



# Pro 32r Printers



## Operations Guide

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# Operations Guide

## 1.0 Introduction

## 1.0 Introduction

The EFI Pro 32r Operations Guide provides an overview of the features and functions of these wide format printers. The EFI Pro 32r printers use environmentally-friendly UV-curable inks to ensure higher volume production and improved resolution over traditional silkscreen printing.

### 1.1 Before Starting

Operational knowledge of the printer is required. Please refer to these documents:

*NOTE: You must read and understand the following documents prior to operating or servicing this printer.*

- <http://inkjet.support.efi.com/doc.php?doc=683> - Inkjet Printer Safety Guide
- <http://inkjet.support.efi.com/doc.php?doc=4728> - Pro 32r Series Maintenance Guide

### 1.2 Training

Operator training is an essential part of printer installation and operation. EFI Inkjet provides an educational support system that assists new and experienced operators to develop and maintain skills. Go to <http://inkjet.support.efi.com/training/> for training information.

### 1.3 Welcome

Congratulations! You have purchased the finest super wide format digital ink jet printing system in the world. EFI VUTEK h Series printers are premium digital ink jet printers with vivid full color printing on a variety of media. EFI Inkjet Solutions wants you to get the best possible images from your printer, and wants your printing experience to be safe and profitable.

### 1.4 Overview




This chapter describes how to safely operate your EFI Inkjet Solutions printer.

Before operating the printer, personnel must:

- Read and understand the EFI Inkjet Printer Safety Guide, <http://inkjet.support.efi.com/doc.php?doc=683>, and adhere to all safety precautions therein.
- Successfully complete an Operator Training class.

## 1.5 Customer Support Web Site

The EFI Inkjet customer support website contains technical supplements, advisory bulletins, operations and maintenance guides, software, and Safety Data Sheets (SDS) available at <http://inkjet.support.efi.com/index.php>. Customers should log onto the EFI Inkjet Support site regularly to get current information or advisories affecting their printer or accessories.

	North & South Americas		Europe, Middle East, Africa	Asian Pacific (APAC)
	Customer Care			
	U.S	855-EFI-4HLP (855-334-4457)	+31 20 658 8070	+1 650 357 4790
			<a href="mailto:EuroInk@efi.com">EuroInk@efi.com</a>	
	Canada Mexico South America	+1 650 357 4790		
	Technical Support <a href="https://inkjet.support.efi.com">https://inkjet.support.efi.com</a>			
	US Canada	855-EFI-4HLP (855-334-4457)	+32 2 749 94 50	+65 6221 2765
	Mexico South America	+1 412 690 4321	DE +49 2102 745 4500 NL +31 20 658 8080/8069 UK +44 12462 98085	
	Order Parts			
	US	<a href="mailto:Customer.Care@efi.com">Customer.Care@efi.com</a>	<a href="mailto:EuroParts@efi.com">EuroParts@efi.com</a>	<a href="mailto:InternationalOrders@efi.com">InternationalOrders@efi.com</a>
	Canada Mexico South America	<a href="mailto:InternationalOrders@efi.com">InternationalOrders@efi.com</a>		

# Operations Guide

## 2.0 Safety

## 2.0 General Safety





Please read and understand the safety information carefully before operating the printer.





### 2.1 Anti-virus Warning!





- You must ensure that the PRO 32R PC is never connected to the Internet.
- To avoid any virus contamination, do not connect the PRO 32R PC directly to the Internet and make sure that the IP address assigned to the PRO 32R PC is voided on the server.
- Internet connection to the PRO 32R PC will be required ONLY when a remote connection is required by EFI's Service Engineer. Once the remote connection is no longer required, it must be canceled.
- Do not install any Antivirus program on the PRO 32R PC, since it consumes between 10 and 20% of the RAM and as a result, reduces the printer's performance.
- Do NOT connect any kind of USB memory stick to the PRO 32R PC.
- Non-compliance with the above points may cause malfunction of the PRO 32R PC—which would be the client's responsibility.
- Any damage caused by a virus on the PRO 32R PC is not covered by our warranty and any subsequent service call will be charged to the client's account.

## 2.2 Printer-mounted Safety Labels & Components


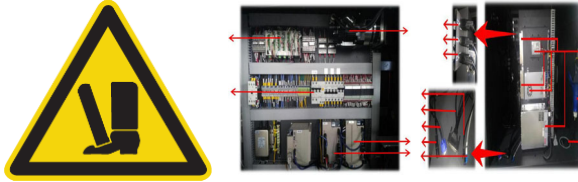
The following safety signs or emergency components are attached to the printer:

Sign/Component	Action	Action	Action
 <p><b>Main Power Switch</b></p>		Switch printer on/off	
 <p><b>Emergency Stop Button</b></p>		Press to immediately to halt printer operation.	
 <p><b>Emergency Stop Cord</b></p>		Pull to immediately turn off the printer.	
<p><b>Automatic Cutting Device/Surface</b></p> 	<p><b>Label 1:</b> Do not place hands near cutting edges</p>	<p><b>Label 2:</b> Keep hands clear</p>	<p><b>Label 3:</b> Keep covered when appropriate</p>

Sign/Component	Action	Action	Action
<p><b>Invisible/Visible Radiation</b></p> 	<p><b>Label 1:</b> Do not look directly at the UV source</p>	<p><b>Label 2:</b> Do not remove guards</p>	<p><b>Label 3:</b> Keep the guards closed</p>
<p><b>Electrical Hazard</b></p> 	<p><b>Label 1:</b> Electrical Hazard</p>	<p><b>Label 2:</b> Do not touch. Keep your distance</p>	<p><b>Label 3:</b> Disconnect from the main supply before touching this component or wiring</p>
<p><b>Hot Surface</b></p> 	<p><b>Label 1:</b> Hot surface</p>	<p><b>Label 2:</b> Do not touch before protection is applied</p>	<p><b>Label 3:</b> Read the manual regarding safe contact</p>
<p><b>Moving Parts</b></p> 	<p><b>Label 1:</b> Moving parts</p>	<p><b>Label 2:</b> Do not open the guards until moving parts stop</p>	<p><b>Label 3:</b> Keep hood closed during printing</p>

Sign/Component	Action	Action	Action
<p><b>Danger of Hand Crushing from Moving Parts</b></p> 	<p><b>Label 1:</b> Danger of crushing from moving parts</p>	<p><b>Label 2:</b> Keep hands clear</p>	<p><b>Label 3:</b> Read the manual</p>
<p><b>Danger of Finger Crushing from Moving Parts</b></p> 	<p><b>Label 1:</b> Danger of crushing from moving parts</p>	<p><b>Label 2:</b> Keep hands clear of the rollers and shafts while the printer is operating</p>	<p><b>Label 3:</b> Read the manual</p>
<p><b>Inhalation of Hazardous Gases</b></p> 	<p><b>Label 1:</b> Inhalation of hazardous gases or vapors</p>	<p><b>Label 2:</b> Do not unplug the printer or the fan</p>	<p><b>Label 3:</b> Ensure that the printer's ventilator is working. Beware of the suction.</p>
<p><b>Danger of Splashing Ink</b></p> 	<p><b>Label 1:</b> Danger of splashing ink</p>	<p><b>Label 2:</b> Keep clear of the area while printer is printing</p>	<p><b>Label 3:</b> Avoid contact between the ink and your eyes.  Wear goggles while working on or emptying the waste container.</p>



Sign/Component	Action	Action	Action
<p><b>Watch Your Head</b></p> 	<p><b>Label 1:</b> Watch your head.</p>	<p><b>Label 2:</b> Keep clear of moving parts.</p>	<p><b>Label 3:</b> Keep the hood closed.</p>
<p><b>Hidden Cutting Edges</b></p> 	<p><b>Label 1:</b> Keep hands/fingers out of the printer</p>	<p><b>Label 2:</b> Keep clear of moving parts</p>	<p><b>Label 3:</b> Read the manual.</p>
<p><b>Pressing Device</b></p> 	<p><b>Label 1:</b> Keep hands/fingers out of the printer.</p>	<p><b>Label 2:</b> Keep clear of moving parts</p>	<p><b>Label 3:</b> Read the manual.</p>
<p><b>Danger of Crushing Legs</b></p> 	<p><b>Label 1:</b> Keep your feet away from the printer.</p>	<p><b>Label 2:</b> Wear appropriate footwear.</p>	<p><b>Label 3:</b> Read the manual.</p>

## 2.3 Potential Hazards

This section lists and describes potentially hazardous items and areas. Care should be exercised when working with or near these items and areas.

### 2.3.1 The Cable Carrier

The cable carrier carries all the cables and pipes between the PC / ink system and the carriage. During printing, the carriage moves continuously along the chassis.



**Warning: Contact between the moving carriage and a foreign object can cause injury and damage.**

### 2.3.2 The Cover

The cover is located at the front of the printer; its function is to protect user from UV rays and from contact with the moving carriage. It opens and closes manually.



Figure 2-1



Figure 2-2

- Open the Cover – Pull handle to lift the cover
- Close the Cover – With one hand, push the lift cylinder as you push the cover down with your other hand.

*NOTE: The printer does not operate unless the cover is closed.*

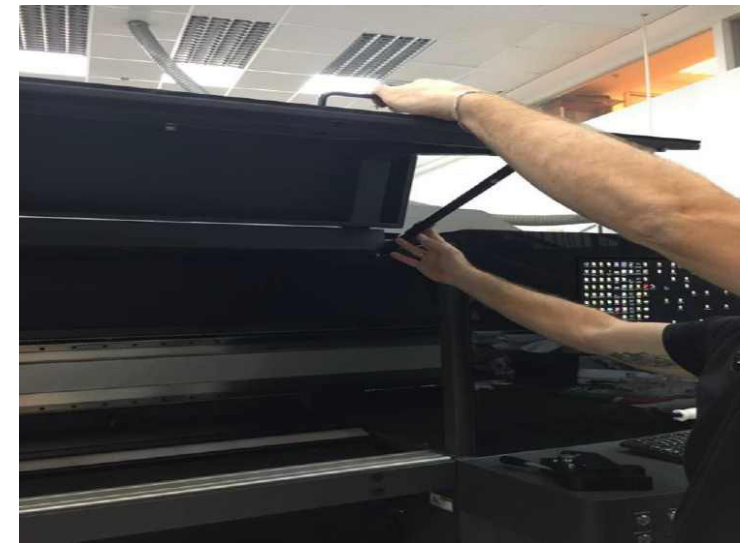




Figure 2-3

### 2.3.2.1 Safety features

- The soft rubber protectors on the leading edge of the cover minimize injury to hands.
- A safety label on the closed cover instructs the operator to make sure that it is clear of foreign objects.

### 2.3.3 The Press Roller and Shaft

	<p><b>PRESS ROLLER</b></p> <p>Do not place your hand near the revolving press roller and shaft. It can get caught and crushed.</p> <p>As a safety feature, the printer requires that the operator use both hands to press two buttons to activate the rollers. A safety label near those buttons instructs users to make sure that the rollers are not obstructed.</p>
	<p><b>Rolling Media Backwards</b></p> <p>Rollers can pull and crush fingers on the media if it is manually rolled backwards.</p> <p>Heed the safety warning labels on the printer's back frame.</p> <p>To immediately stop the media from moving, press any emergency stop buttons along the printer's rear.</p>

To minimize the hazards above, mark the floor with wide luminous adhesive tape and create a safety exclusion zone of 1m around the printer.

### 2.3.4 UV Sources

The printer has two UV sources which operate while printing.

- Looking at the UV light with the naked eye is dangerous. Never look directly at the UV light source.
- When working near active UV lamps, you must wear suitable anti-UV goggles that conform to international standards.
- When printer is idle at home position, the UV shutters are closed; the UV bulbs turn off automatically after 20 minutes idle.
- The printer can print only if the hood is closed.
- The hood is equipped with transparent UV-blocking screens. The UV radiation is contained by the hood and by the opaque PVC panels installed along the top edge at the rear side of the printer.
- Before servicing the UV lamps, allow them ample time to cool down. Contact with the hot lamps can burn the skin.

### 2.3.5 Electrical Hazards

Various printer components are powered by electricity (1-phase 230VAC):

- The PC
- The motor drivers
- The UV bulb assembly
- In addition, within the printer AC voltage is converted to DC voltages of 5V, 24V and 48V, and distributed to various points. Contact with any of these voltages may cause electrical shock and burns.
- Electrical hazard is minimized as follows:
  - Circuit breakers: Over-current and over-voltage activate a circuit breaker at the main input and at each AC voltage contact point within the printer.
  - In case of an overload, the circuit breaker switches off the printer. The printer's operator is authorized to open the cabinet door to reset a circuit breaker if it triggers. To prevent unauthorized opening of the cabinet, the cabinet door is locked by a special key. Only a certified EFI technician is authorized to remove the plastic cover to access the main electricity panel. This can be done only after the main power is switched off.
  - Safety labels on each electrical cabinet door and near all AC contact points.
  - By proper grounding of all electrical circuits.
  - By safety labels on each electrical cabinet door or panel.

### 2.3.6 Ink System Safety

The ink is heated by printer to its printing temperature. Heater shuts off when the ink reaches the required temperature. Before using flushing fluid, make sure that the printer is completely cooled down and powered off.

### 2.3.7 The Emergency Stops

The Printer is equipped with the following emergency stops:

- Emergency buttons
- Emergency cord
- Laser beam

#### 2.3.7.1 The Emergency Stop Buttons

- The printer is equipped with four emergency stops: front right and left, plus rear right and left.
- Push the Emergency button to immediately stop the printer.
- When pushing the Emergency button, The printer stops, the power is cut off, and the pinch rollers open.
- To activate or reactivate printer, all emergency buttons must be released. To release the emergency button, turn it clockwise.



Figure 2-4

### 2.3.7.2 The Emergency Cord

Printer is equipped with two emergency cords—front and rear. Pull cord in case of emergency to immediately stop printer



Figure 2-5



### 2.3.7.3 The Safety Laser Beam

The safety laser beam is designed to avoid potential hazard from the tension and pinch rollers. Interruption or penetration through the laser beam during printing stops the printer.



Figure 2-6



# Operations Guide

## 3.0 Hardware Overview

### 3.0 Hardware Overview

This chapter describes the major assemblies and sub-assemblies of the EFI Pro 32r Wide Format printers, to familiarize you with their most important components.

### 3.1 General Description

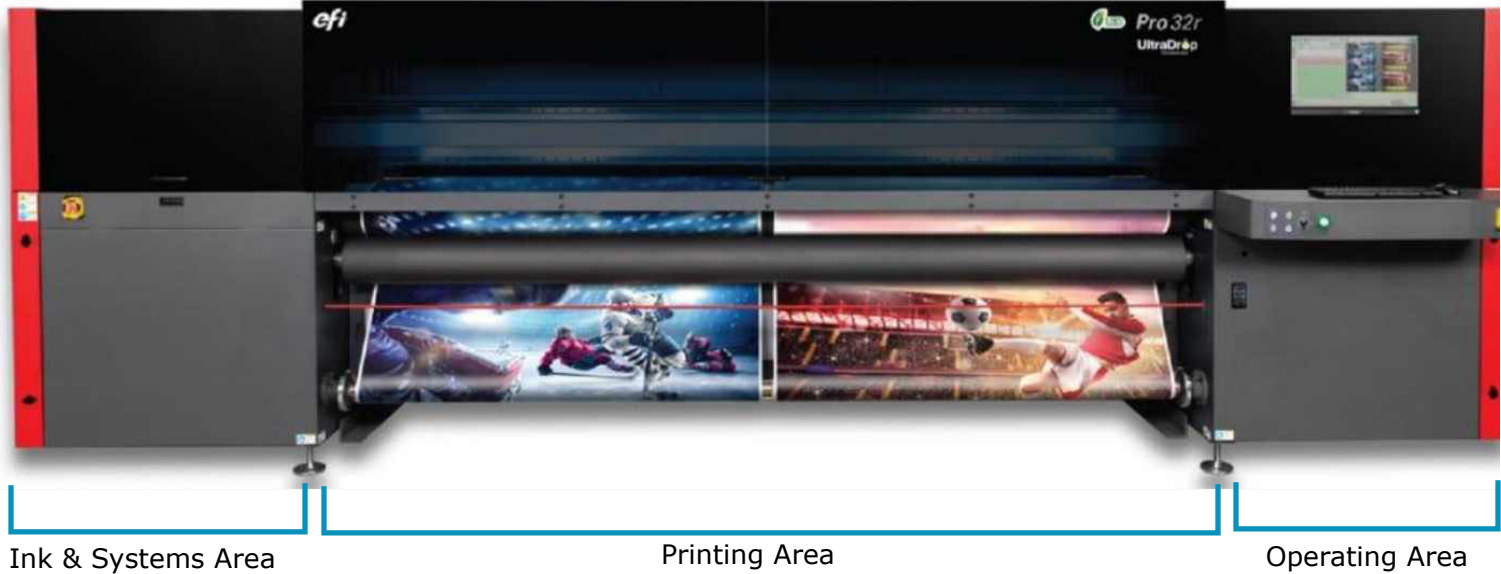


Figure 3-1

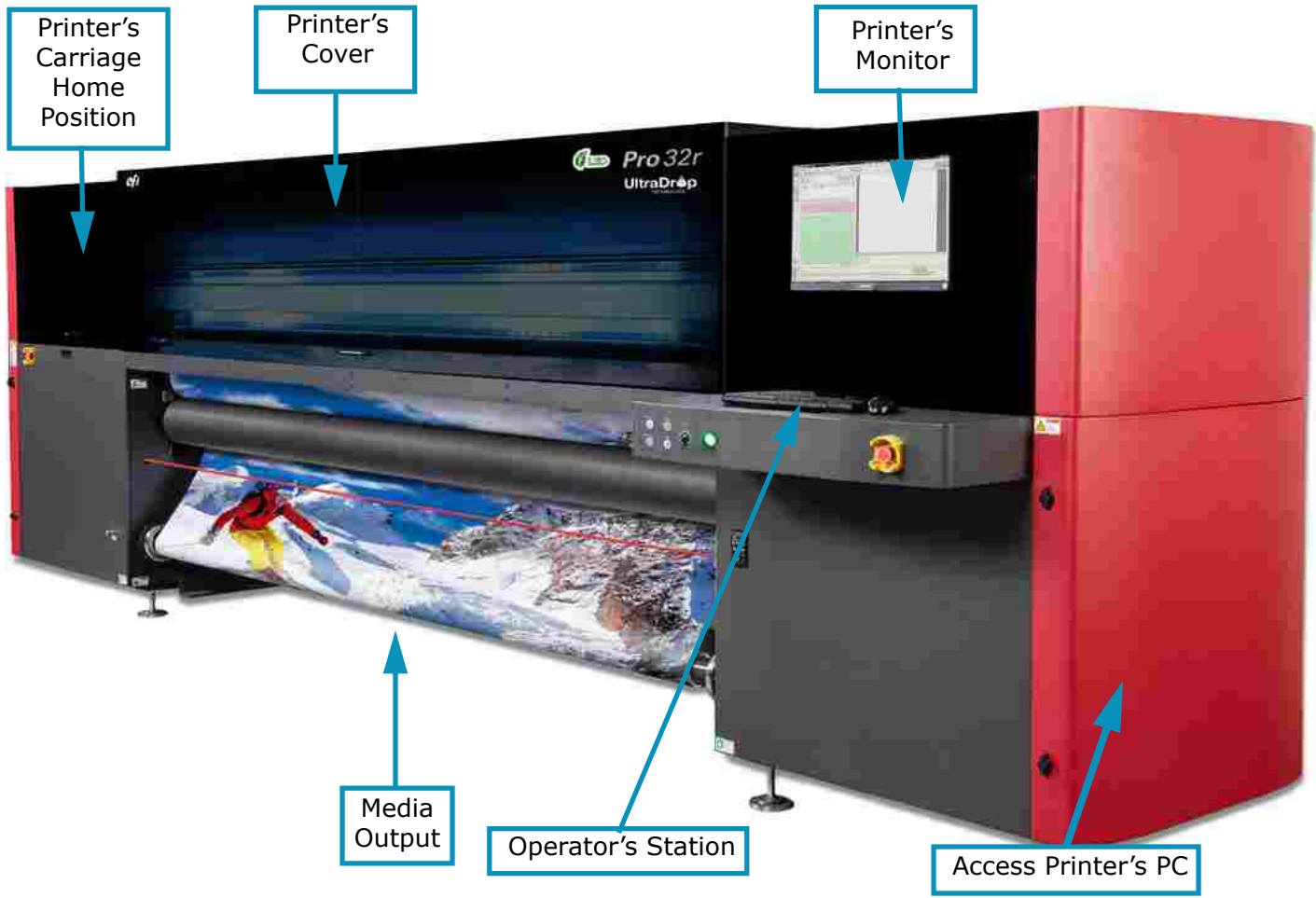


Figure 3-2

The following figure shows the rear of the printer.



