment functions of the printer.



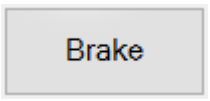
No.	Screen field	Refer to
1	**Control** Controls of the media transport belt.	4.5.1
2	**Set** Sets the language and system.	4.5.2 & 4.5.3
3	**Print Alignment Patterns** There are four types of calibration patterns; Prime, Horizontal, Feed and Bidirectional. These are printable patterns that may be used to verify the accuracy of the print head alignment. Each test pattern gives numerical feedback that allows the operator to adjust the settings in the relevant calibration tables. Each button opens a pop-up from which the calibration patterns may be printed, and from which the calibration table may be opened to adjust the timing parameters.	Chapter 7
4	**Alignment Parameters** Controls the position of the test prints using the left and top margin, the speed of the shuttle (Carriage Speed) and the use of the UV LED units.	--
5	**Maintenance** Controls the hardware features of the printer or gives access to panels where maintenance tasks may be performed.	Chapter 10
6	**Exit** Allows you to exit the application (PC stays on).	--
7	**Information bar** gives information about: - the area humidity (%) and temperature (°C). - the actual Gap set and media thickness. Note: if the gap set is not performed, no values are shown..	--

4.5.1 Control



These buttons cause to move the media towards the back or the front of the printer.

This button allows the operator to manually move the media over a specific distance.



This button switches the brake ON or OFF.

This button switches the media tension ON or OFF.

4.5.2 Set: Language

This button opens the “Language” selector pop-up.

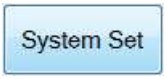
The pop-up shows the current language.

How to change the current language:

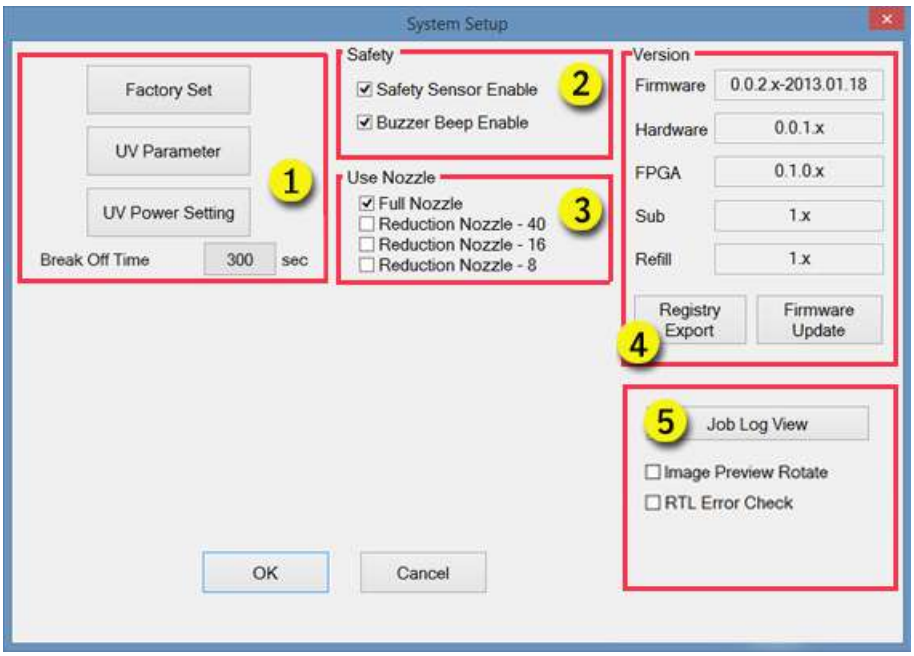
1 Select a language.

2 Press ‘OK’ to set the new selection.

4.5.3 Set: System Set



This button opens the “System Setup” pop-up.



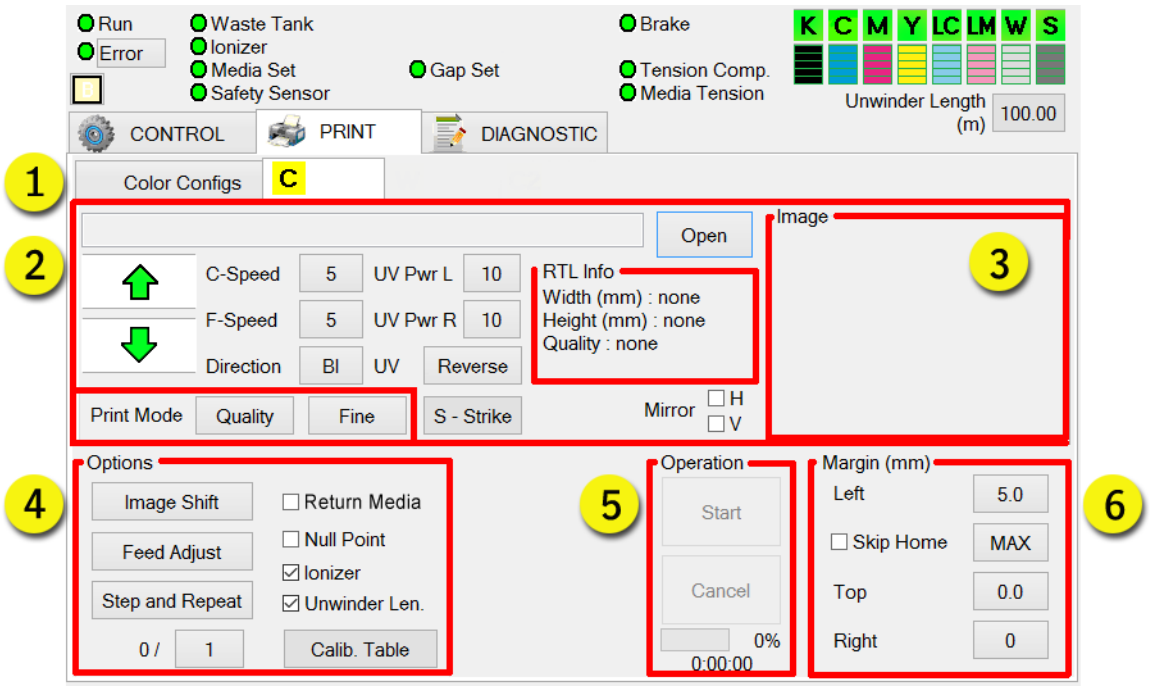
No.	Control	Refer to
1	**Factory Set** / **UV Parameter** / **UV Power Setting** Advanced operation.	Chapter 9
	Brake Off Time: Blocks the unwinding so that the media can be drawn tight (flat) manually.	
2	**Safety** Safety Sensor Enable: this check box overrides the safety sensors (light curtains). Buzzer Beep Enable: this check box enables/disables the buzzer beep.	See caution below
3	**Use Nozzle** Full Nozzle: All nozzles of the printer heads are used. Reduction Nozzle -40: First and last 20 nozzles of the printer heads are not used. Reduction Nozzle -16: First and last 8 nozzles of the printer heads are not used. Reduction Nozzle -8: First and last 4 nozzles of the printer heads are not used.	
4	**Version** The data in this field are for informational purposes only.	
5	**Job Log View** Image preview rotate: Depending on the Image Rip (for us Asanti), it may be that the job preview is shown rotated on the iGUI screen (upside down and hard to read). By checking the check-box “Image preview rotate” the preview of the image is rotated so that it is clearly readable on the Gui screen. RTL Error Check: check box to perform a RTL error check during loading of an image (is default off).	