Figure 3-3

*NOTE: The location of Printer parts assumes that the user is facing the Printer, whether at front, back, or sides.*

## 3.2 Printer Rollers and Shafts

The Printer comprises a rear set and a front set of the following:

- Air Shaft
- Pinch Roller
- Tension Roller

### 3.2.1 Air Shaft

- The media is loaded on the rear air shaft and collected on the front air shaft.
- The rubber bladders on the air shaft expand when filled with air in order to hold the loaded media core in place.
- There is a ruler on each end of the air shaft to show the location of the media edge relative to the shaft.



Figure 3-4

Each end of the air shaft is inserted into and supported by a chuck.

1. Open the chuck to release or reload the shaft roller, then push the chuck sideways.
2. Close the chuck and put it back into the closed position.

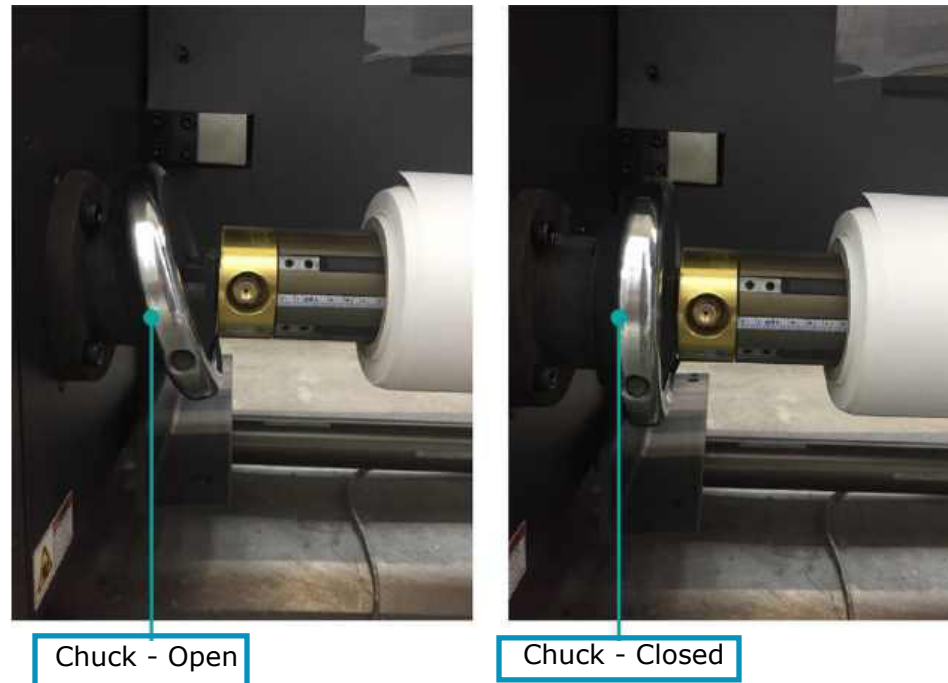


Figure 3-5

3. Load the media, then fill air into the shaft by inserting the air gun into the air inlet.
4. To release the media, release air by pressing the air outlet (refer to [\\_](#)) for more details).

### 3.3 Ink Systems

The ink system includes the main ink containers and ink waste container. These are located at the bottom left side of the printer. Each is connected to ink tubes. The connectors, filters, valves and pumps are above the containers. The ink system continues to the printer’s carriage, through the secondary ink tanks (SITs), to the print heads. Ink waste goes into the Waste ink tray and is collected in the waste ink container.

#### 3.3.1 Ink Containers

The Pro 32r has six ink tanks, located in the rear right cabinet. There are the five print inks (cyan, magenta, yellow, black and white) and a waste ink tank (to store ink residue collected from the waste tray).

- 1. Fill each ink tank before it is completely empty.
- 2. Empty the waste ink container before it is completely full.

The ink level of the five prime ink tanks containers is displayed in the GUI. The level of the ink tanks and waste tank are also monitored in the FE, on the bottom right side of the control panel.

The waste tank has a float that alerts (turning from green to red) when the collected amount of waste gets too high. Operators must monitor this alert, or an overflow will occur.

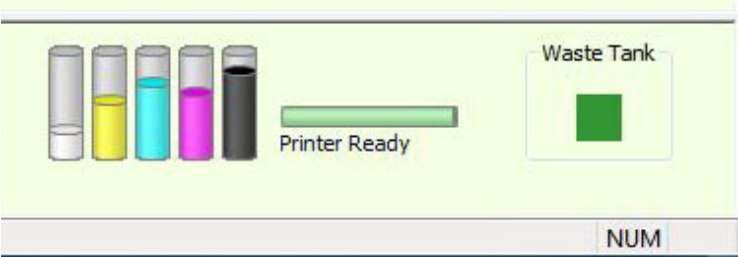


Figure 3-7

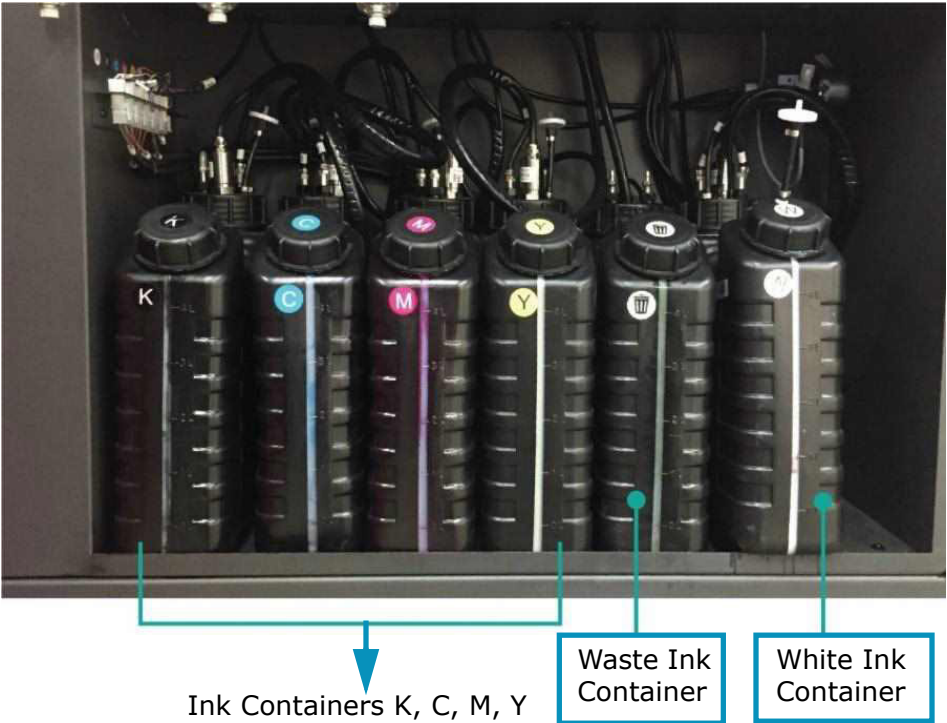


Figure 3-6



### 3.3.2 Ink Pumps and Filters

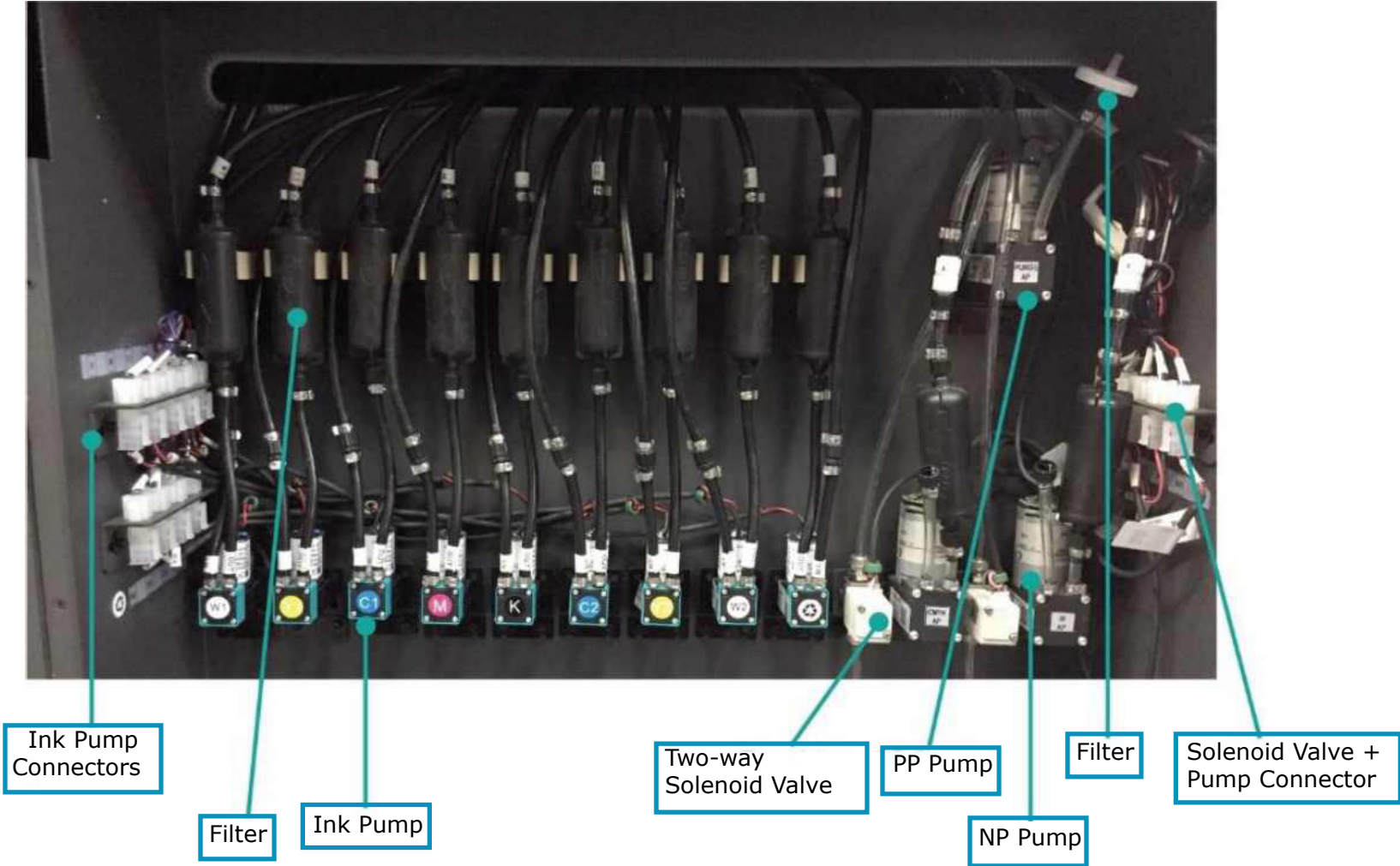


Figure 3-8



### 3.3.3 Carriage Ink System

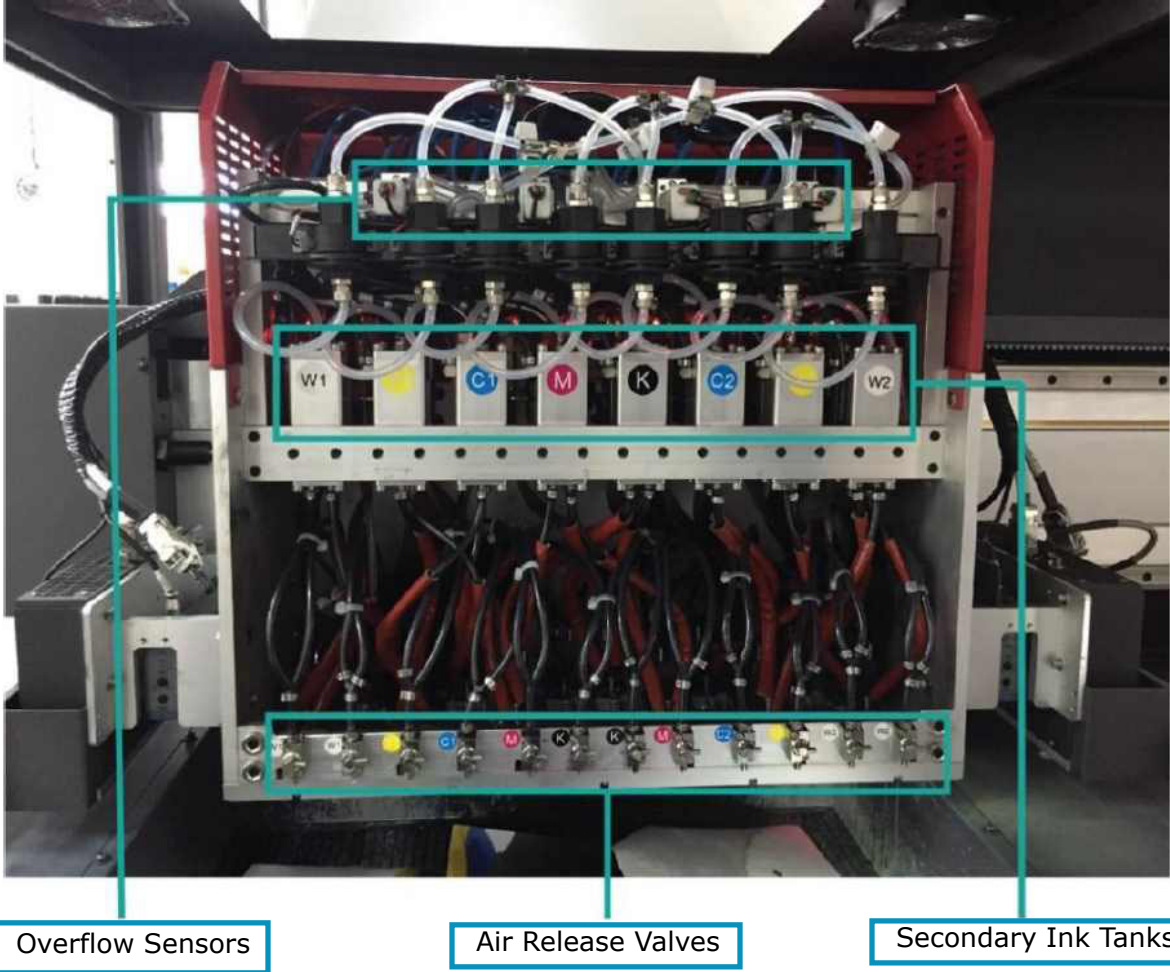
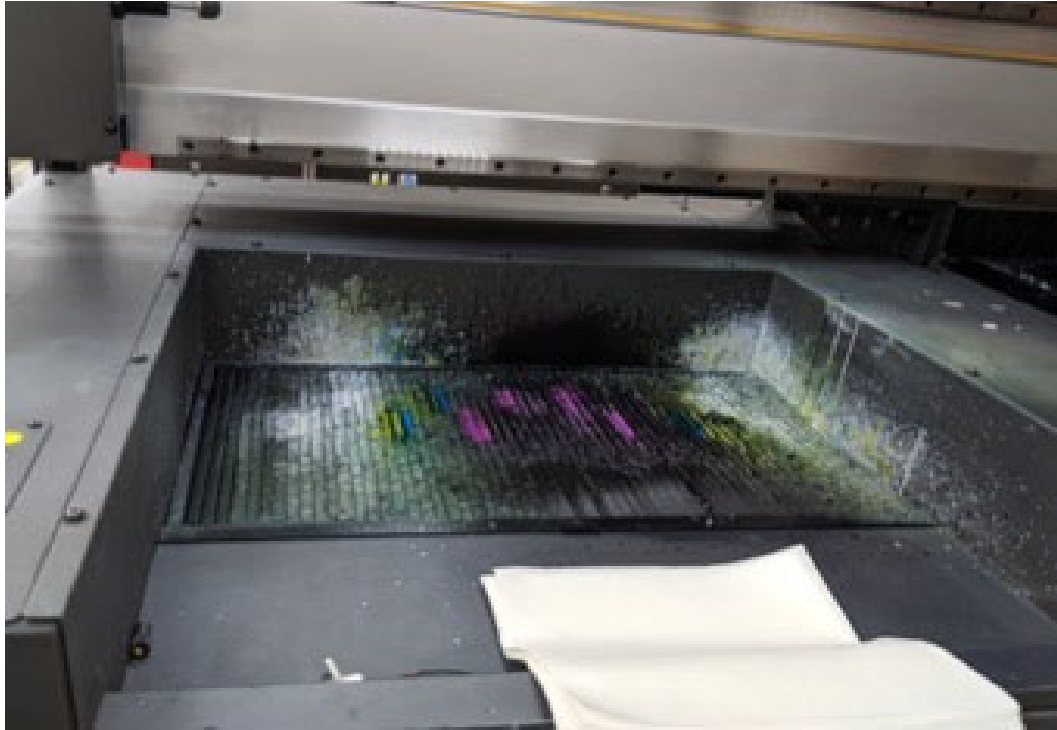


Figure 3-9

### 3.3.4 Waste Ink Tray

*Excess ink from the print heads is collected in the waste ink tray and drained into the waste ink container.*



*Figure 3-10*

### 3.3.5 Ink System and Print Head Configuration

The Print Head configuration:

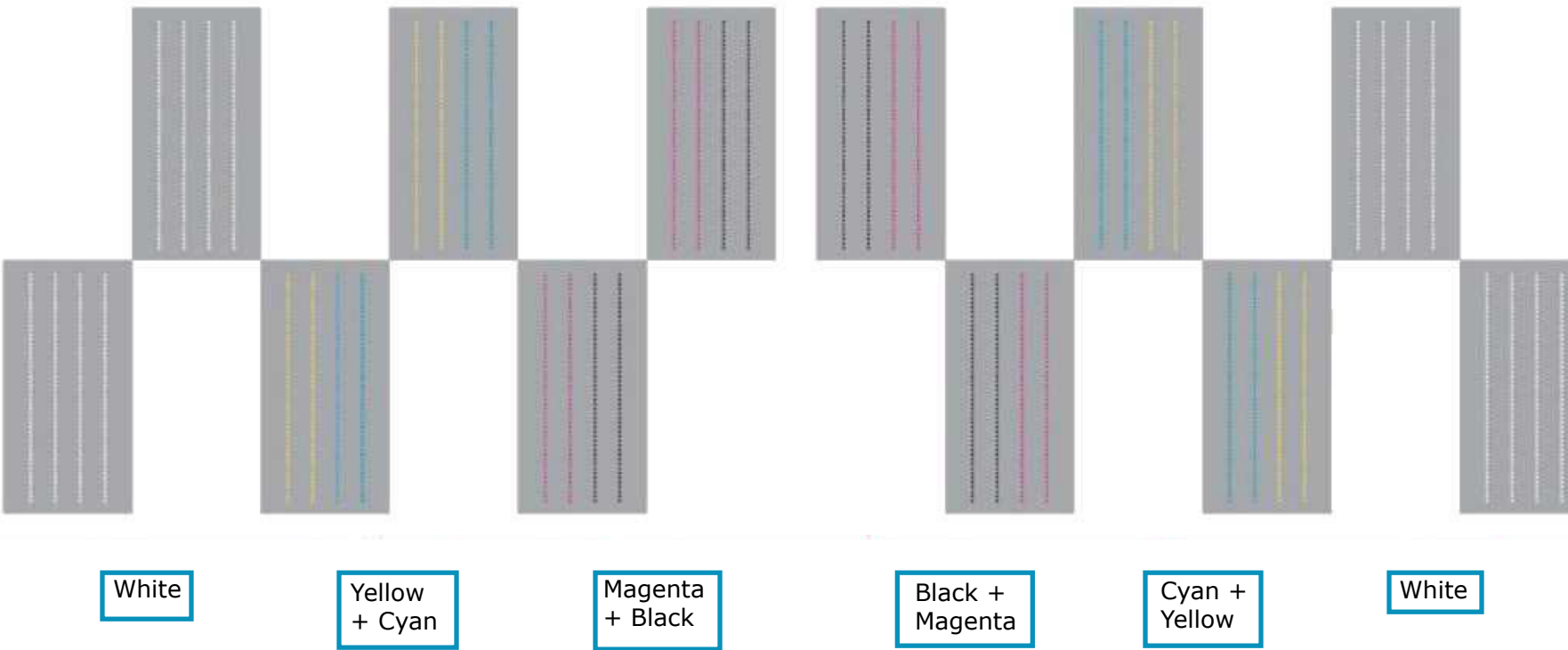


Figure 3-11

### 3.4 Pneumatic System

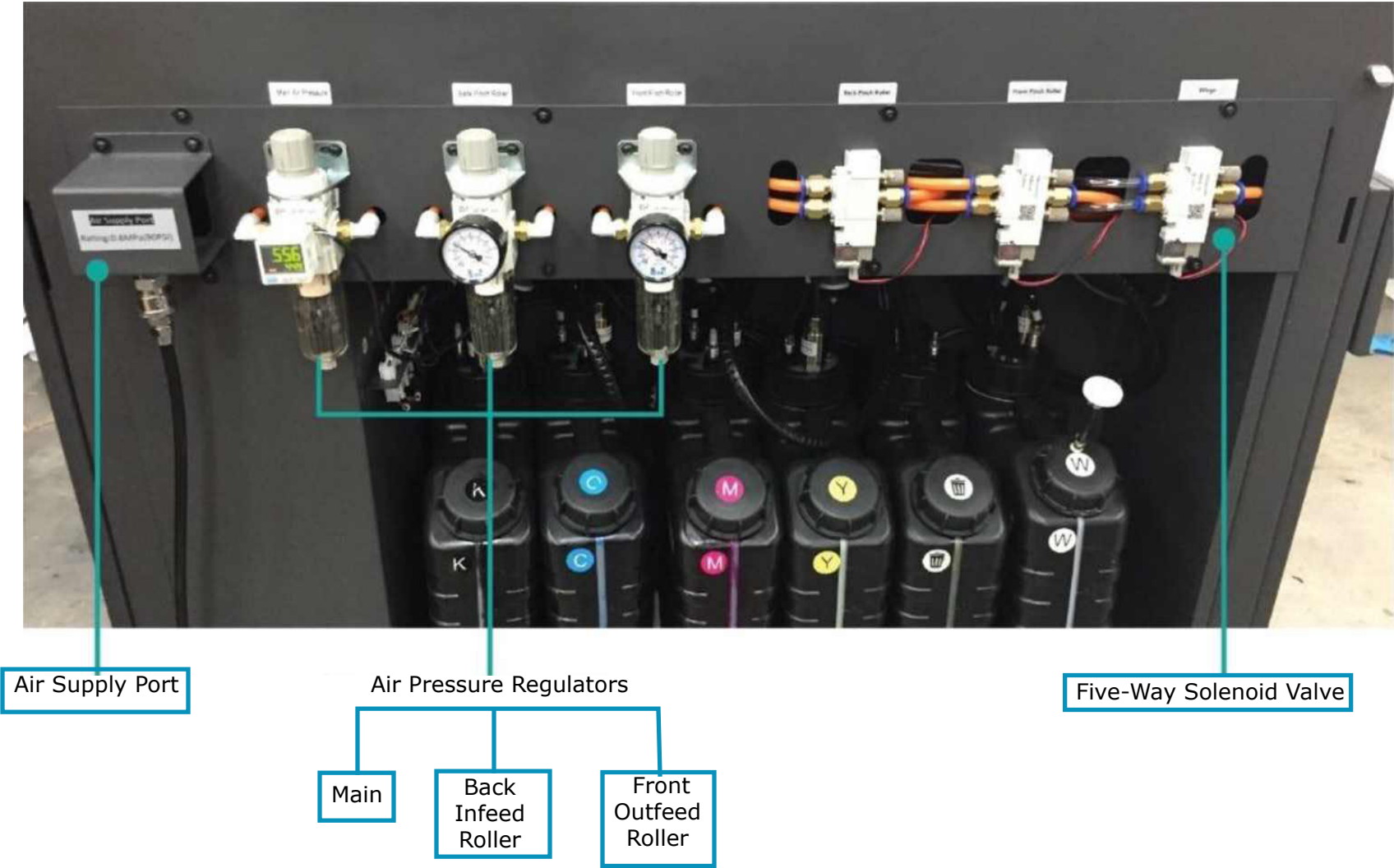


Figure 3-12

### 3.4.1 Air Pressure Gauges

The pneumatic system is accessible through the right front access door.

Normal pressures:

- Main:** 4.5 - 5.5 bar (66 - 81 psi)
- Back Infeed Roller:** 2.5 - 3.2 bar (37 - 47 psi)
- Front Outfeed Roller:** 2.5 - 3.2 bar (37 - 47 psi)

The following table shows the recommended values for the use of different media types.

Media	Infeed/Outfeed Roller (bar/psi)		Air Shaft (rpm)		Tension Settings	Vacuum Settings	Option
	Front - Outfeed	Rear - Infeed	Front	Rear			
Banner 1.6M	2.8 bar (42 psi)	2.4 bar (35 psi)	20 rpm	25 rpm	30	70	<b>These values are approximate. Small deviations are OK.</b>
Banner 2.2M	2.4 bar (35 psi)	2.4 bar (35 psi)	20 rpm	25 rpm	30	70	
Banner 3.2M	2.8 bar (42 psi)	2.4 bar (34 psi)	20 rpm	25 rpm	30	70	
Sticker 1.4M	2.8 bar (42 psi)	2.4 bar (34 psi)	20 rpm	25 rpm	30	90	
Multi-roll 1.4M Vinyl	2.8 bar (42 psi)	2.4 bar (34 psi)	20 rpm	25 rpm	30	90	
Multi-roll 1.4M Vinyl	2.8 bar (42 psi)	2.4 bar (34 psi)	30 rpm	25 rpm	30	90	Do not put air into the air shaft. Use roller collars.

*NOTE: Pressure can change when using different types of media.*

### 3.4.2 Gun Air Joint



Figure 3-14 Front Air Gun Inlet



Figure 3-13 Rear Air Gun Inlet



### 3.5 Electric/Motion Control Panel

The electric panel is located at the rear left side of the printer.

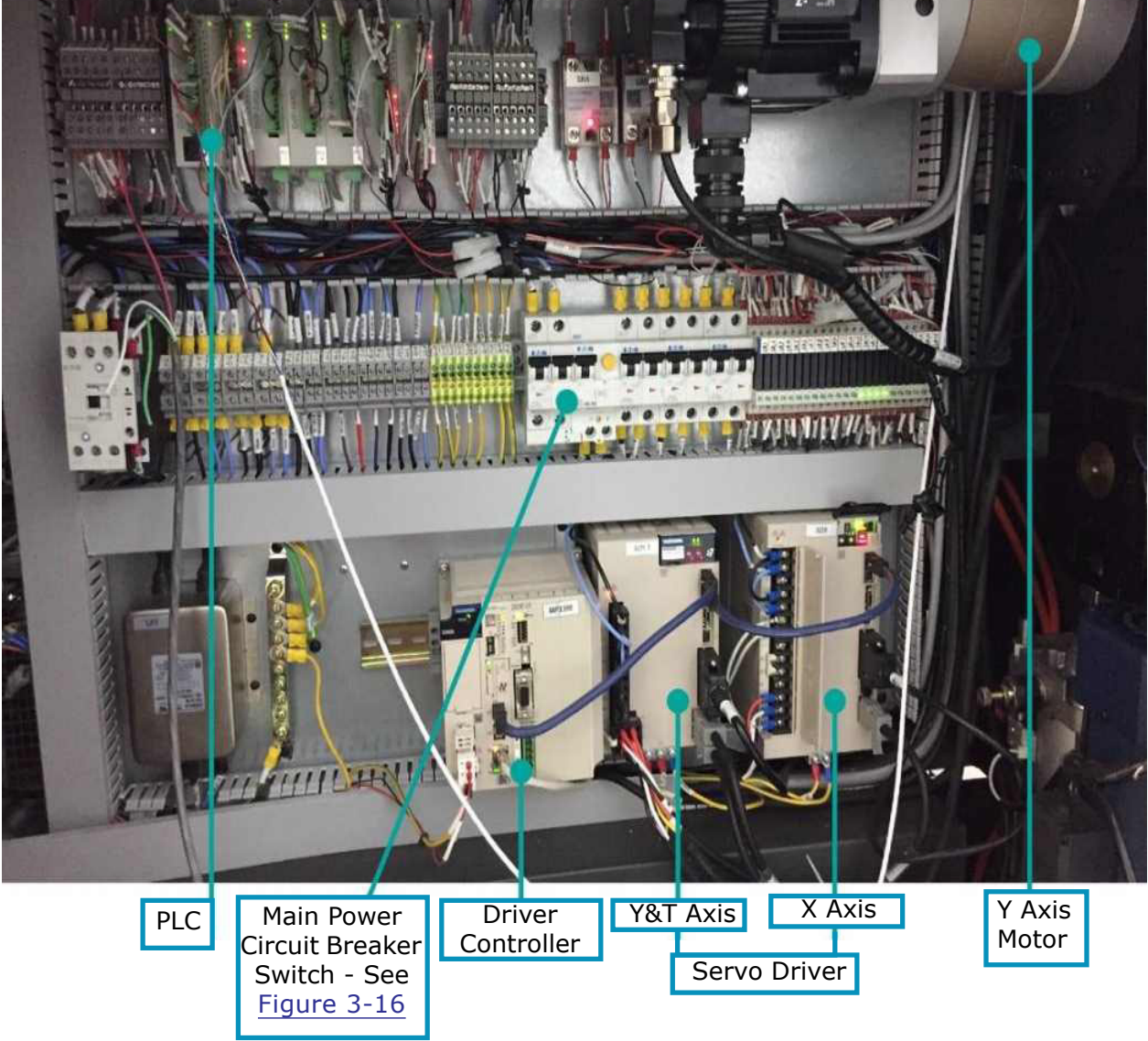


Figure 3-15

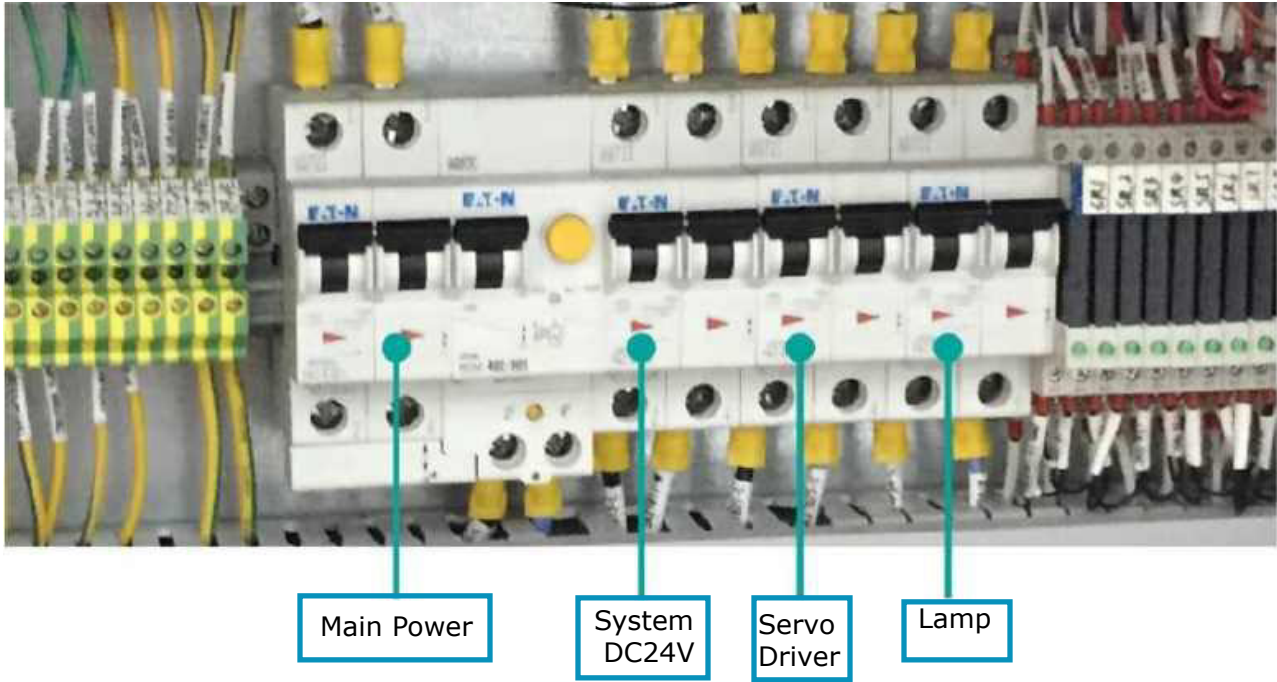



Figure 3-16

 **Caution: Improper use of the power and electrical connections can endanger your life! Do not touch any of electric or electronic components without specific permission from an EFI Technician.**



## 3.6 Vacuum System

### 3.6.1 Ink Vacuum Level

The ink vacuum level prevents the ink from dripping through the print head. Apply enough vacuum to prevent the ink from dripping through the print heads, but also keep all the nozzles shooting properly. See the pressure table below to determine the correct pressure for your jobs.

Adjust ink vacuum level in the FE Preferences Dialog (Vacuum). Pressure is displayed on the carriage and the I/O control.



Figure 3-17

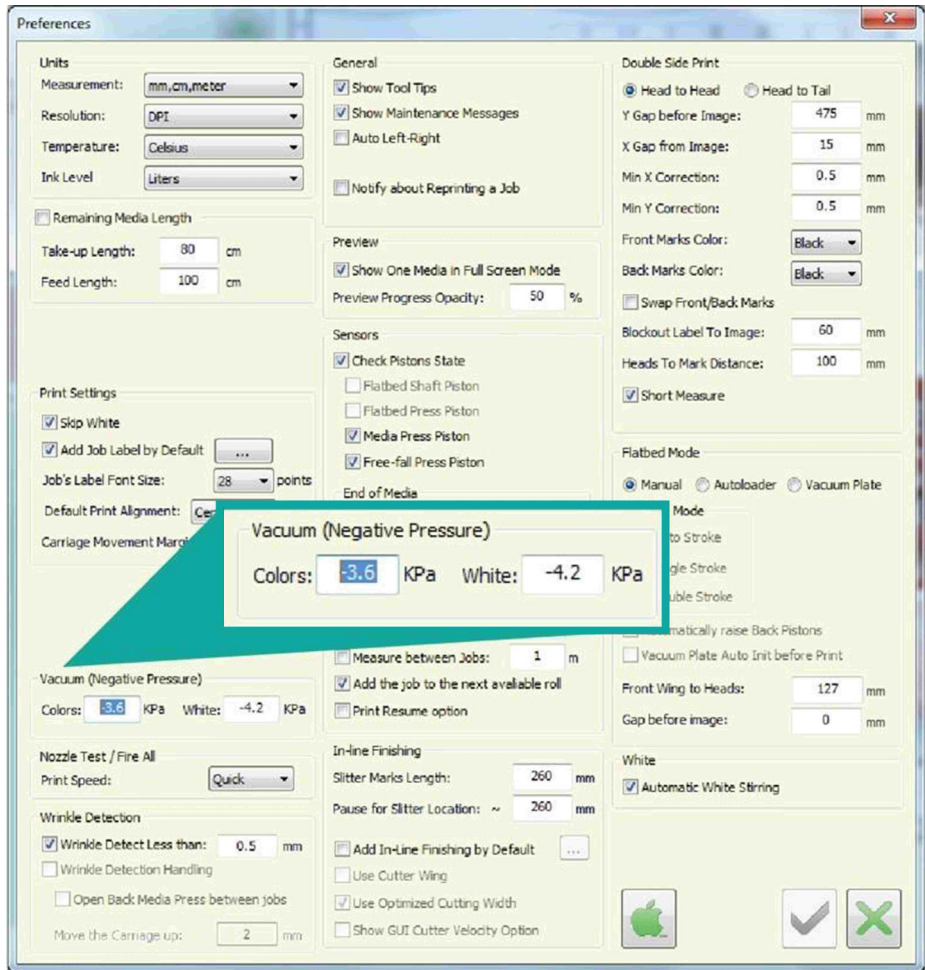


Figure 3-18

Parameter	Value	Unit
Negative Pressure (Color)	-3.8	kPA
Negative Pressure (White)	-4.0	kPA
Positive Pressure Time (Color)	0.5	Seconds
Positive Pressure Time (White)	0.5	Seconds
Main Air Pressure	4.5-6.0	Bars
Negative Pressure (Color)	(-)4 – (-)3.3	kPA
Negative Pressure (White)	(-)4.5 – (-)3.8	kPA

### 3.6.2 Print Table Vacuum System

The print table vacuum motor is located at the bottom right of the printer.



*Figure 3-19*

### 3.7 UV LED Curing System

The UV LED Curing system comprises two UV LED lamps, one at each side of the carriage.

Main features:

- Low electricity consumption
- Environmentally friendly
- Zero initialization time - immediately ready to work
- Runs at a low temperature, thus enabling printing on a vast range of media types, including heat sensitive media

### 3.8 Ionizer (Anti-static Bar)

The ionizer, shown in [Figure 3-20](#) neutralizes the electrostatic charge that accumulates, and prevents "mist" from accumulating on the media.

[Figure 3-20](#) shows one of the printer's two ionizers. Each ionizer is located adjacent to a LED lamp unit, at either end of the carriage.

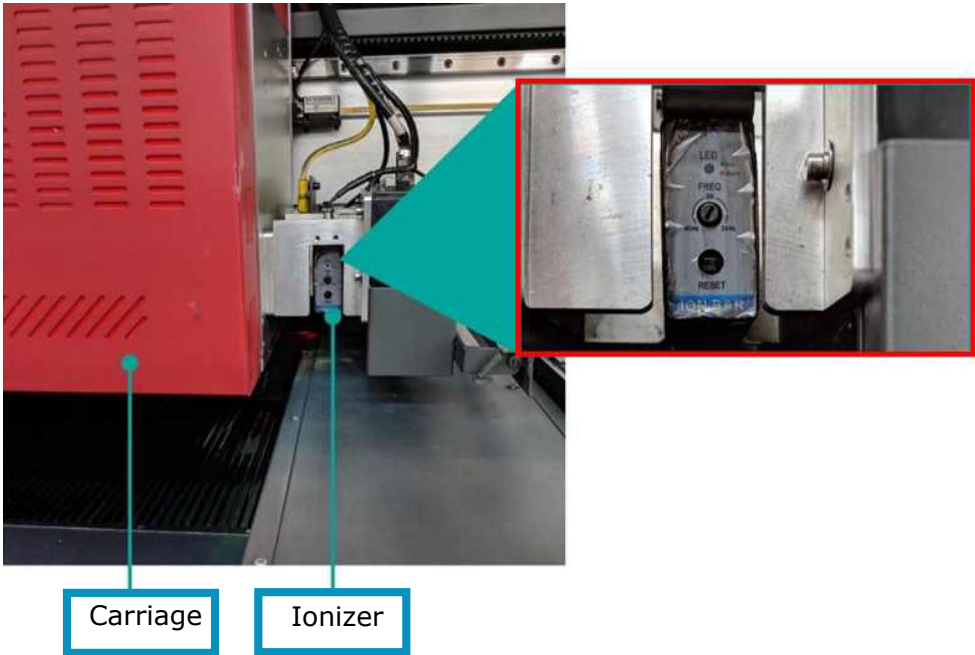


Figure 3-20 Shown From Side of Carriage

### 3.9 Front Control Buttons & Vacuum Knob

The control buttons for the pinch roller, wings, vacuum regulator and lights are located at the front of the workstation.



Figure 3-21

1	Open/closes pinch roller	3	Controls vacuum level of the print table. See <a href="#">Vacuum Regulator</a>	5	Turns light on print table on/off
2	Raise/lowers wings	4	Turns backlight on/off	6	Turns on the printer

#### 3.9.1 Vacuum Regulator

Set the Vacuum level according to media:

- Single or Multi roll printing
- Width (wider media = use lower vacuum)
- Weight (heavier media = use lower vacuum)
- Polyethylene (PE): Work with wings UP

See [Air Pressure Gauges](#) for recommended vacuum values.

### 3.10 Roll Tension Control

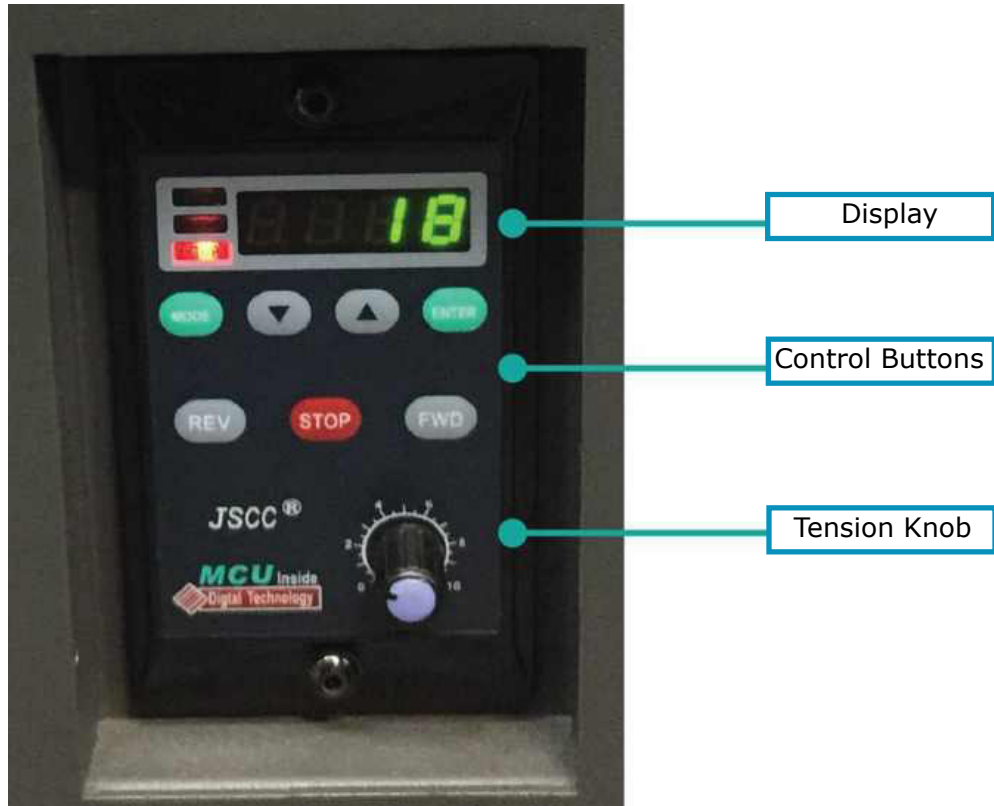


Figure 3-22

**Controls**

- Arrows - Sets the tension
- Rev - Reverse
- Fwd - Forward
- Stop - Stops spinning
- Knob - Sets spinning speed

### 3.11 Purge Buttons

There are four purge buttons located at the front left of the printer close to the carriage.

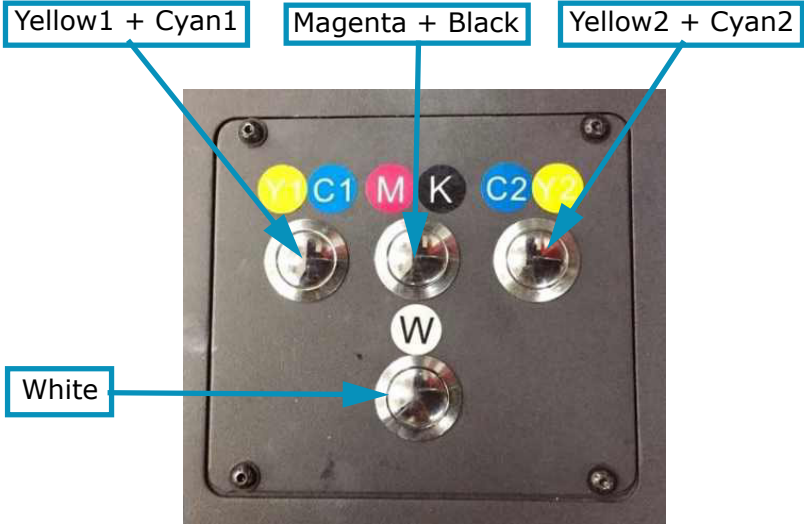


Figure 3-23

### 3.12 Rear Left Control Button

The back pinch roller button toggles the roller open / closed.



Figure 3-24



# Operations Guide

## 4.0 Software Overview

## 4.0 Software Overview

### 4.1 Front End Window

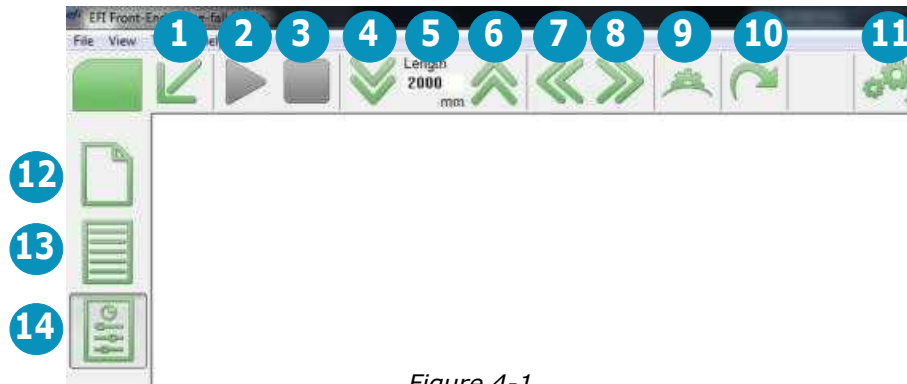


Figure 4-1

1	Returns carriage to home position.	2	Prints the job. When activated, the button changes to Pause icon.	3	Stops print immediately.	4	Moves media forward per value in Length box.
5	Length Box defines distance for media to advance/reverse.	6	Moves media backwards per value in Length box.	7	Moves carriage to the left.	8	Moves carriage to the right.
9	Initializes the printer.	10	Applies tension to media.	11	Opens Preferences dialog.	12	<b>One Job:</b> Displays main screen for one-file printing.
13	<b>Queue:</b> Displays the main screen for print job queuing.	14	<b>Control Panel:</b> Displays the main screen's control panel for defining the printer's settings. See section <a href="#">4.2 Front-end Window - Control Panel</a> .				

	OK - Saves the settings and closes the dialog.
	Cancel/Close - Cancels the settings and closes the dialog.
	Apply - Saves the local settings and dialog remains open.

### 4.2 Front-end Window - Control Panel

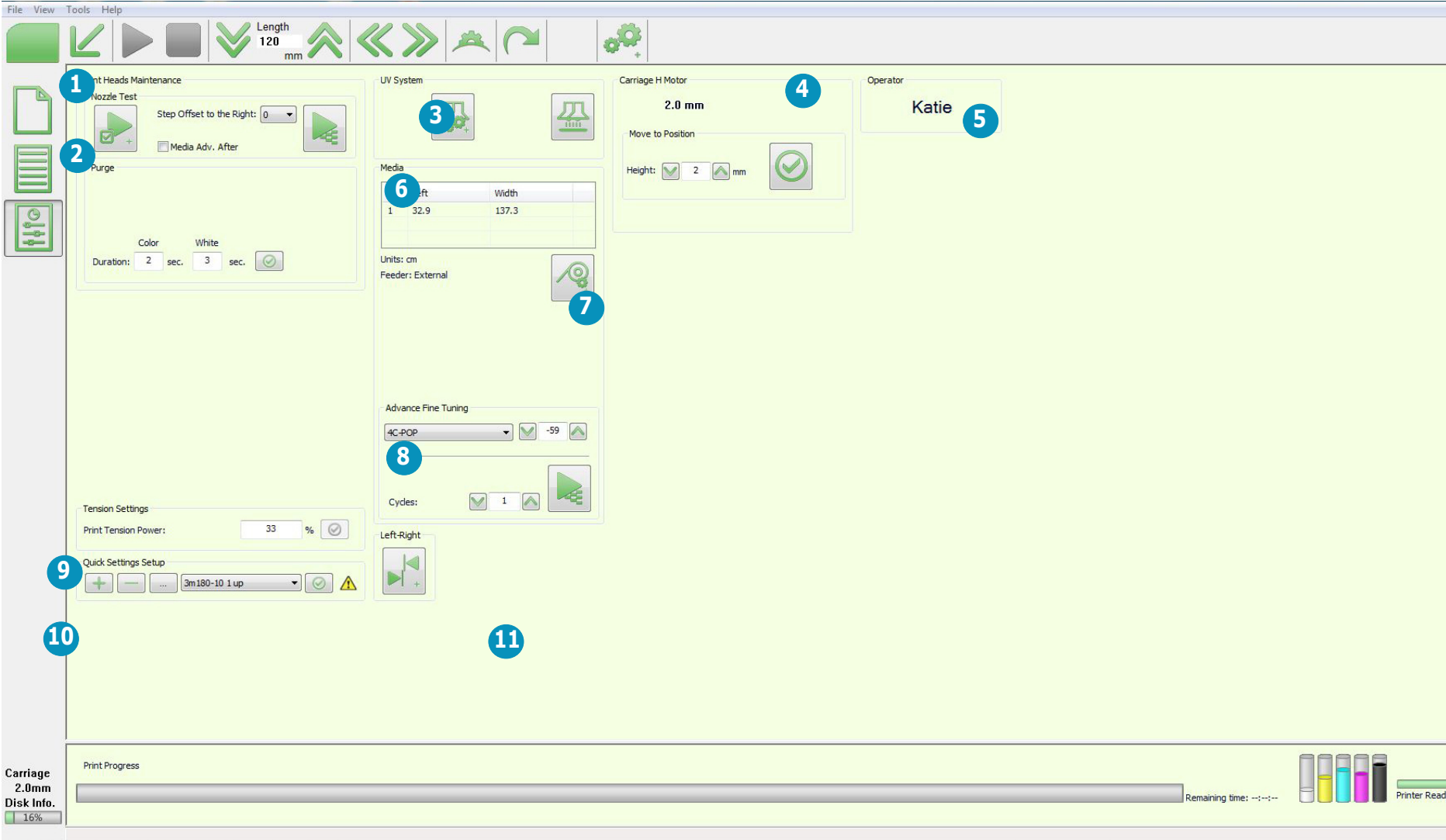


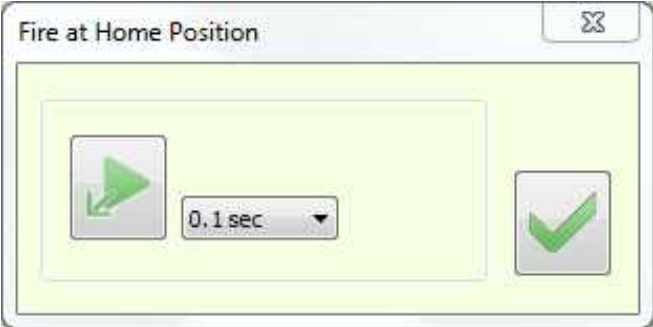






Figure 4-2 Control Panel

No.	Window Section	Unlabeled Icons	Icons/Field Description
1	Print Heads Maintenance		Step Offset to the Right - For efficient use of the media, you can print several Nozzle Test patterns – as many as can fit onto the media.
	Nozzle Test		When reaching the maximum, a message appears. You can then advance the media manually and set the Step Offset to zero, to print the next nozzle test.
			Media Adv. After - Advances the Media 120 mm, after the nozzle test print.
	Fire at Home Position		<p>1 Select the duration (0.1/0.5/1 sec)                  2 Click the Fire button.                  3 Click OK to close the dialog box.</p> 
2	Purge		Set the duration of the purge (normally 2-5 seconds) for color and white inks.
3	UV System		Opens UV System Settings dialog box. See <a href="#">UV System Settings Dialog</a> for details.
	Last Pass Curing		Causes carriage to make a pass in both directions to cure any uncured ink take-up.  <i>NOTE: Does not print.</i>
4	Carriage H Motor		Move to Position. Set the required Height and choose Apply.  See <a href="#">Set Carriage Height</a> .
5	Operator		Operator’s display. See the <a href="#">User’s Login</a> .

No.	Window Section	Unlabeled Icons	Icons/Field Description
6	Media		List displaying media distances. These include: <ul style="list-style-type: none"> <li>• Left - The distance between the left edge of the print table and the left edge of the media. When printing multi-roll, the distance between the Left edge of the print table and the left edge of each roll is displayed in the group box "Media Status."</li> <li>• Width: The width of each of the media rolls being printed.</li> </ul>
7	Set/Measure		Opens Media Settings dialog. See <a href="#">Media Settings Dialog</a> for details.
8	Advance Fine Tuning		Enables fine tuning the Media Advance feature, in units of 10 microns. <ol style="list-style-type: none"> <li>1. Select the print mode from the drop-down menu.</li> <li>2. Set the number of Cycles and print the Advance Fine Tuning pattern.</li> </ol> (See <a href="#">Advanced Fine Tuning</a> ).
9	Tension settings		Sets the Tension level (Print Tension Power) of the Tension Roller from 0-100%. Set tension and click Apply.
10	Quick Settings Setup		Enables a quick machine setup for each media. See <a href="#">Quick Settings Setup Feature</a> .
11	Left-Right		Opens Left-Right Calibration window. See <a href="#">Left-Right Calibration Dialog</a> for details.