Caution:

Despite the fact that the option is available in the software, Agfa strongly advises against disabling a safety device of the printer. There is a serious risk of bodily harm from the printer’s moving parts. All of the safety sensors should be active during the operation of the machine. Agfa cannot be held responsible for injuries occurring while any item of the printer’s safety devices is not functioning.

4.6 Print screen

This screen is used to control how the job is printed. The figure below shows the configuration of the panel when the Print Mode is set for Color layer printing.



No.	Screen field	Refer to
1	Color configurations	4.6.1
2	Print control and settings	4.6.2
3	Image Thumbnail display of what is printed.	--
4	Options	4.6.3
5	Operation Start: Starts printing the job. Button title changes to “Pause” during the job to permit head cleaning or media feed adjustments. Cancel: Cancels printing. Only active during a print job. Percentage bar: Shows the progress of the print job.	--
6	Margins (mm)	4.6.4

4.6.1 Color configuration

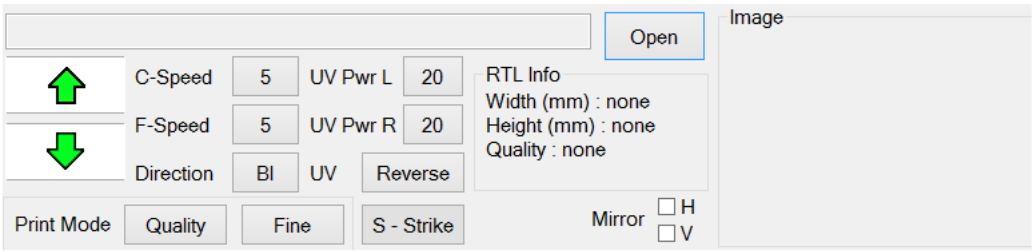
The "Color Configs" button opens a selector for the many color configurations that are available.
The most used modes are:

- Color: normal printing of a single color image.
- C1+C2: opens a second image tab. For printing at double density with high quality.
- C1+W+C2: Printing on transparent media that will be backlit or block out. This configuration can be used for "Day and Night" / "Sandwich" / "Window".
- All CW: Printing W + C at the same time with the full head
- Job List: Single list of images to be printed one after another in a single queue.
- Multi Queue: Up to three lists of images to be printed with the same resolution, masking, direction and color configuration in three queues.

There are a number of combinations that may be selected for exceptional printing situations by clicking the "Advanced Configs" button.

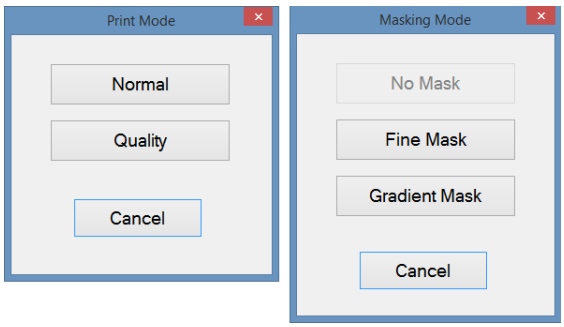
Each configuration achieves particular effects by combining layers of color and/or white ink. Each layer prints its own image so a wide range of masking and saturation effects are possible. The titles of the buttons show the type and the order of application of each layer, so "C+W" means first print a color image then a white ink image.

4.6.2 Print control and settings



	Description	Refer to
Open	Opens file browser for selecting an RTL file that should be loaded for a layer.	--
C-Speed	Traveling speed of the shuttle (carriage).	--
F-Speed	Feed speed. Between 1 and 5.	--
Direction	Uni- or Bi-directional printing.	--
UV Pwr L/R	Left and Right UV lamp intensity. Min 20, Max 100.	--
UV	Controls the UV LED sequence ON/OFF.	--
RTL Info	RTL information field.	--
Print Mode	Settings for the print quality.	4.6.2.1
S(ingle) Strike D(ouble) Strike	Will print each dot ones. Will print each dot twice.	--
Mirror	Print image mirrored: Horizontal / Vertical.	--

4.6.2.1 Print Mode



The Quality mode improves the quality by printing in multiple passes to print each layer giving finer control over the effect of curing and the clarity of the image.