### 4.2.1 UV System Settings Dialog

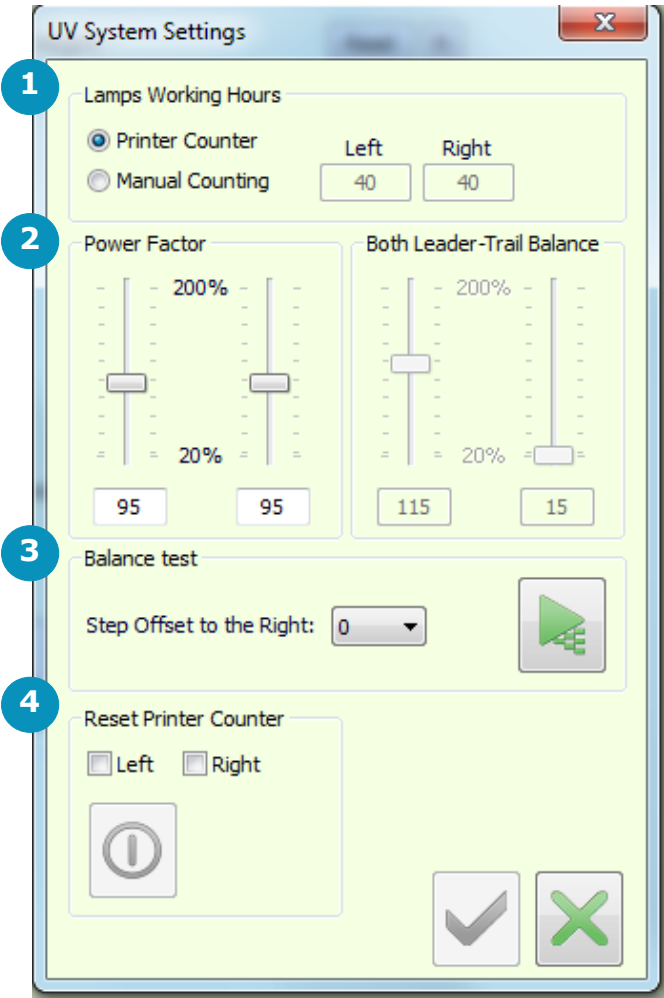


Figure 4-3 UV System Settings

1	<p><b>Lamps' Working Hours</b> The displayed settings are the default values for the new imported job, and not those already in the queue.</p>
2	<p><b>Power Factor</b> Adjust the power factor, according to the accumulated number of hours that the lamps have been used, as required.</p>
3	<p><b>Balance Test.</b>  Step Offset to the Right - Prints the next nozzle test to the right of the previous one, until there is no more room on the X-axis. Then prints the next nozzle test on the next line.</p>
4	<p><b>Resets Printer Counter (Grayed out; unavailable.)</b>  Resets the UV Usage Counter's values defined in the printer statistics parameter dialog box. See <a href="#">Printer Statistics</a>.</p>

### 4.2.2 Media Settings Dialog

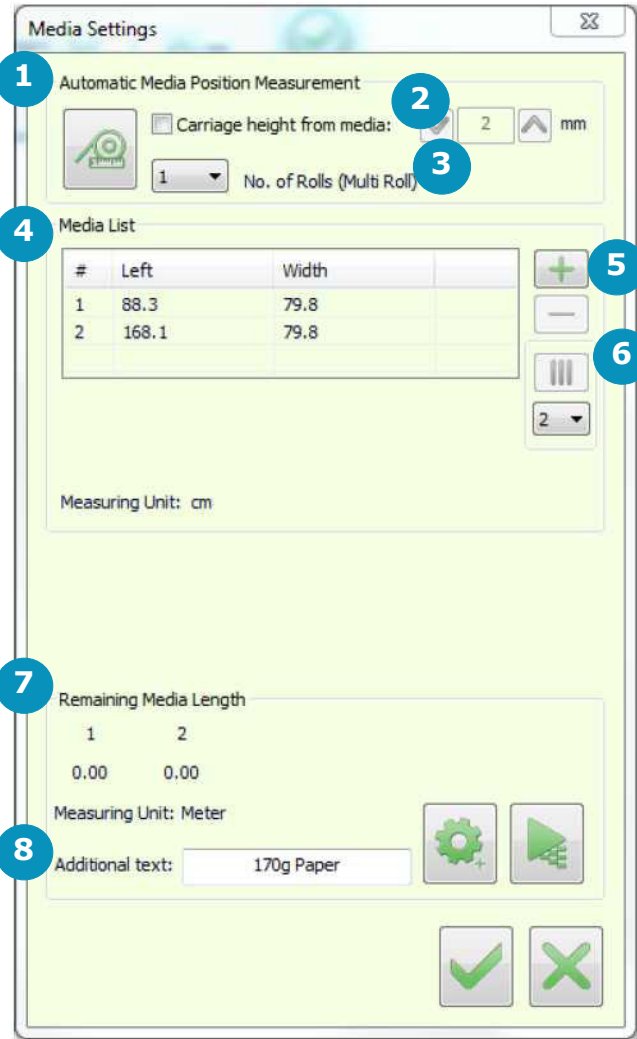

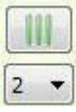


Figure 4-4 Media Settings

1		Measures distance between the left edge of the print table and the left edge of each media roll. Also measures the width of the roll(s) in the printer.
2		Specify the required height above the media in the spin box.
3		Number of Rolls identifies the number of rolls to be printed.
4		Media List. <b>Left:</b> Distance between the left edge of the print table and the left edge of the media. If printing multi-roll, the distance between the left edge of the print table and the left edge of each roll displays in the Media List box. <b>Width:</b> The width of each of the media rolls being printed.
5		+ Add Roll - Remove Roll
6		Split media into virtual rolls. Enables you to split the media into up to 6 rolls.
7		Remaining Media Length. Settings – Length of Media before printing. Prints the remaining Media length.
8		Additional Texts – Add free text to the label.



### 4.2.3 Left-Right Calibration Dialog

This dialog sets the position of heads firing during bi-directional printing, in units of pixels. Opens via the Left-Right icon on the Front-end window's Control Panel or from the Calibrations options in the Tools menu.

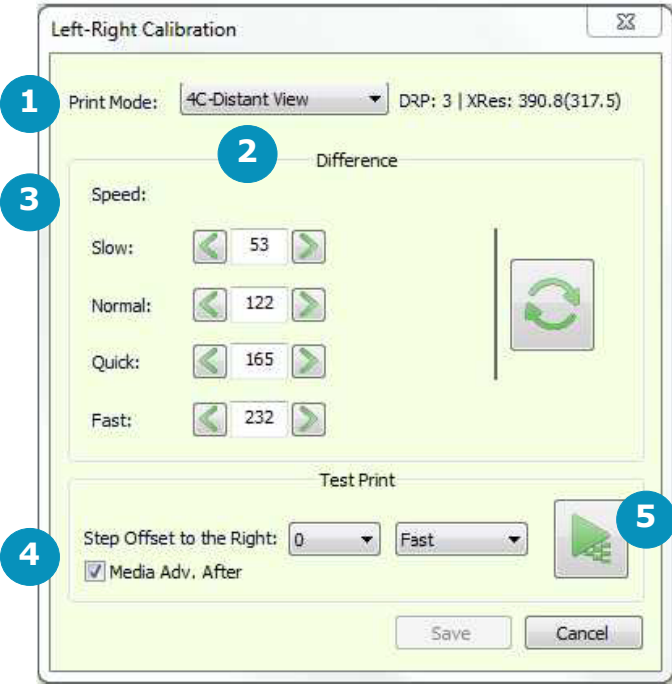


Figure 4-5 Left-Right Calibration

1	<b>Print Mode</b> - Select the Print Mode to calibrate.	3	<b>Speed</b> - Carriage speed in which you are printing: Slow, Normal, Quick, and Fast.
2	<b>Difference</b> - There are four optional carriage speeds for each print mode. Speed is predefined in the Print Mode list and is usually set to Fast. Make sure to insert values in the correct spin box.	4	<b>Set the Step Offset to the Right</b> - Sets the location of the pattern on the media width.
		5	<b>Test Print</b> - Print the Left-Right Calibration test pattern.

## 4.3 Front-end Window – One Job

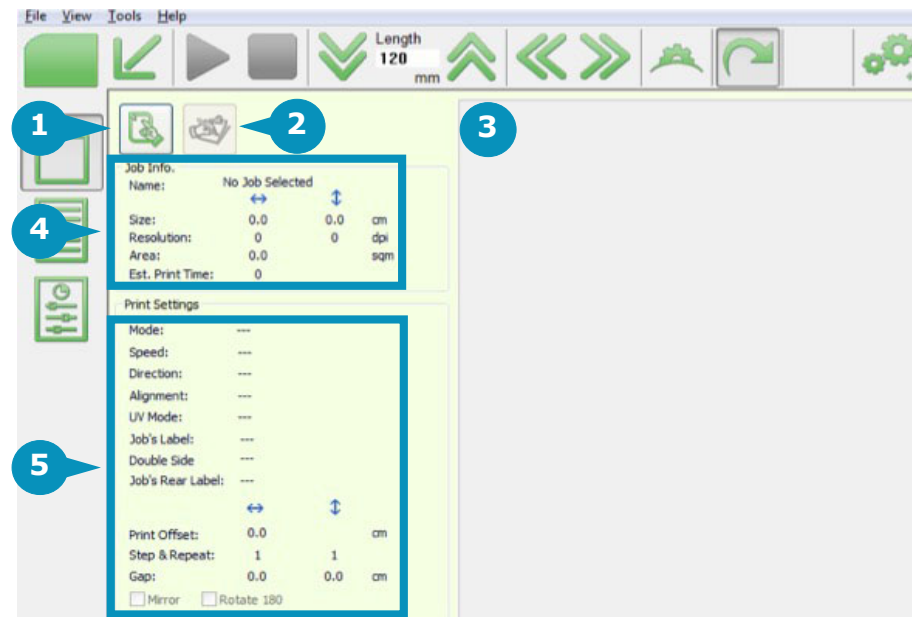


Figure 4-6 Front-end Window - One Job

1	Opens a Job	2	Opens Job Ticket
3	RIP Data Preview. When there is no preview file in the mjob folder, the EFI FE creates a preview by calculating the four separation files.	4	Job Info. Opens the Select the Job dialog box. <ul style="list-style-type: none"> <li>• Size: The size of the job.</li> <li>• Resolution: The job's resolution.</li> <li>• Area: The print area.</li> <li>• Est. Print Time: The estimated print time.</li> </ul>
5	Print Settings: <ul style="list-style-type: none"> <li>• Mode - The print mode.</li> <li>• Speed - The carriage speed.</li> <li>• Direction - Uni- or bi-directional when printing.</li> <li>• Alignment - File's alignment with the media: left, right, or center.</li> <li>• UV Mode - Which UV lamps are lit: leader, trail, or both lamps.</li> <li>• Job's Label - Shows if the job's label is set for on or off.</li> </ul>		

### 4.4 Front-end Window – Queue

Figure 4-7 shows the Queue version of the front-end window.

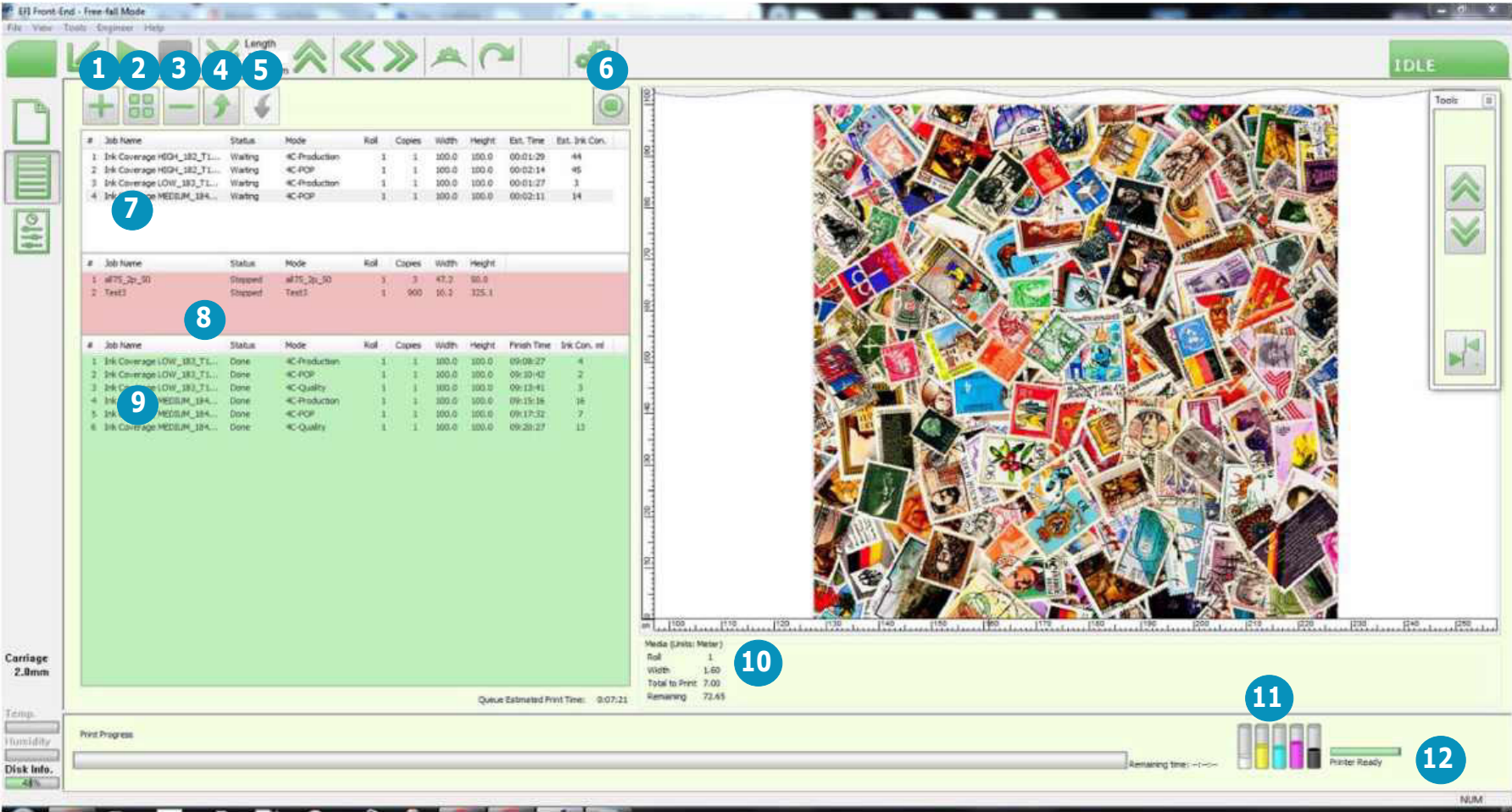
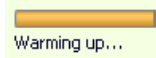
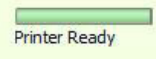



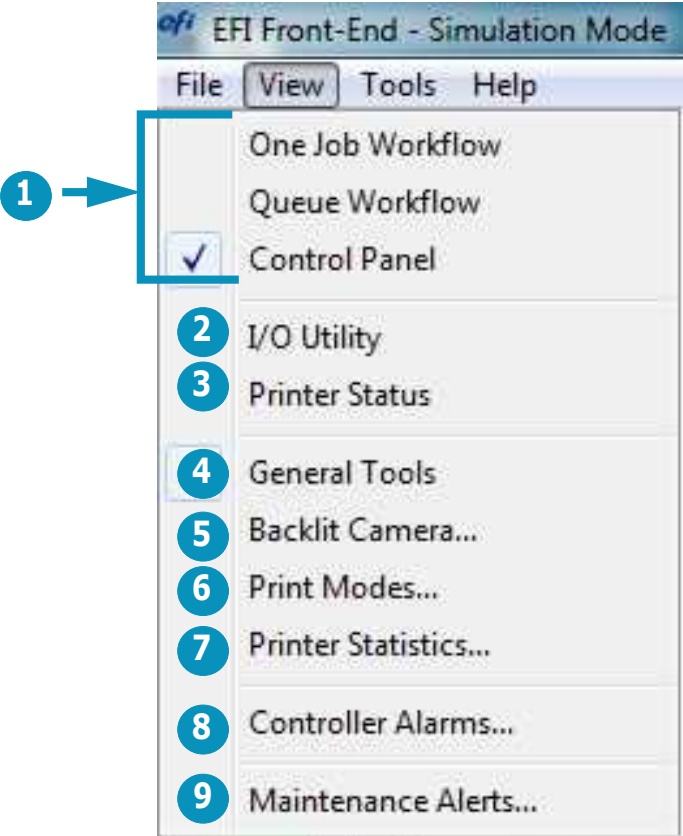


Figure 4-7 Front-end Window - Queue

1	Add job to Job Queue	2	Combine Jobs. Print more than one job simultaneously, on more than one roll.
3	Remove job from any pane.	4	Move job up in Job Queue.
5	Move job down in Job Queue.	6	Stops the queue printing after one job.
7	White Pane. Displays the print jobs waiting in the print queue. Right-click on a Job to enable the following: <ul style="list-style-type: none"> <li>• Open Job Settings</li> <li>• Remove Job</li> <li>• Set the order within the queue.</li> <li>• Change Job Status to Hold or Waiting.</li> <li>• Cancel Job – Drops the Job to the Red Pane</li> </ul>	8	Red Pane. Displays the failed/canceled print jobs (i.e. those for which printing was not completed).
9	Green Pane. Displays the print jobs that have been successfully printed.	10	Media Status. Displays the location and width of the media.
11	Ink Tank Status. Indicates the amount of ink present in each of the main ink tanks.	12	<p>When turning on the printer, the SITs begin to heat up to the required temperature.</p> <p> When the Printer Status is orange, it indicates that the printer is warming up.</p> <p> When the system is ready for printing, the printer status bar turns from orange to green, indicating that the required temperatures have been reached. The printer status bar indicates that the printer is ready.</p> <p>If the temperature of any of the inks does not reach the required level, the status bar remains orange.</p> <p>Double-click status bar to open Printer Status dialog box.</p>
13	<p>Printer Statuses.</p> <p> The printer is not yet initialized.</p> <p> The printer is ready to work.</p> <p> The printer is printing.</p>		

### 4.5 Front-end Window - View Menu

Open the View menu from the menu bar on the Front-end window.



1	Choose <b>One Job Workflow</b> , <b>Queue Workflow</b> , or <b>Control Panel</b> to enable which view to display.
2	Opens the I/O Control dialog box. See <a href="#">I/O Control</a> .
3	Opens the Printer Status dialog box. See <a href="#">Printer Status</a> .
4	Opens the floating tool box. See <a href="#">General Tools</a> .
5	Opens the Print Modes dialog box. See <a href="#">Print Modes</a> .
6	Opens the Printer Statistics Parameters dialog box. See <a href="#">Printer Statistics</a> .
7	Opens the Motion Control - Alarms and Warnings dialog box. See <a href="#">Motion Control - Alarms and Warnings</a> .
8	Opens the Phoseon Client dialog box. See <a href="#">UV System Client</a> .
9	Opens the Maintenance Alerts dialog box. See <a href="#">Maintenance Alerts</a> .

Figure 4-8 Front-end Window - View Menu

### 4.5.1 I/O Control

The I/O Control dialog box displays the status of the printer's electronic systems. Screen components that are disabled can only be activated by an engineer.

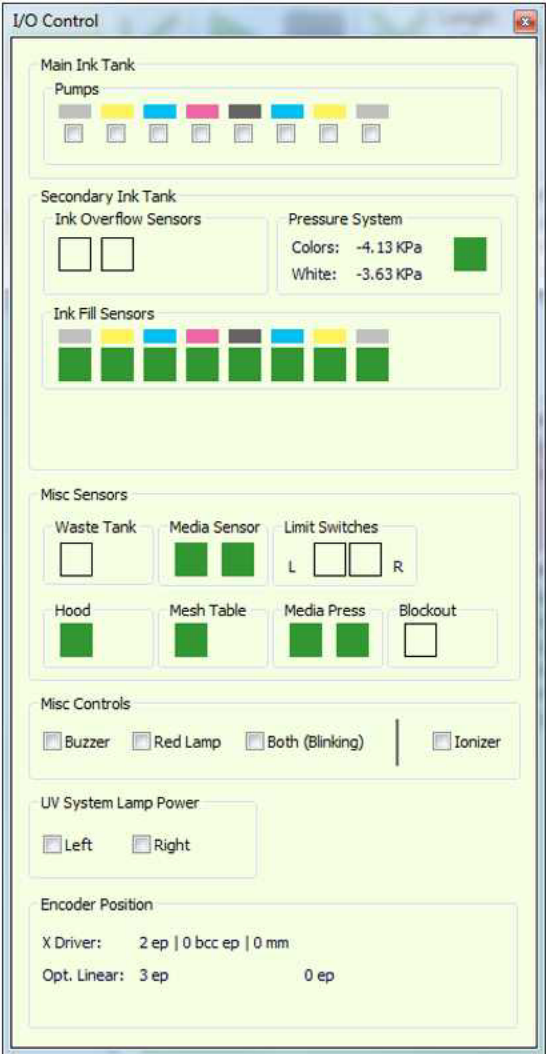


Figure 4-9 I/O Control Dialog Box

### 4.5.2 Printer Status

The Printer Status dialog box opens when you double-click the ink tank status in the lower right side of the front-end window or from the View menu.