The Mask Mode button opens a section for the mask calculation to be done on the image.

4.6.3 Options

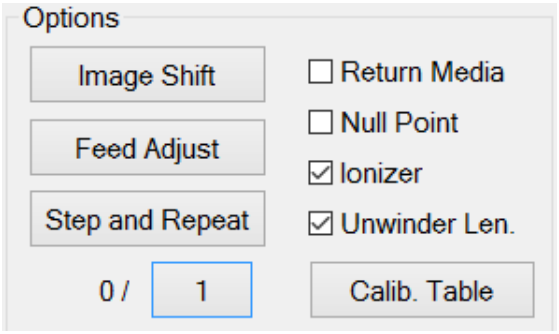


Image Shift: See description below.

Feed Adjust: See description below.

Step and Repeat: See description below.

0/ x : Number of vertical copies.

Return Media: This option is used to print multiple layers exactly on top of each other during multiple print runs. When check-box is checked, the media is moved back (in Y-direction) to the start position of the previous print run. If you want to use this option, you have to check the check-box before starting the print job.

Null Point: Return to null point. In case that the media set bar is used as reference.

Ionizer: Ionizer on or off (normally on).

Unwinder Len.: By (un)checking the check-box "Unwinder Len." the function "Unwinder Length (m)" is (de)activated, see 4.4.3..

Calib Table: Open the Calibration table, see section 7.5.

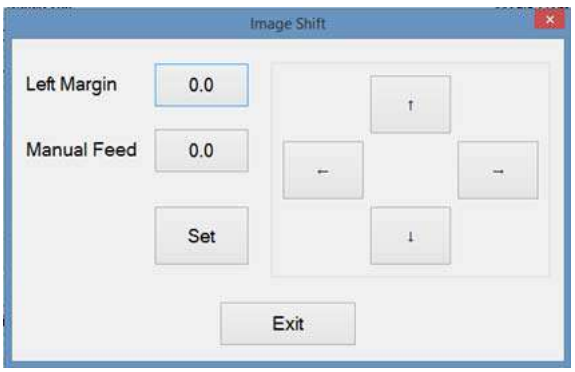
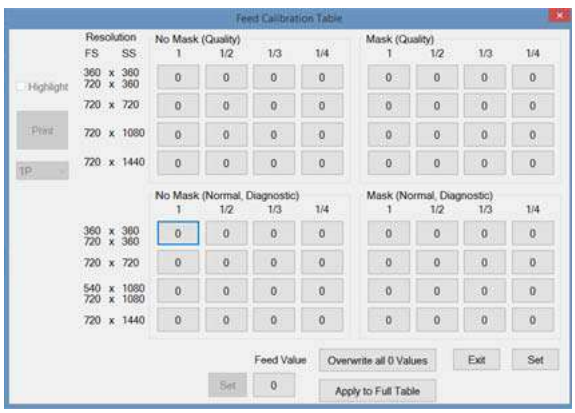


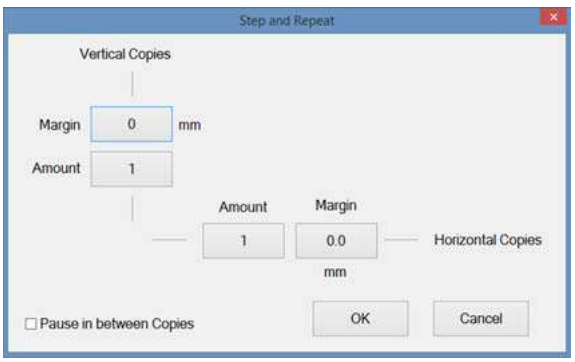
Image Shift

Image Shift will allow moving the position of the printed area on the fly during printing. This is useful should the image come too close to the media edge due to media drift.



Feed Adjust

Feed Adjust adjusts the feeding offset. This could be necessary if you see dark or light lines appearing between the print passes. This is media and feed speed dependent. The feed offset value can also be modified on the fly during printing if needed. This pops-up the same panel as the Control Tab button.

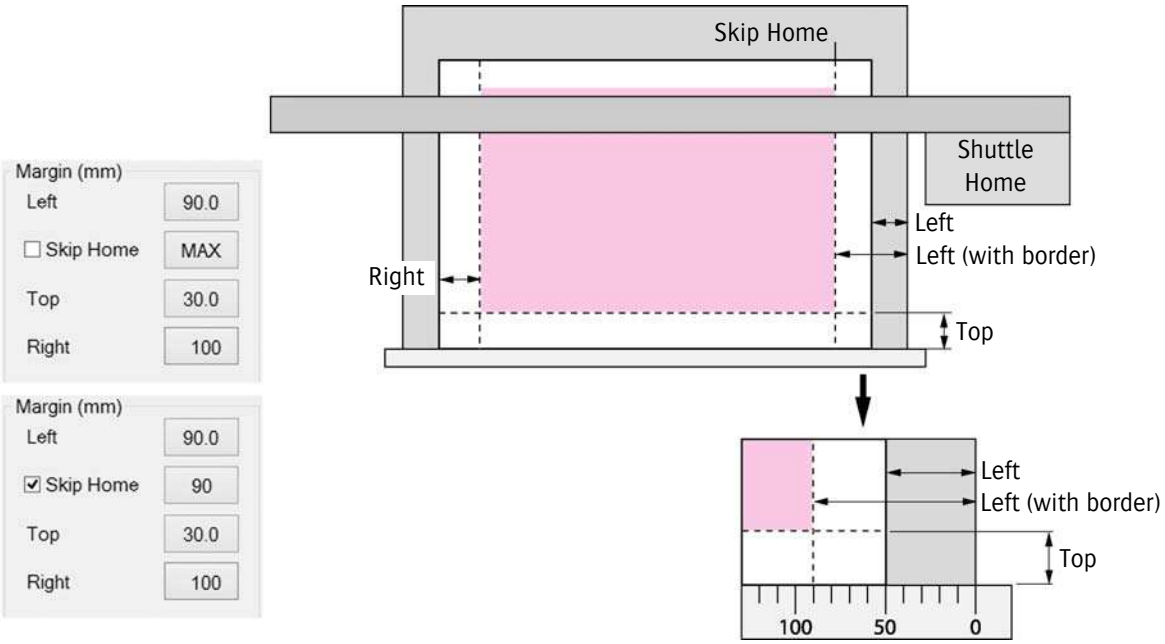


Step and Repeat

Step and Repeat will add copies of the job in the media feeding or printing direction with the specified margin in between.

4.6.4 Margins

4.6.4.1 Rigid media



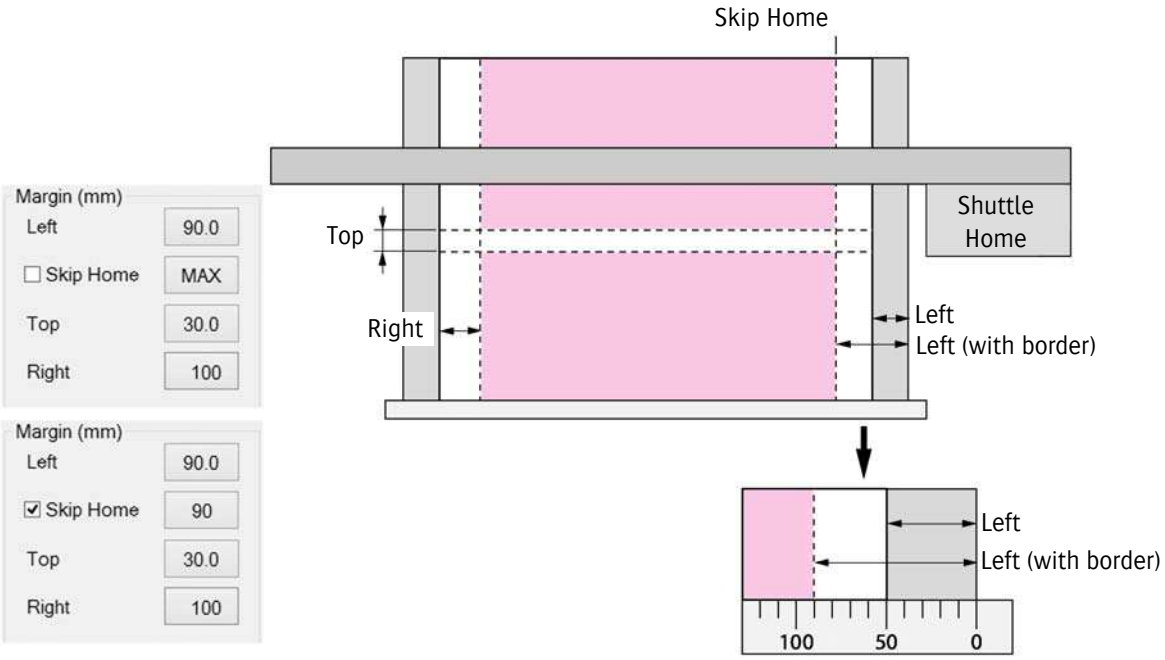
Left: The scale on the ruler of the media set bar corresponds with the calibration of the printer program and starts measuring at the beginning of the media transport.
When you want to start printing on the edge of the media, you enter the distance (in mm) of the left edge of the rigid on the ruler (e.g. 50 mm in the figure shown above).
When you want to have a white border, add the desired width (in mm) of the border to the distance of the left edge on the ruler (e.g. 90 mm (50 mm + 40 mm border) in the figure shown above).

Top: When you want to start printing on the edge of the media, you enter 0.
When you want to have a white border, add the desired width (in mm) of the border (e.g. 30 mm in the figure shown above).

Right: The UV LED units may not stop above the media during printing as this may result in distortion of the media. In this field, enter the distance of the shuttle travel needed to stop beyond the media, calculated from the print (e.g. 100 mm in the figure shown above).

Skip Home: Deactivated: the shuttle returns to its home position after every print pass.
Activated: the shuttle stops on the starting point for printing (e.g. 90 mm in the figure shown above).

4.6.4.2 Roll media



Left: The scale on the ruler of the media set bar corresponds with the calibration of the printer program and starts measuring at the beginning of the media transport.
When you want to start printing on the edge of the roll media, you enter the distance (in mm) of the left edge of the roll media on the ruler (e.g. 50 mm in the figure shown above).
When you want to have a white border, add the desired width (in mm) of the border to the distance of the left edge on the ruler (e.g. 90 mm (50 mm + 40 mm border) in the figure shown above).

Top: Normally more images are printed after each other on roll media.
When you want to print the images against each other, you enter 0.
When you want to have a white border between the images, add the desired width (in mm) of the border (e.g. 30 mm in the figure shown above).