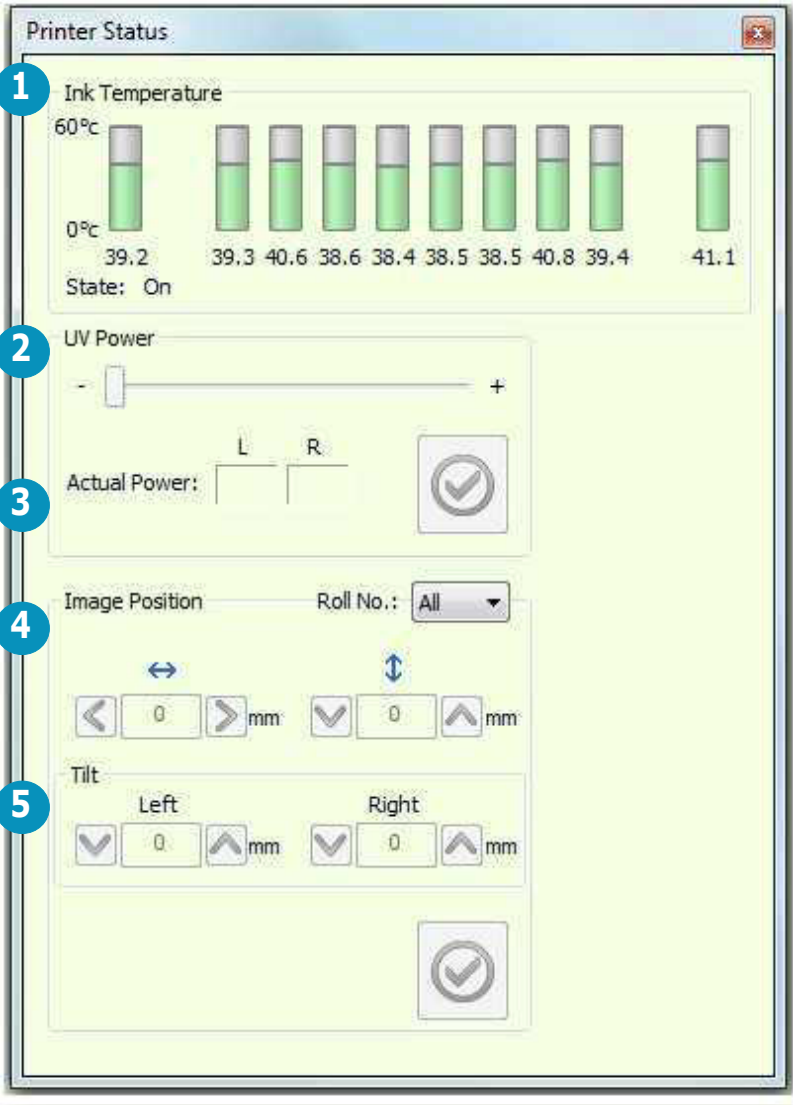


Figure 4-10 Printer Status Dialog Box

1	Displays the temperature of the ink at the SIT.  Red: The temperature is higher than required. Orange: The temperature is less than required. Green: Temperature is in within range.  The actual temperature displays beneath each color.
2	Move the slider to adjust the UV power during printing, if needed.
3	Displays the actual amount of UV power used during printing.
4	You can adjust the Image Position from the Printer Status dialog box, during printing.  When printing double-sided, you can adjust the horizontal and vertical position of the image as well as the tilt.
5	This option is only activated when the printer is printing on the back side in double-sided printing.



### 4.5.3 General Tools

Some actions on the printer are carried out in dialog boxes that, while open, block access to any other items in the software.

Use the floating tool box to advance media or open/close the hood, even when another dialog box is open.

This tool box floats and therefore, allows access to all the other components of the screen.



1	Advance media 120 mm backwards.
2	Advance media 120 mm forwards.
3	Opens Left/Right Calibration dialog box. See <a href="#">Left-Right Calibration Dialog</a> .

Figure 4-11 General Tools Floating Tool Box

### 4.5.4 Print Modes

The Print Modes dialog box displays the list of print modes that are installed on the printer.

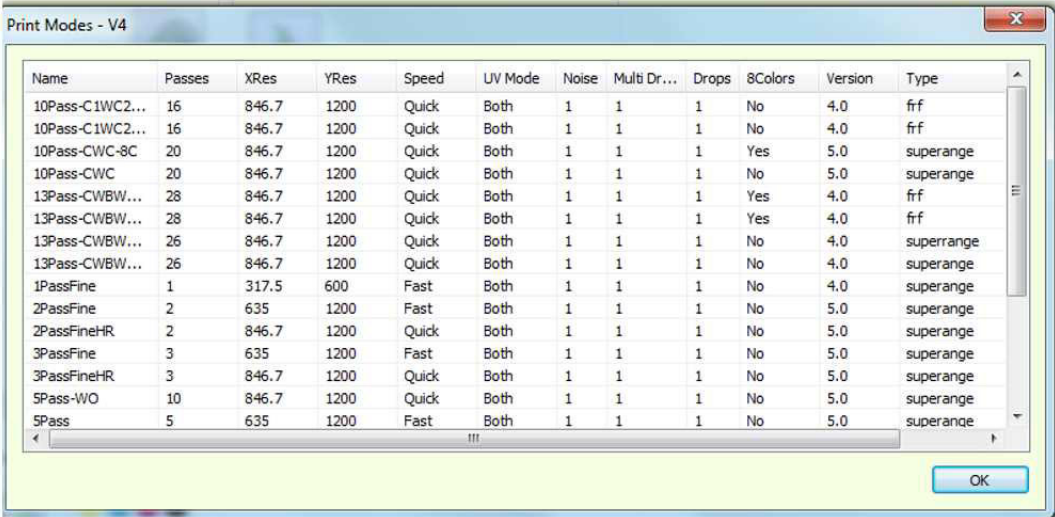


Figure 4-12 Print Modes Dialog Box

### 4.5.5 Printer Statistics

The Printer Statistics Parameters window shows the usage statistics of the UV LED lamps, for operator’s information only. If needed, you can export the printer statistics and send it to an engineer (click EXPORT and save the file).

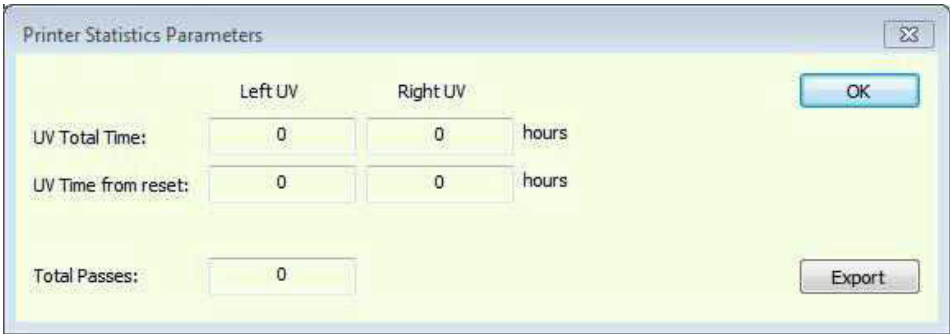
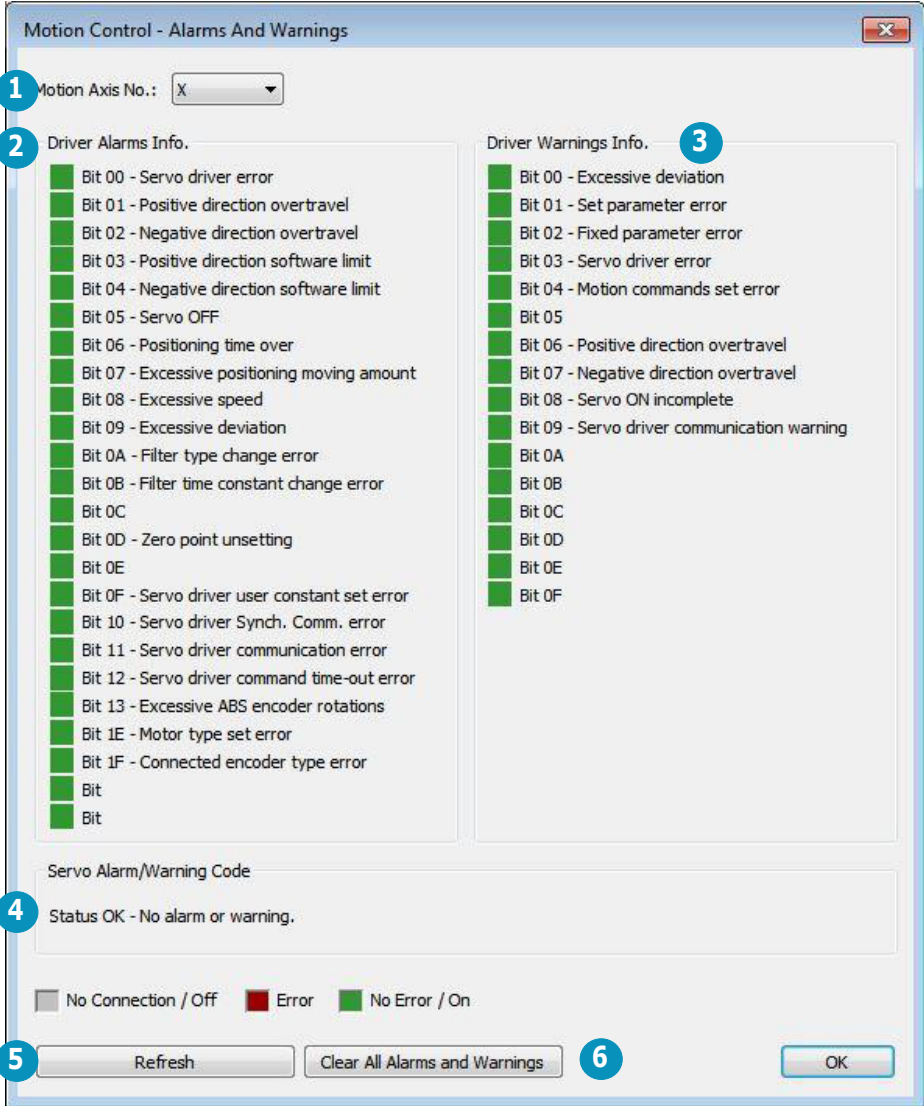


Figure 4-13

### 4.5.6 Motion Control - Alarms and Warnings

Figure 4-14 shows the Main Control – Alarms And Warnings dialog box. This window is for the information only.



1	Motion Axis No. The motor whose alarms and/or warnings are displayed.
2	List of alarms
3	List of warnings.
4	Status: This is displayed when no alarms or warnings are shown.
5	Refreshes the window and displays any alarms or warnings. If the warnings or alarms persist, shut down the printer and restart it.
6	Clear All Alarms and Warnings. Clears the alarms and warnings that are displayed.

Figure 4-14 Alarms and Warnings Dialog Box

### 4.5.7 UV System Client

The Phoseon Client dialog allows you to view the status of the UV LED. In the Output section, you can find the error log if it exists. This window is for the operator's information only.

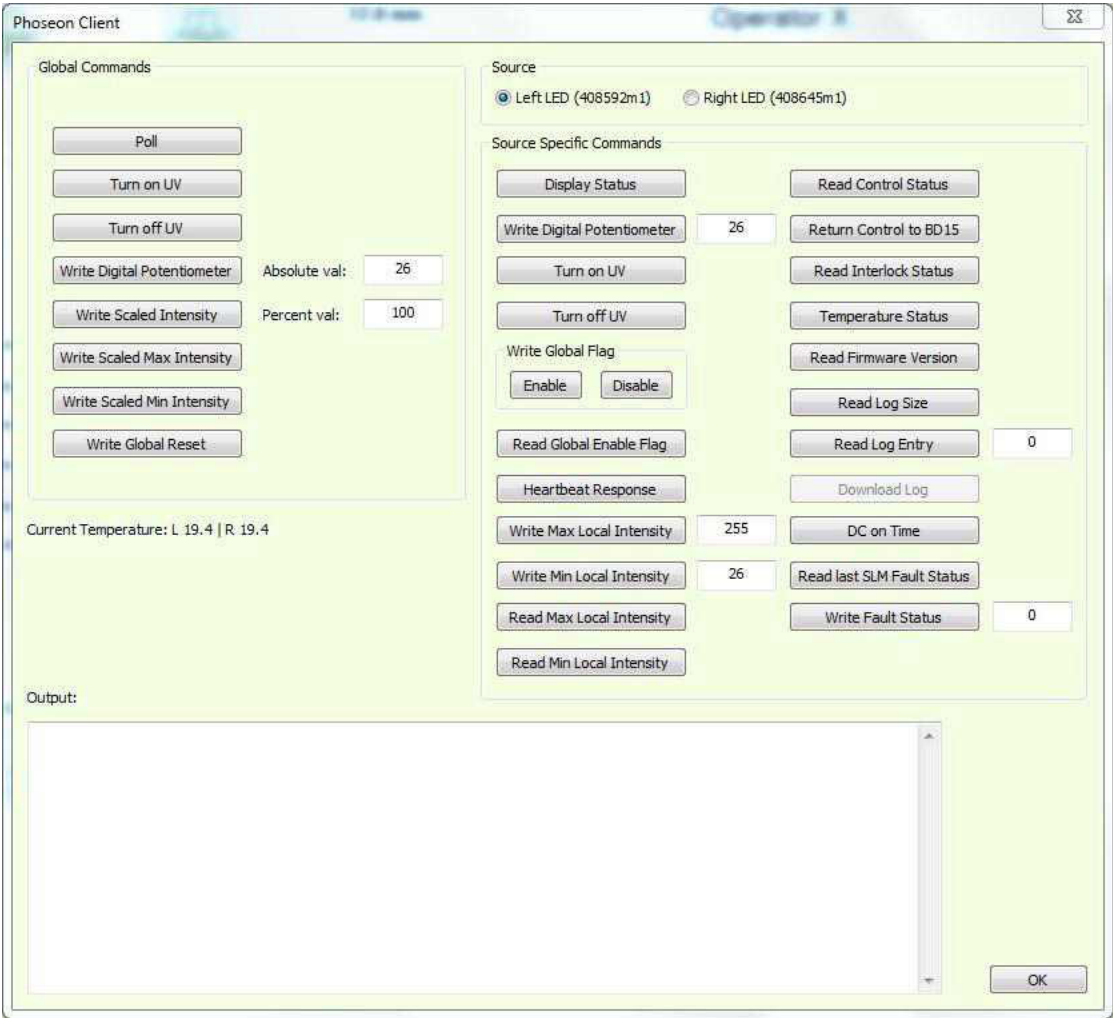


Figure 4-15 UV System Client Dialog Box

### 4.5.8 Maintenance Alerts

The Maintenance Alerts dialog box appears daily. It displays a list of maintenance tasks that must be carried out at a specified frequency. Choose Help for further information.

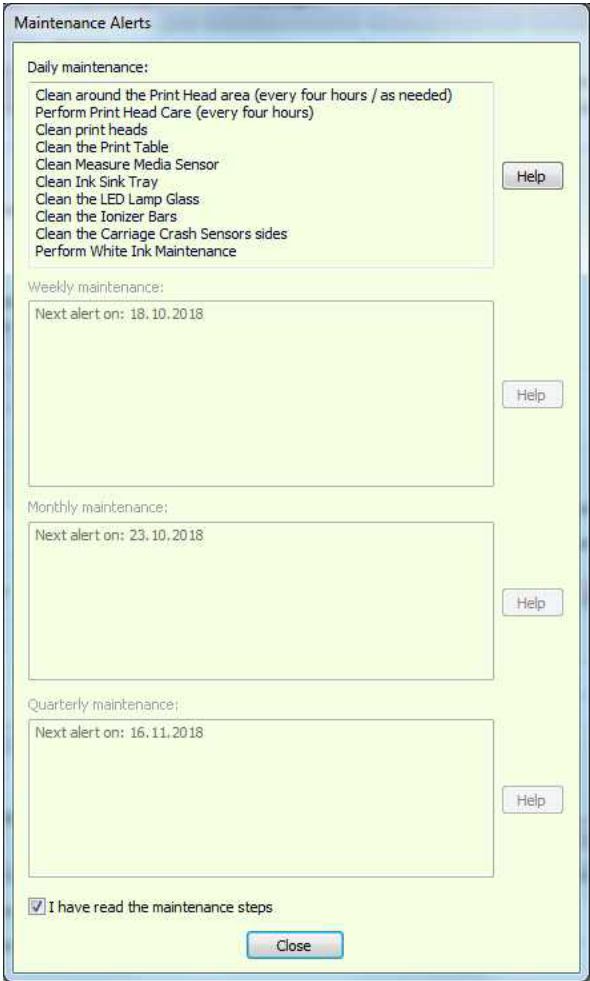


Figure 4-16 Maintenance Alerts Dialog Box

## 4.6 Front-end Window - Tools Menu

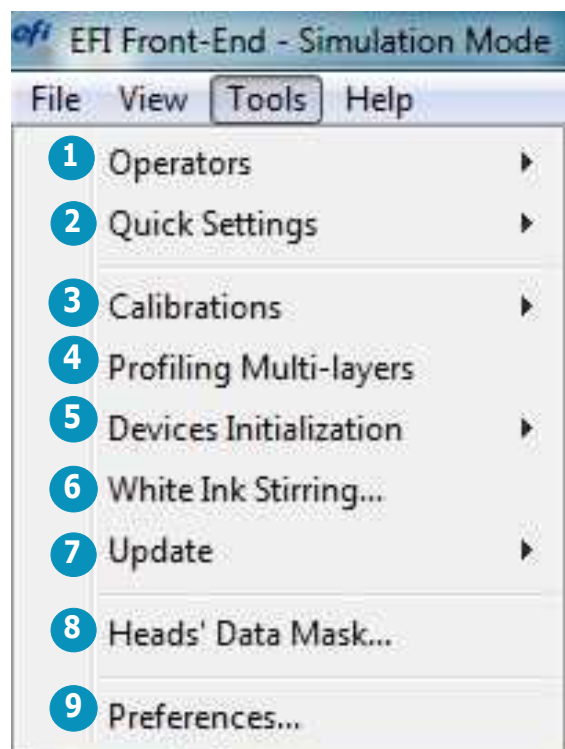


Figure 4-17 Front-end Window - Tools Menu

1	Switch and manage Operators (See User's Login section).
2	Opens the Quick Settings sub-menu. See <a href="#">Quick Settings Setup Feature</a> .
3	Expands the Calibrations sub-menu. See <a href="#">Tools Menu - Calibration Sub-menu</a> .
4	Use this feature when creating an ICC Profile for multi-layer print Modes (such as C1WC2; CWBWC).
5	Carries out an initialization to the carriage Height motor.
6	Opens the White Ink Stirring dialog box. See <a href="#">White Ink Stirring</a> .
7	Expands the Update sub-menu. See <a href="#">Tools Menu - Update Sub-menu</a> .
8	Opens the Heads Data Mask dialog box. See <a href="#">Heads Data Mask</a> .
9	Opens the Preferences dialog box. See <a href="#">Preferences Dialog Box</a> .