Right: The UV LED units may not stop above the media during printing as this may result in distortion of the media. In this field, enter the distance of the shuttle travel needed to stop beyond the media, calculated from the print (e.g. 100 mm in the figure shown above).

Skip Home: Deactivated: the shuttle returns to its home position after every print pass.
Activated: the shuttle stops on the starting point for printing (e.g. 90 mm in the figure shown above).

5 Startup and Shutdown procedures

The choice of which startup procedure to follow depends on the shutdown period of the printer:

5.1 Differences between shutdown periods

Remark regarding white ink:

The white UV ink does not flow as well as the color inks at room temperature, and so is more prone to sedimentation in tanks and heads, which can cause blockages in tubes. White UV ink must be circulated and stirred to keep its print head and supply circuit in good condition. If the electrical mains supply falls away, the white UV ink will be circulated by an internal battery backup power supply with a capacity of 60 hours.

Important:

The battery back-up is only intended as an emergency back-up for unexpectedly power break-down, and is not intended to be used as a daily or weekly shutdown energy supply !
The mains electricity need to be supplied 24h/24h and 7days on 7.

Remark regarding color ink:

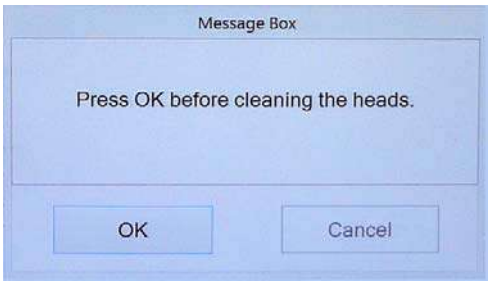
The color inks may be left in the printer during a period of idle time, as they do not need to be circulated, but even they should be drained if the printer is going to be transported or stored for an extended time.

5.1.1 Sleep mode

If the printer some time (approx. 3 hours) is not used, then it goes in the sleep mode and are some pre-programmed maintenance actions started such as:

- home tray moves back.
- weeping actions become drip actions.

If the maintenance is active, it appears by a message box on the screen. The operator needs to perform some actions to cancel the sleep mode and return to normal use, see 5.2 “Procedure sleep mode”.



5.1.2 Daily

At the end of the day you can leave the printer on as long as compressed air and electricity are available. If the electrical mains supply falls away, the battery backup power supply circulates the white UV ink.

- 5.3 Procedure: daily shutdown
- 5.4 Procedure: daily startup

5.1.3 Weekend (short-term shutdown < less than 60 hours)

During the weekend you can leave the printer on as long as compressed air and electricity are available. If the electrical mains supply falls away, the battery backup power supply circulates the white UV ink for 60 hours. The stirrer of the white ink tank will stop, as the electrical switch is NOT driven by the battery backup. An empty battery takes 5 days to completely charge again.

- 5.5 Procedure: weekend shutdown (Short term)
- 5.5 Procedure: Startup after weekend (Short-Term Shutdown)

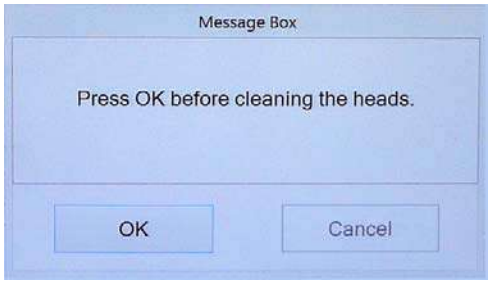
5.1.4 Holiday (long-term shutdown > longer than 60 hours)

If the printer will not operate for a long period (holiday), the white ink must be removed from its circuit and the white ink circuit must be cleaned with storage flush. This situation is termed a “long-term shutdown”.

- 5.7 Procedure: Holiday shutdown (Long-Term)
- 5.8 Procedure: Startup after a Long-Term Shutdown

5.2 Procedure: sleep mode

If the printer some time (approx. 3 hours) is not used, then it goes in the sleep mode and appears a message box on the screen. The operator needs to perform some actions to cancel the sleep mode and return to normal use.



1 Press OK.
   - The message box disappears and the control menu appears.
2 Clean the print heads. See 7.2 Checking and clearing nozzles.
3 Close home tray.
4 Wait until:
   - Head base temperature on the PID is correct;
   - Color sub ink temperature on the PID is correct;
   - White sub ink temperature on the PID is correct.
5 Startup the production.

5.3 Procedure: daily shutdown

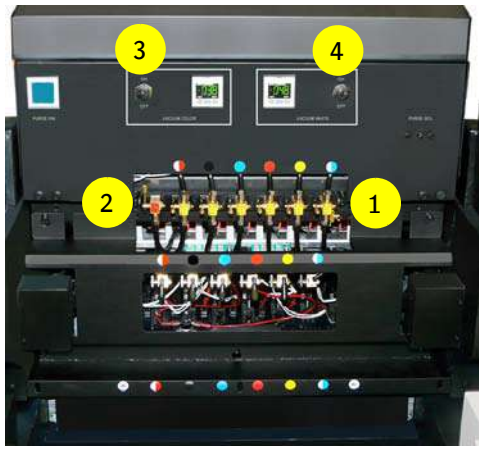
Notes:

- During a shutdown the height of the shuttle is minimized to reduce the chance of misting or splashing of the ultraviolet ink while dripping or purging the print heads.
- In preparing for a shutdown the operator should ensure that all jets in the print heads are clear to avoid any problem with a blockage expanding or becoming more fixed in place during the down time. This is why the procedures start with a prime check.

Time required for this procedure is only as long as it takes to clean the heads.

Procedure:

1 Perform a prime check to verify that all print heads are functioning correctly, see 7.2.1.
2 If any nozzles are blocked they must be cleared before leaving the printer idle.
3 On the front panel: switch off the vacuum of the media transport belt.
4 Remove the media used for the prime check.
5 Move the shuttle to the home position (it lowers itself to its minimum height). Normally the shuttle is in the home position.
6 Leave the color flow valves [1] in the position “ink”.
7 Leave the storage flush flow valve [2] in the position “close”.
8 Leave the vacuum switches [3] and [4] on.
9 On the control screen: press button [Home Cover] to close the home cover.



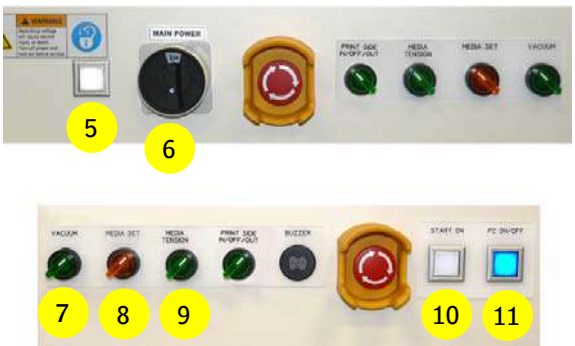
Important:

As part of the printer’s operation while idling an automatic process drips the white print heads every 3 hours for 3 seconds. This requires the shuttle to be in the home position with the Home Cover closed to minimize ink splashing.

10 On the back panel:
- white indicator lamp is lit [5]
- leave main power in position “ON” [6]

11 On the front panel:
- switch off vacuum [7]
- switch off media set [8]
- switch off media tension [9]

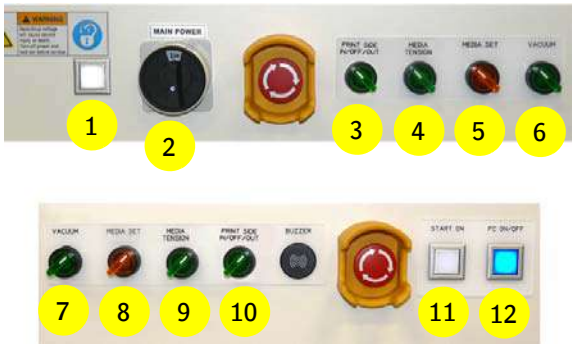
12 Leave iGUI program running.
13 Leave PC ON, blue indicator lamp is lit [11].
14 Leave START ON, white indicator lamp is lit [10].



5.4 Procedure: daily startup

Procedure:

1 The state of the printer is sleep mode. Perform the procedure “Sleep mode”, see section 5.2.
2 Load some media (see chapter 6).
3 Perform the procedure to set the media thickness (see 7.1 “Setting Head Gap”).
4 Perform a prime check and clean the print heads if needed (see 7.2 “Checking and clearing nozzles”).



5.5 Procedure: weekend shutdown (Short-Term)

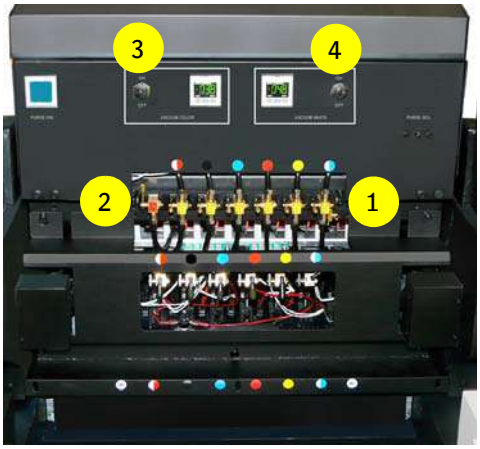
Notes:

- During a shutdown the height of the shuttle is minimized to reduce the chance of misting or splashing of the ultraviolet ink while dripping or purging the print heads.
- In preparing for a shutdown the operator should ensure that all jets in the print heads are clear to avoid any problem with a blockage expanding or becoming more fixed in place during the down time. This is why the procedures start with a prime check.

Time required for this procedure is only as long as it takes to clean the heads.

Procedure:

1 Perform a prime check to verify that all print heads are functioning correctly, see 7.2.1.
2 If any nozzles are blocked they must be cleared before leaving the printer idle.
3 On the front panel: switch off the vacuum of the media transport belt.
4 Remove the media used for the prime check.
5 Move the shuttle to the home position (it lowers itself to its minimum height). Normally the shuttle is in the home position.
6 Switch the color flow valves [1] in the position “close”.
7 Leave the storage flush flow valve [2] in the position “close”.
8 Switch the color vacuum switch [3] off.
9 Leave the white vacuum switch [4] on.
10 On the control screen: press button [Home Cover] to close the home cover.



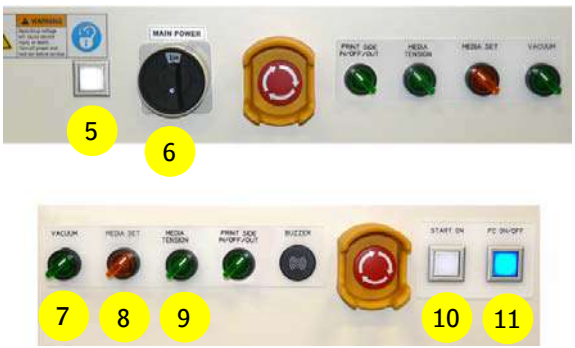
Important:

As part of the printer’s operation while idling an automatic process drips the white print heads every 3 hours for 3 seconds. This requires the shuttle to be in the home position with the Home Cover closed to minimize ink splashing.