### 4.6.1 Tools Menu - Calibration Sub-menu

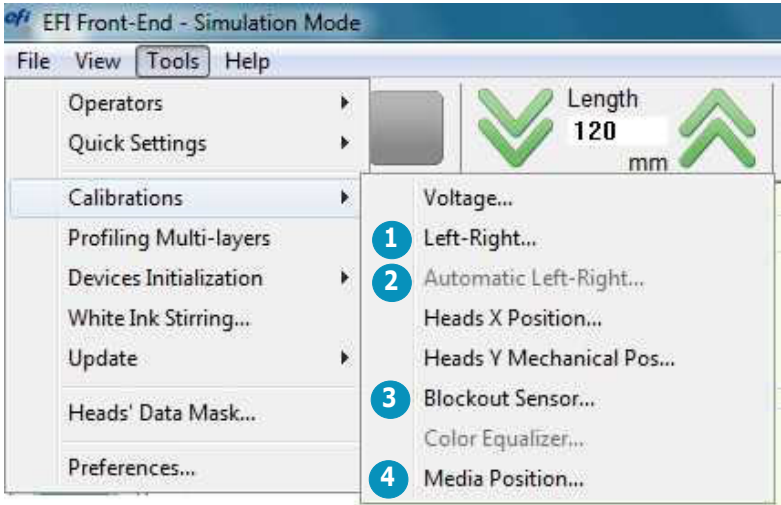


Figure 4-18 Calibration Sub-menu

1	Opens Left-Right Calibration dialog. See <a href="#">Left-Right Calibration Dialog</a> for details.
2	Opens Automatic Left-Right Calibration dialog. See <a href="#">Drop Velocity - Automatic Left-Right Calibration</a> for details.
3	Opens Blockout Sensor Calibration dialog box. See <a href="#">Blockout Sensor Calibration</a> for details.
4	Opens Media Position Calibration dialog box. See <a href="#">Media Position Calibration</a> for details.

#### 4.6.1.1 Drop Velocity - Automatic Left-Right Calibration

Enables automatic change of the Left-Right value when the user changes the carriage height, especially during printing. (See [Left-Right Calibration Dialog](#).)

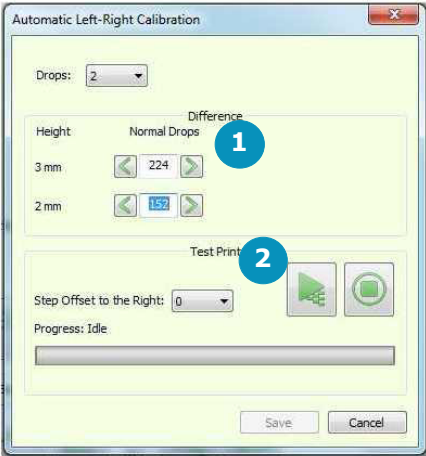


Figure 4-19 Left-Right Calibration

1	The difference between the left and right offset.
2	To run a Test Print.



#### 4.6.1.2 Blockout Sensor (Optional)

See section [\\_](#) for details on blockout printing and the use of this dialog box.

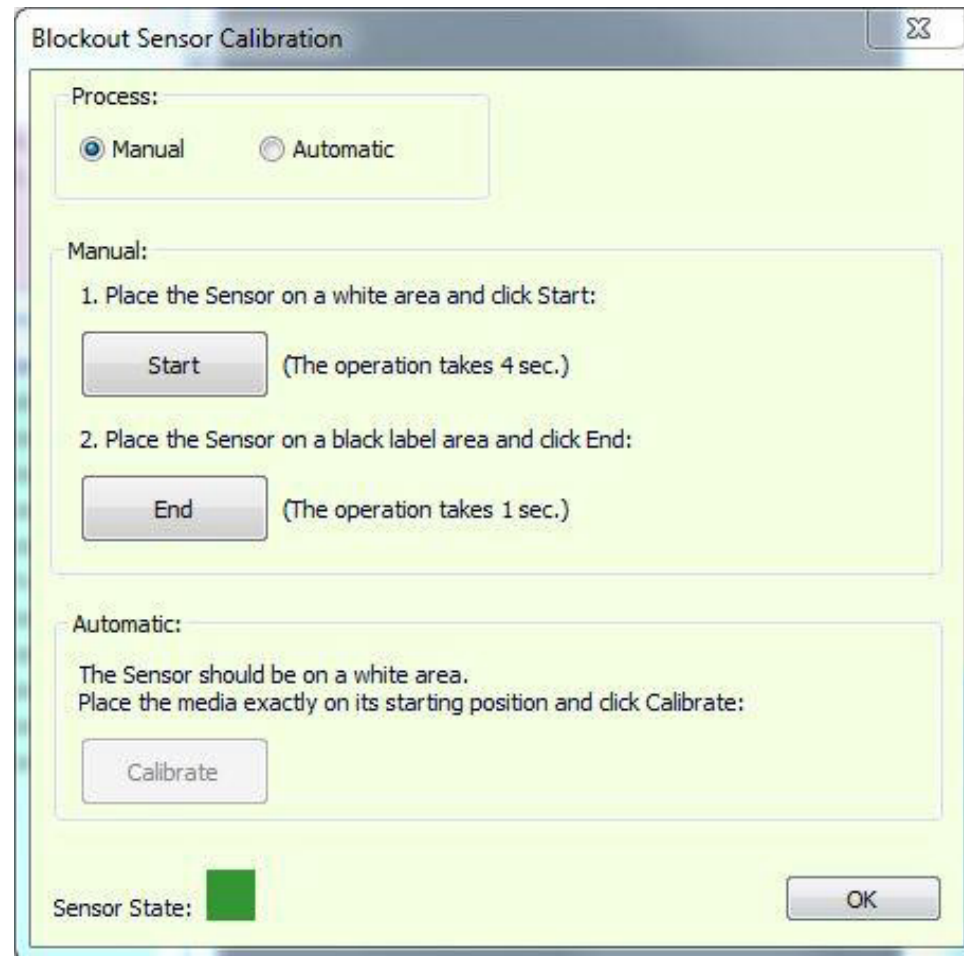


Figure 4-20 Blockout Sensor

### 4.6.1.3 Media Position Calibration

Before carrying out media position calibration, ensure that the Left / Right settings for slow speed have been calibrated. To carry out this calibration, follow the instructions in the Media Position Calibration dialog box.

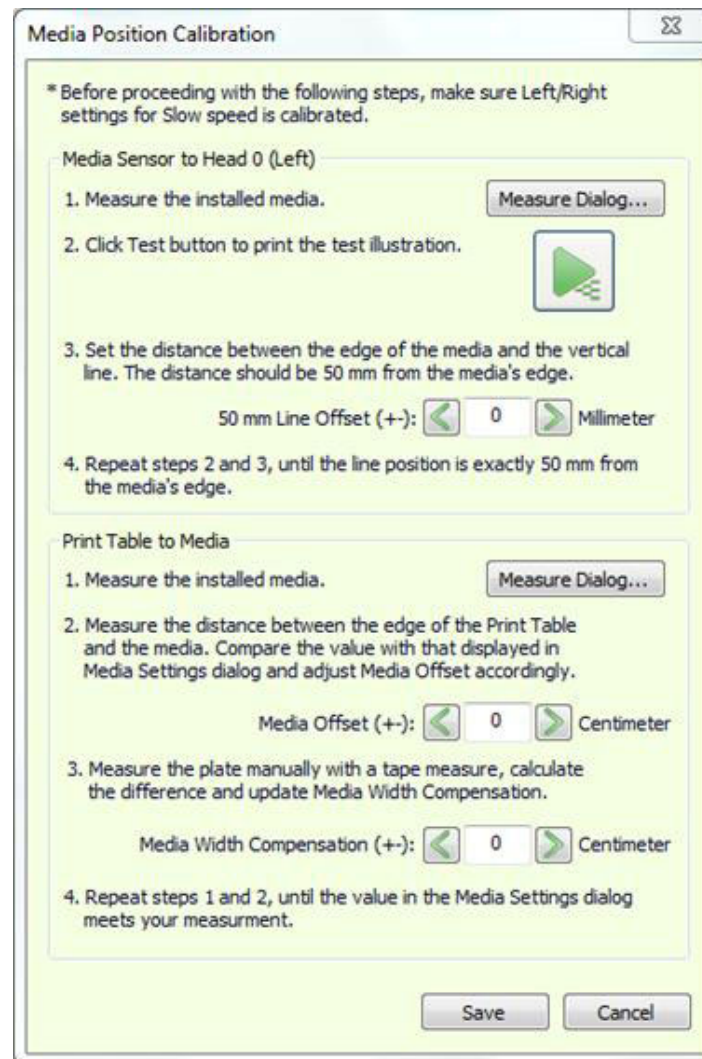
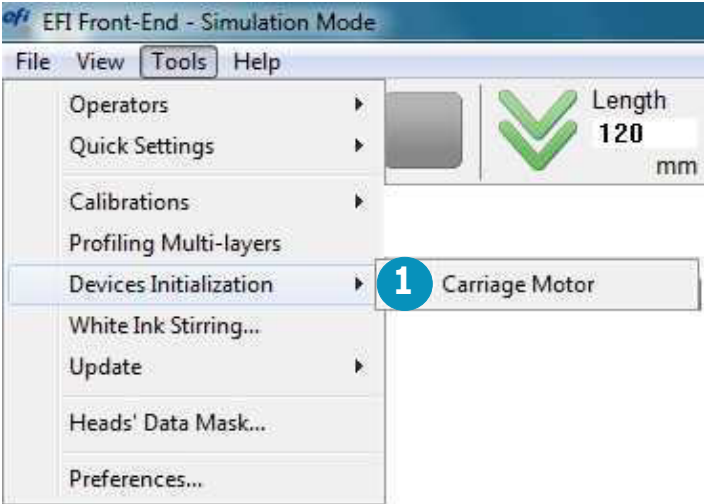


Figure 4-21 Media Position Calibration Dialog Box

### 4.6.2 Tools Menu - Devices Initialization Sub-menu



- |   |   |
|---|---|
| 1 | Carries out an initialization to the carriage Height motor. |
|---|---|

Figure 4-22 Devices Initialization Sub-menu

### 4.6.3 White Ink Stirring

Open the White Ink Stirring dialog box via the White Ink Stirring option on the Tools menu. The dialog enables you to turn off or on the Main Ink Tank Mixer and Ink System Stirring. When on, these options stir the white ink for 30 seconds.

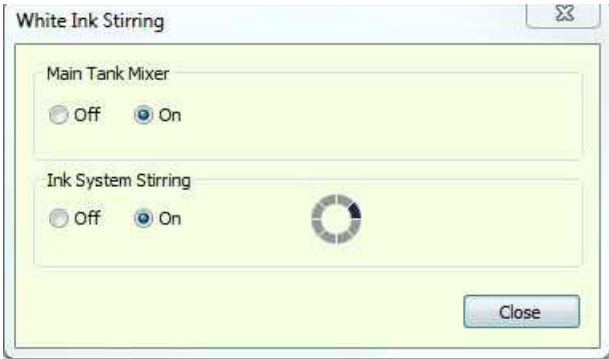


Figure 4-23 White Ink Stirring

### 4.6.4 Tools Menu - Update Sub-menu

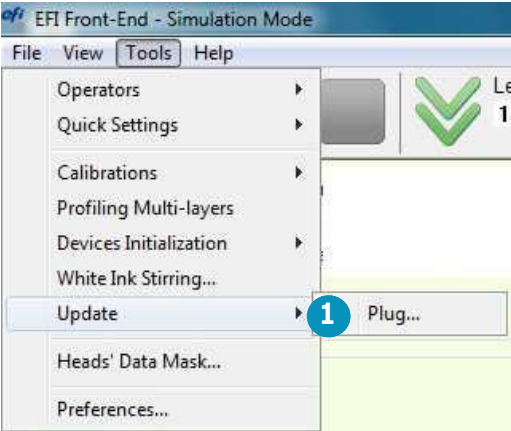


Figure 4-24 Update Sub-menu

1	Enables you to update the HASP. See <a href="#">HASP Plug</a> .
---	---

#### 4.6.4.1 HASP Plug

The Pro 32r uses a licensed software. You must have a valid license from EFI in order to use the software. The printer's features are HASP protected and enabled according to the client's agreement with EFI. In [Figure 4-25](#) see the dialog box for updating the printer's HASP Plug.

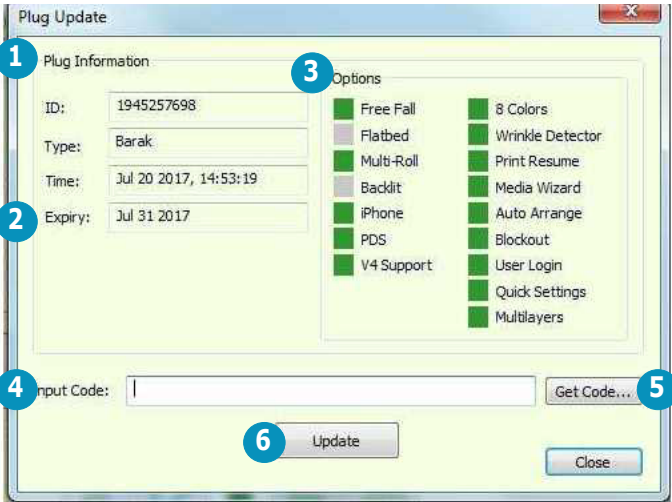


Figure 4-25 Plug Update Dialog Box

1	<b>Plug Information:</b> <ul style="list-style-type: none"> <li>• ID: The ID number of the HASP key.</li> <li>• Type: Dongle type</li> <li>• Time: The internal HASP key time and date.</li> </ul>
2	Shows the expiration date of the license.
3	Options. Indicates available features on your HASP (in green). This is preset by EFI. When these options have to be changed, EFI sends you a new Plug Input Code, by email.
4	Code emailed from EFI.
5	Browse for the Input Code's location.
6	Updates the HASP dongle with the new data.

### To Update HASP Plug

1. Save the HASP Code .txt file (the attachment from the email) on the GUI desktop.

*NOTE: Make sure you save the HASP code .txt via a RIP station. Do not connect any USB devices to the printer*

2. Open the software.
3. From the **Tools** menu, choose **Update > Plug**.

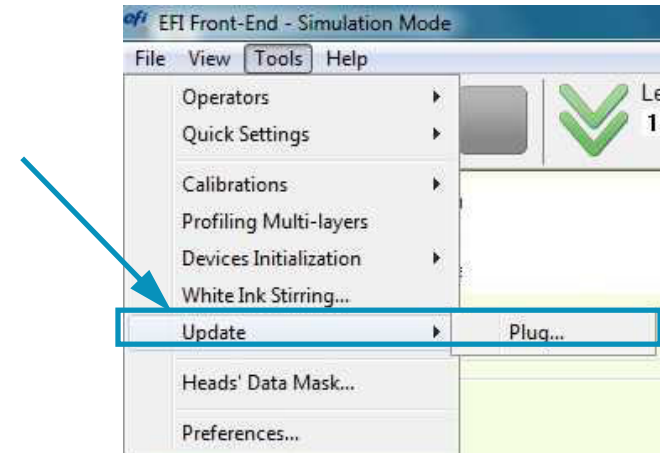


Figure 4-26 Tools Menu > Update Sub-menu > Plug Option

4. On the Plug Update dialog box, choose **Get Code**.

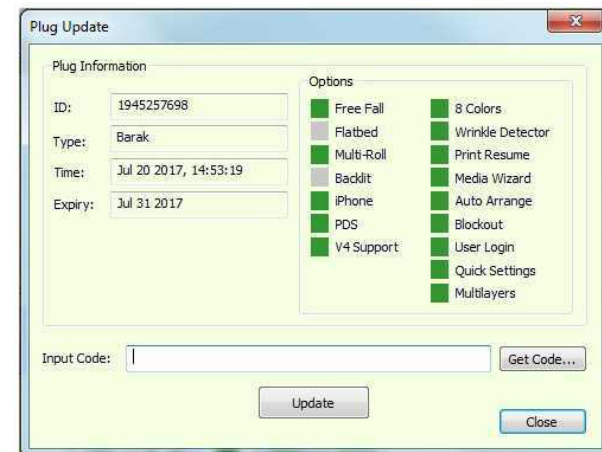


Figure 4-27 Get Code

- 5. Browse and select the file that you saved.
- 6. Choose **Open**.

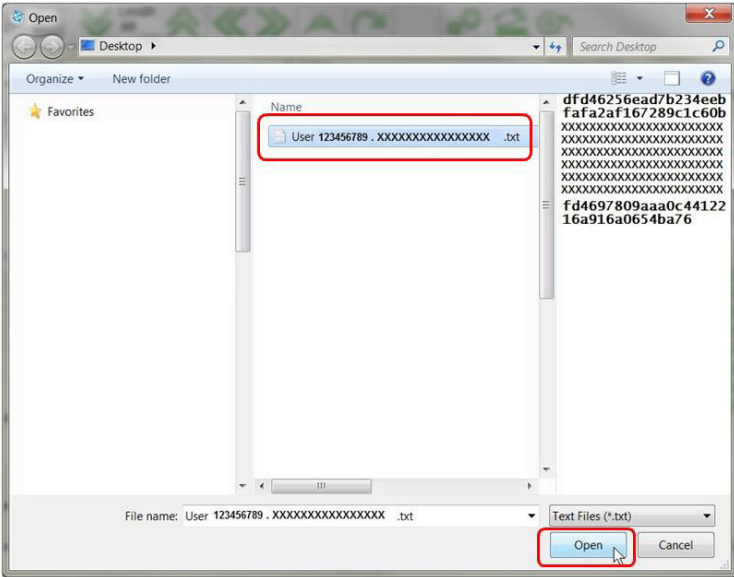


Figure 4-28 Open Selected File

- 7. Choose **Update**.

The updated HASP Plug is activated.

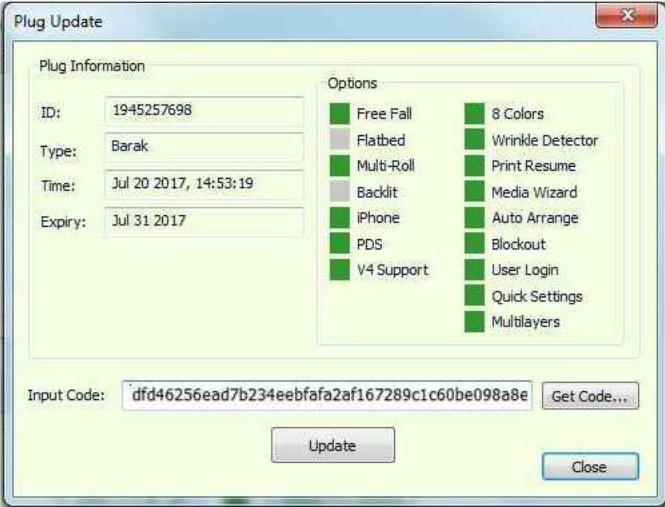


Figure 4-29 Update Input Code

### 4.6.5 Heads Data Mask

Open the Heads Data Mask dialog box via the Heads' Data Mask option on the Tools menu. For engineers isolating print issues only, in Engineer mode.



Figure 4-30 Heads Data Mask

1	Select All: Selects all print heads for masking.	2	Selects no print heads for masking. You must then select the required print head(s) for masking.
---	--	---	--



## 4.6.6 Preferences Dialog Box

Open the Preferences dialog box via the Preferences option on the Tools menu.