11 On the back panel:
- leave main power in position “ON” [6]

12 On the front panel:
- switch off vacuum [7]
- switch off media set [8]
- switch off media tension [9]

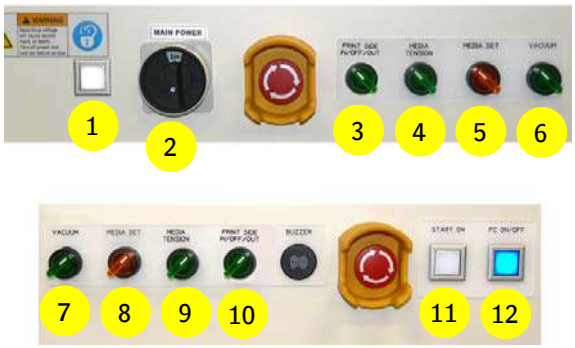
13 Close the iGUI program.
14 Shut-down Windows and wait for the shutdown to be complete, blue indicator lamp [11] goes off.



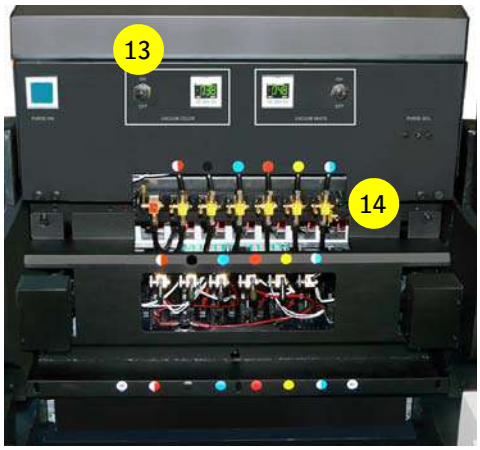
5.6 Procedure: Startup after weekend (Short-Term Shutdown)

Procedure:

1 Press START ON, white indicators [1] and [11] are lit.
2 Press button PC ON, blue indicator lamp [12] is lit.
3 Start the iGUI program.



4 Switch the color vacuum switch [13] on.
5 Switch the color flow valves [14] in the position “ink”.
6 Load some media (see chapter 6).
7 Perform the procedure to set the media thickness (see 7.1 “Setting Head Gap”).
8 Perform a prime check and clean the print heads if needed (see 7.2 “Checking and clearing nozzles”).



5.7 Procedure: Holiday shutdown (Long-Term)

Notes:

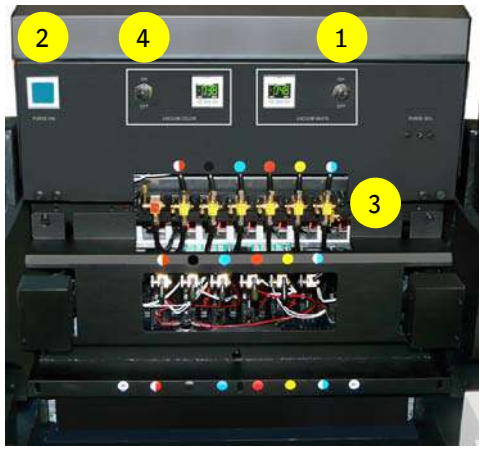
- In preparing for a shutdown the operator should ensure that all jets in the print heads are clear to avoid any problem with a blockage expanding or becoming more fixed in place during the down time. This is why the procedures start with a prime check.

All the components of the printer are powered off during a long-term shutdown.

Time required for this procedure is between 30 and 60 minutes.

Procedure:

1 Perform a prime check to verify that all print heads are functioning correctly, see 7.2.1.
2 If any nozzles are blocked they must be cleared.
3 On the front panel: switch off the vacuum of the media transport belt.
4 Remove the media used for the prime check.
5 Move the shuttle to the home position (it lowers itself to its minimum height). Normally the shuttle is in the home position.
6 Fill the white ink circuit with storage flush, follow the procedure of section 7.6.1.
7 Wait until the automatic fill process is completed before continuing with this procedure. This will take about 20 minutes.
8 On the iGUI: turn off the delivery pumps for white ink and storage flush, see also section 4.4.2.1.



9 Switch off the white ink vacuum [1].
10 Press and hold the purge button [2] for 3 seconds. Storage flush flows out of the white head.
11 Repeat step 10 (approx 20x) till no more storage flush is flowing out of the white head.
12 Clean the base plate, see section 10.3.2.
13 On the control screen: press button [Home Cover] to close the home cover.
14 Close all color ink valves [3].
15 Switch off the color ink vacuum [4].
16 Close the iGUI program.
17 Shut-down Windows and wait for the shutdown to be complete, blue indicator lamp [11] goes off.
18 On the front panel:
- switch off vacuum [7]
- switch off media set [8]
- switch off media tension [9].
19 Push at least one emergency stop button to secure the printer, white indicators [5] and [10] go off.
20 Turn off the electrical power with the main power switch [6] on the back panel.
21 Lockout the main switch, see section 2.10.

Note:

After the printer is turned off with the main power switch, the display on the shuttle stays on till the voltage of the backup battery is around 40%.

5.8 Procedure: Startup after a Long-Term Shutdown

1 Turn on the compressed air at least 1 hour before startup procedure.

Warning:

The source of compressed air needs to be turned on at least one hour before beginning a startup procedure to ensure the white ink has been stirred enough to be ready for use.

2 Turn on the electrical power with the main power switch [2] on the back panel.
3 Unlock the pressed E-stop button(s) by turning the red knob clockwise.
4 On the front panel: press the 'START ON' button [11] to switch on the printer, white indicator lamps [1] and [11] are lit.
The shuttle moves to the home position (it lowers itself to its minimum height).
5 On the front panel: press the 'PC ON' button [12] to switch on the PC, blue indicator lamp is lit.
6 Wait for the startup to be complete.
7 Start the iGUI program.

Startup procedure inks and storage flush

8 Check that all main ink tanks (white and color) are filled.
9 Check that the storage flush main tank is filled.

Storage flush

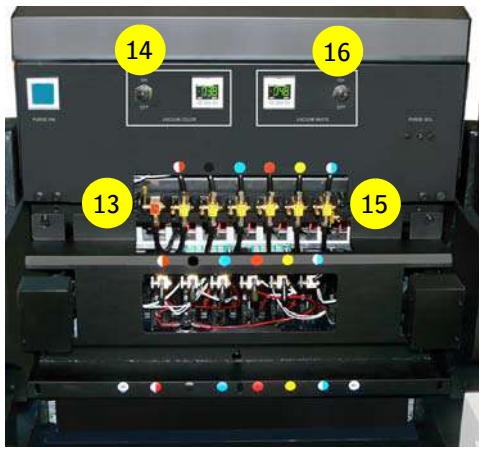
10 Check if the storage flush flow valve [13] (red label) is in the "close" position.

Color circuits

11 Switch ON the vacuum of the color ink circuits [14].
12 Switch all color flow valves [15] (yellow labels) to "ink" position.

White circuit

13 Switch ON the vacuum for the white ink circuit [16].
14 On the iGUI: turn on the delivery pumps for white ink and storage flush, see also section 4.4.2.1.
15 On the control screen: press button [Home Cover] to open the home cover.
16 Fill the white ink circuit with ink, follow the procedure of section 7.6.1.
17 Wait until the automatic fill process is completed before continuing with this procedure.
This will take about 20 minutes.
18 Turn the color vacuum [14] off so that the print heads drip ink for a few seconds.
19 Turn the color vacuum back on to halt the dripping.
20 Clean the base plate, see section 10.3.2.
21 Load some media (see chapter 6).
22 Perform the procedure to set the media thickness (see 7.1 "Setting Head Gap").
23 Perform a prime check and clean the print heads if needed (see 7.2 "Checking and clearing nozzles").



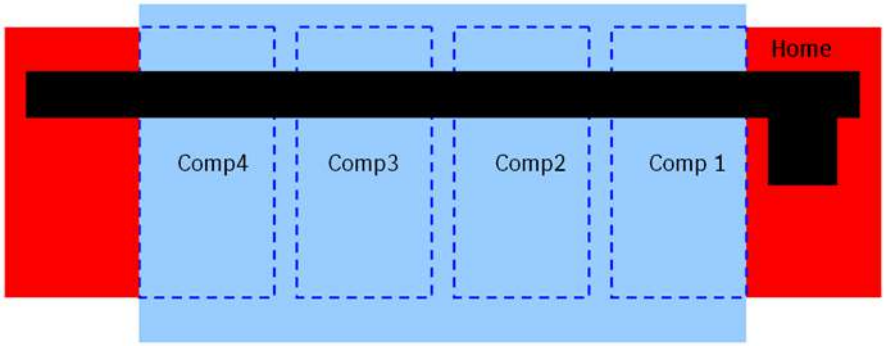
6 Media loading

6.1 Media transport system

The printer has a transport belt mechanism to move the media in the feed direction under the print head while it is held securely on the belt by vacuum pressure from below. The print area has four individually controllable vacuum compartments as shown by the yellow arrows on the shuttle beam. The suction in each compartment is turned on or off using the four air valves located at the rear of the printer (see 6.2).

The hybrid media transport belt is designed to feed a wide range of rigid and flexible materials into the printer.

- The only restrictions on rigid media are those of maximum width and height, 3200 mm and 45 mm respectively.
- Roll media (e.g. plastic film, paper or cloth) is placed on axles.



Top view printer (vacuum compartments)

Parts involved

- Vacuum table with 4 independent vacuum compartments
- 4 sets of valves and gauges
- Media transport belt
- Vacuum unit to provide the vacuum pressure
- Vacuum system controller (called an inverter)
- Motor driven unwinder and rewinder system

6.2 Vacuum Pressure Settings

When a compartment is not fully covered the uncovered area lets air flow around the media, reducing the effect of the vacuum.

Depending on the size and/or type of media, the vacuum valves need to be adjusted to obtain an equal vacuum over the covered compartments. The applied vacuum is read on the round gauges at the back of the printer.

Close the valve(s) of uncovered areas.

The vacuum controller on the front of the printer:

- sets the nominal required vacuum to hold the media on the media transport belt;
- measures the vacuum generated in each compartment;
- compensates for changes as the media moves over the vacuum table.

The vacuum pressure is set using the numeric control and is adjustable between 0 and 130.

Full coverage requires a low vacuum setting!

- Full coverage: 5 - 10 mbar.
- other: 15 - 30 mbar.

Transport vacuum valves

Vacuum control, fourth controller (far right)

6.3 Rigid media

6.3.1 Media Tables

Remark:

- Attach the :Anapurna media tables as a pair to the front and rear of the printer for correct printing results over the complete media surface.
- The media must be fully supported by the media table so they can not deform.

Small media tables

For a media depth up to 1 m, the small media feed tables may be used.

Example of the small media feed tables front and back

Large extension tables

For a media depth greater than 1m and up to 3,2 m, the large extension tables are needed.

Example of a large extension media table

Spirit levels

Before using the media tables, check that all the spirit levels are correctly leveled or problems may occur during printing.