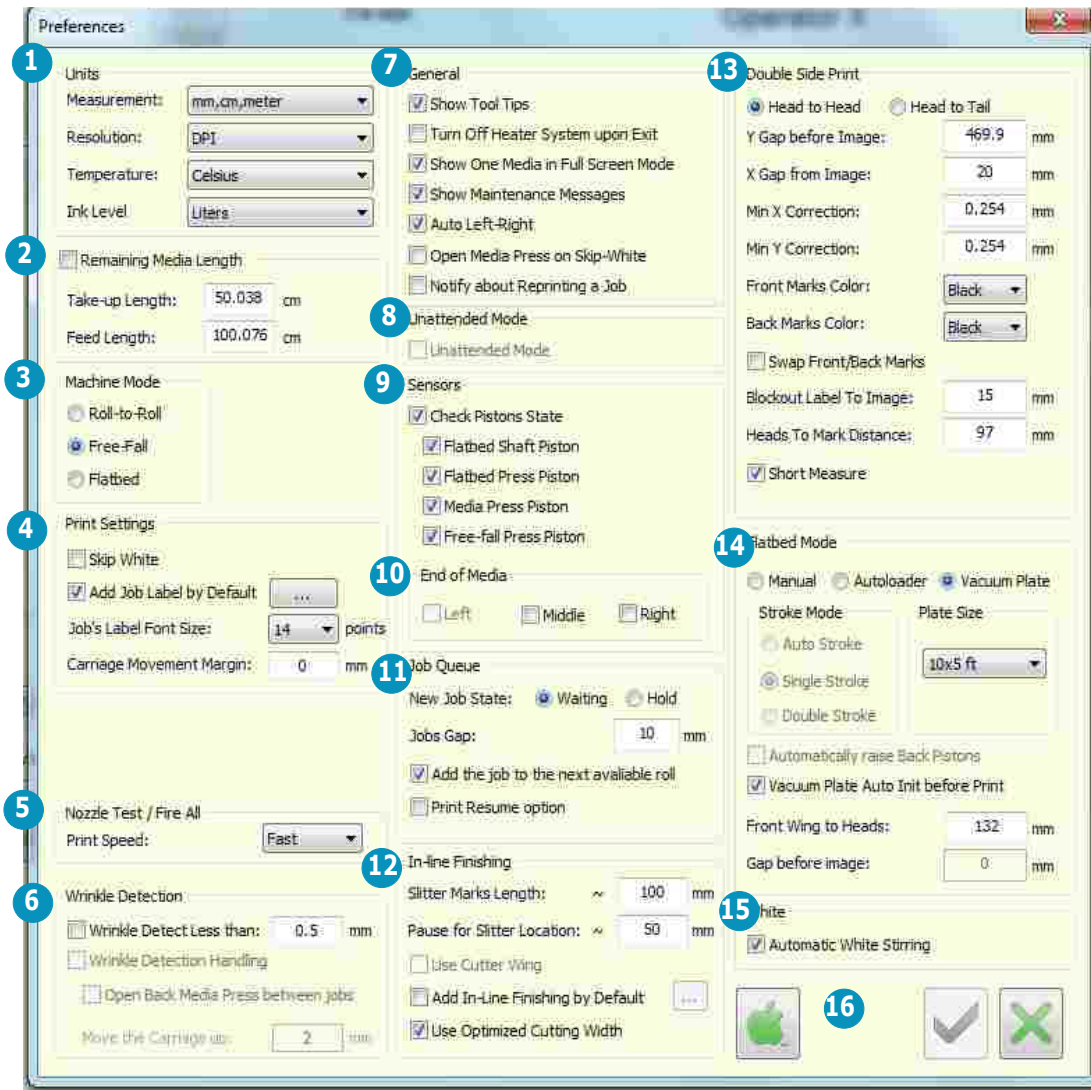


Figure 4-31 Preferences Dialog Box

*NOTE: EFI recommends that you use the metric as system of measurement.*



1	<p>Units: Various units of measure.</p> <p><i>NOTE: Leave Measurement Units in metric.</i></p>	2	<p><b>Remaining Media Length:</b> Enables/disables the remaining media length feature</p> <ul style="list-style-type: none"> <li>• <b>Take-up length:</b> The Media length required to reach from the Media Roll to the Feeder Shaft.</li> <li>• <b>Feed length:</b> The length of Media required to reach from the media Roll to the Free-fall Pistons.</li> </ul>
3	<p>The three printing modes: Roll-to-Roll, Free-Fall, Flatbed.</p>	4	<ul style="list-style-type: none"> <li>• <b>Skip White:</b> When checked, if there is a white section in the file (without any data at all), the carriage rests and the media advances until it arrives at the next pass containing data. Printing then resumes from that point.</li> <li>• <b>Add Job Label by default:</b> If checked, the job's label with user-set options is printed at the end of each file. If unchecked, no label is printed.</li> <li>• <b>Job's Label Font Size:</b> Determines labels' font size.</li> <li>• <b>Carriage Movement Margin:</b> Distance from the image that the carriage will travel on the X-axis before and after each pass. Distance can be adjusted on the fly.</li> <li>• When printing on media that tend to heat during the printing process, this margin gives more time to cool down before the next pass.</li> </ul>
5	<p>Nozzle Test/Fire All: Set the Nozzle Test's Print Speed.</p>	6	<p>Wrinkle Detector. Check to activate wrinkle detector .</p> <ul style="list-style-type: none"> <li>• <b>Wrinkle Detect less than:</b> Determine the minimum wrinkle height to alert for wrinkles.</li> <li>• <b>Wrinkle detection handling:</b> When checked, the printer automatically responds to any wrinkles by moving the carriage up by a preset value.</li> </ul>
7	<p>General options to choose from.</p>	8	<p>Unattended Mode - not in use.</p>
9	<p>All sensors must be activated constantly.</p>	10	<p>Enable/disable End of Media sensors. Alerts when the media detaches from the media roll. Must be activated constantly.</p>
11	<p>Job Queue</p> <ul style="list-style-type: none"> <li>• New Job State: Status of new job – Hold/Waiting.</li> <li>• Jobs Gap: The gap between jobs in mm.</li> <li>• Add Job to the next available roll when printing multi-roll.</li> <li>• Print resume option: If the printer stops for any reason, this option enables the resumption of the printing from where it stopped. (See <a href="#">Resuming Print</a>)</li> </ul>	12	<p>In-line Finishing</p> <ul style="list-style-type: none"> <li>• Slitter Marks length</li> <li>• Pause for Slitter Location: Determines the location of the slitter mark on the Y-axis. The slitter mark should be located between the print table and the T-roller.</li> </ul> <p>(See <a href="#">In-line Finishing (Optional)</a>.)</p>

<p>13</p>	<p>Double-sided Print</p> <ul style="list-style-type: none"> <li>• <b>Head-to-Head/Head-to-Tail Printing Workflow</b></li> <li>• <b>Y Gap before image:</b> Distance between the first printed Backlit Registration Marks and the image along the Y-axis.</li> <li>• <b>X Gap from image:</b> The distance between the printed Backlit Registration Marks and the image along the X-axis.</li> <li>• <b>Min X Correction:</b> The minimum correction on the X axis at which the printer will correct the misalignment.</li> <li>• <b>Min Y Correction:</b> The minimum correction on the Y axis at which the printer will correct the misalignment.</li> <li>• <b>Swap Front/Back Marks:</b> swaps the side of the media on which the marks are printed.</li> <li>• <b>Blockout Label to Image:</b> the distance between the Blockout label and the printed image</li> <li>• <b>Heads to Mark Distance:</b> the distance between the print heads and the Backlit Marks.</li> <li>• <b>Short Measure:</b> Only measures media location. Carried out automatically between copies in Blockout printing.</li> </ul>	<p>14</p>	<p>Flatbed Mode</p> <ul style="list-style-type: none"> <li>• There are three options in Flatbed Mode: <b>Manual / Autoloader / Vacuum Plate</b></li> <li>• <b>Stroke Mode</b> – Relates to Autoloader only. To accommodate long media, the autoloader carries out the Stroke procedure, twice (Double Stroke). For regular media length Single Stroke is sufficient.</li> <li>• <b>Automatic</b> – Back Pistons open and close automatically.</li> <li>• <b>Plate size</b> – only relates to the Vacuum Plate and defines the size of the installed plate.</li> <li>• <b>Automatically raise Back Pistons.</b></li> <li>• <b>Vacuum Plate Auto-Init before print.</b> When enabled, the Vacuum Plate INITs before each print.</li> <li>• <b>Front Wing to Heads</b> – The distance between the print starting point and the media’s edge.</li> <li>• <b>Gap before Image</b> – Defines the gap between the edge of the media and the print starting point.</li> </ul>
<p>15</p>	<p>Automatic White Stirring: Periodically stirs white ink tanks.</p>	<p>16</p>	<p>Connecting the printer to the iPhone server, to enable the iPhone application (optional).</p>

# Operations Guide

## 5.0 Printer Setup

## 5.0 Printer Setup

This chapter describes set-up procedures for the EFI Pro 32r Superwide Format Printer. Perform the tasks in this chapter when setting up the printer for operation.

### 5.1 Print Table

The print table on a Pro 32r printer is a uniformly perforated metal beam, leveled with the Y and T shafts. The print table supports the media fed through the printer, at the point where the print heads release ink.

Print tables include a built-in vacuum system and a set two of wings (front and rear) that can be used:

- For mesh and porous media printing, to lift the media above the print table when covered with cloth. (See section.)
- To set extra tension when printing on challenging media, such as certain kinds of polyethylene.

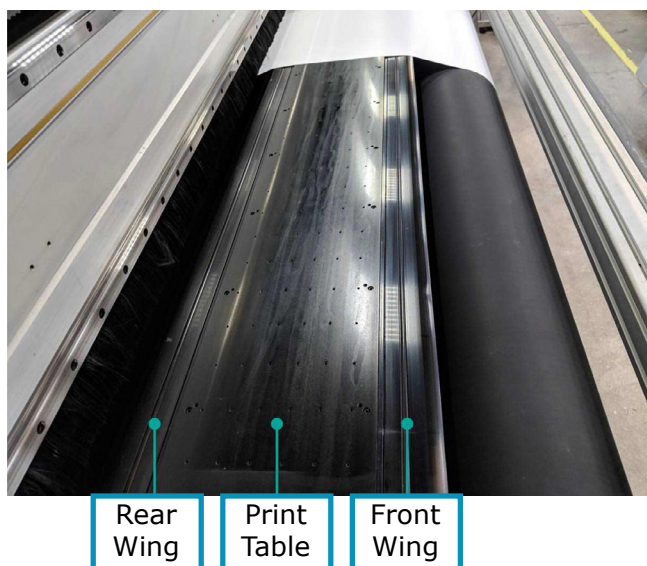


Figure 5-1 : Print Table

When media passes over the print table, the vacuum reduces wrinkles in the media and ensures stable media advancement.

## 5.2 Printer Carriage



Figure 5-2 : Open Carriage Cover

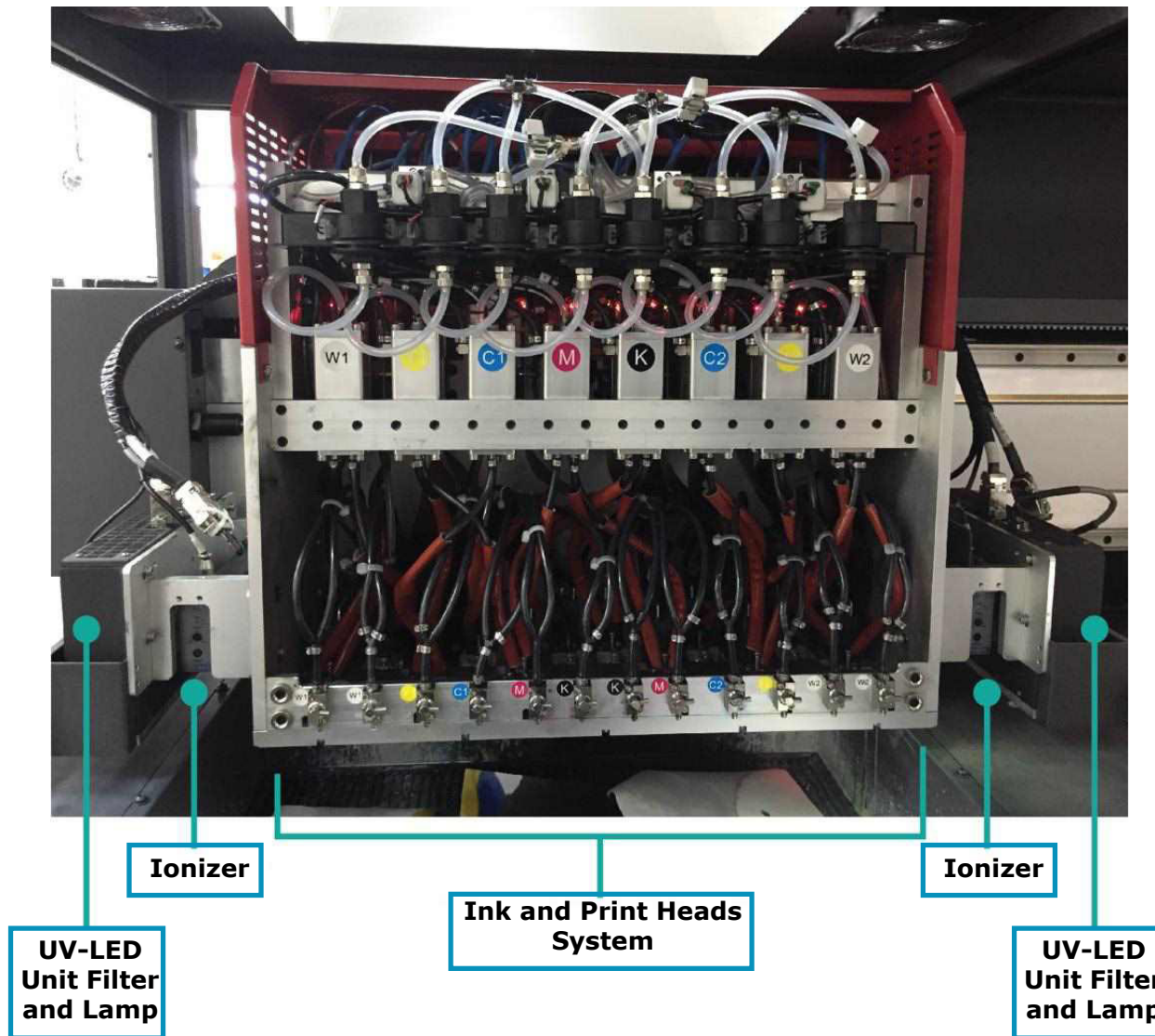


Figure 5-3 : Open Carriage Cover



### 5.2.1 Set Carriage Height

Carriage height refers to the distance between the print head plate and the print table. The printer can print on a wide variety of media with different thicknesses. The minimum value is 1.8 mm and maximum is 40 mm.

- To change the carriage height, enter a value in the Height spin box and click **OK**. The carriage height can be adjusted during printing.

*NOTE: The height affects the Left – Right Calibration. In order to keep the correct L/R calibration, carry out the Automatic L/R.*



Figure 5-4

### 5.2.2 Set Wrinkle Detector

When activated, the wrinkle detector alerts when a wrinkle appears on the media during printing.

- To activate this feature, go to Preferences dialog box, and check the **Wrinkle Detect Less Than** check box.
- Define the minimum wrinkle height to be alerted.
- Click **OK** and start printing. When a wrinkle is detected, the printer pauses and an error message appears.
- Click **Yes** to send the carriage to home position and address the wrinkle. Click **No** to ignore and continue printing.

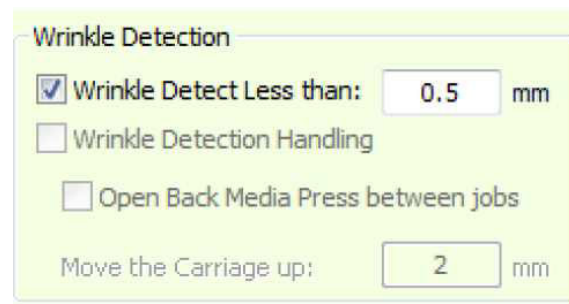


Figure 5-5

### 5.2.2.1 Addressing Wrinkles

1. Increase carriage height and continue printing. It is not recommended to set the carriage higher than 2 mm.

*NOTE: Calibrate the Auto Left – Right feature when working with the wrinkle detector.*

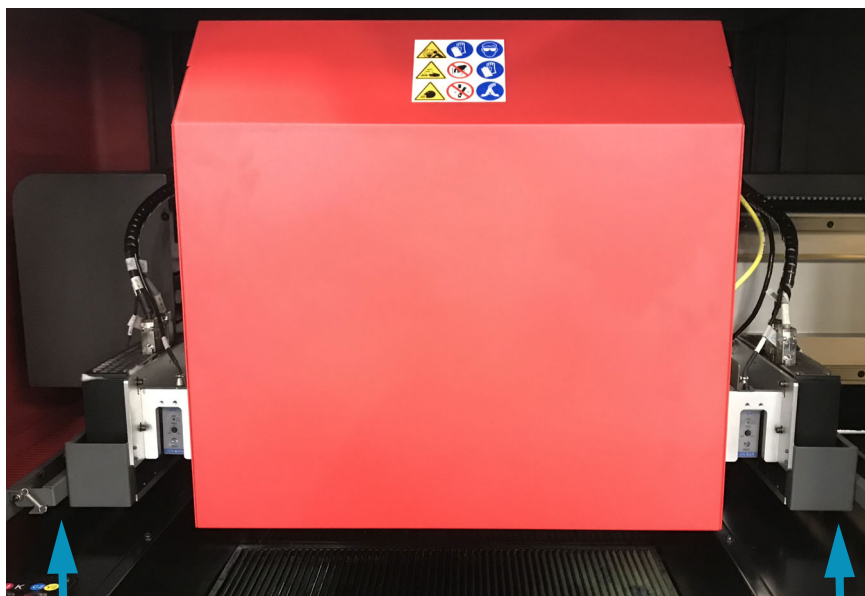
2. Cool down the print table.
3. Increase the movement margin to help the print table prevent from heating up.
4. Open the press roller and adjust the media. Close it and resume printing.
5. Change the print table vacuum level.

*NOTE: When working with media that tend to wrinkle, give it extra stretch by printing with the wings up.*



### 5.2.3 Crash Protector

The carriage is equipped with two crash protectors—one at each end, as shown. If there is an obstruction along the carriage path, the crash protector is triggered and the printer stops working immediately.



Crash Protector

Crash Protector



Crash Protector

Figure 5-6

1. When a crash occurs, locate the obstruction and remove it. (If necessary, move the carriage manually.)
2. Click **OK** to continue printing or **HELP** to access the relevant documentation.



Figure 5-7

## 5.2.4 Initialization Procedure

When performing an initialization, the H(eight) Motor raises to the highest point (factory defined), and then the carriage returns to the previous height value.

The printer can print on a vast variety of media with different thicknesses. The H motor enables an accurate carriage height adjustment for any media.

It is controlled only by the software and adjusted through:

- The Init procedure
- The H MOTOR group box in the control panel
- The Media Settings dialog box

### 5.2.4.1 Carriage H(eight) Motor Group Box

Carriage height is displayed at the bottom left corner of the window and can be adjusted using the carriage H motor field on the Front-end window. The minimum carriage height is 1.6 mm, and the optimal carriage height is 1.6mm - 2.0mm above the media being used, keeping in mind that the lower the gap is set, the greater the chance of carriage strikes. The H motor can be adjusted during the printing process.

1. To raise or lower the Carriage H(eight) Motor, enter a value in the Height field.
2. Choose **Apply**.

*NOTE: Do NOT set the Carriage height below 1.6mm.*

*NOTE: When changing the H motor height during printing, the Left-Right parameter should be changed accordingly.*

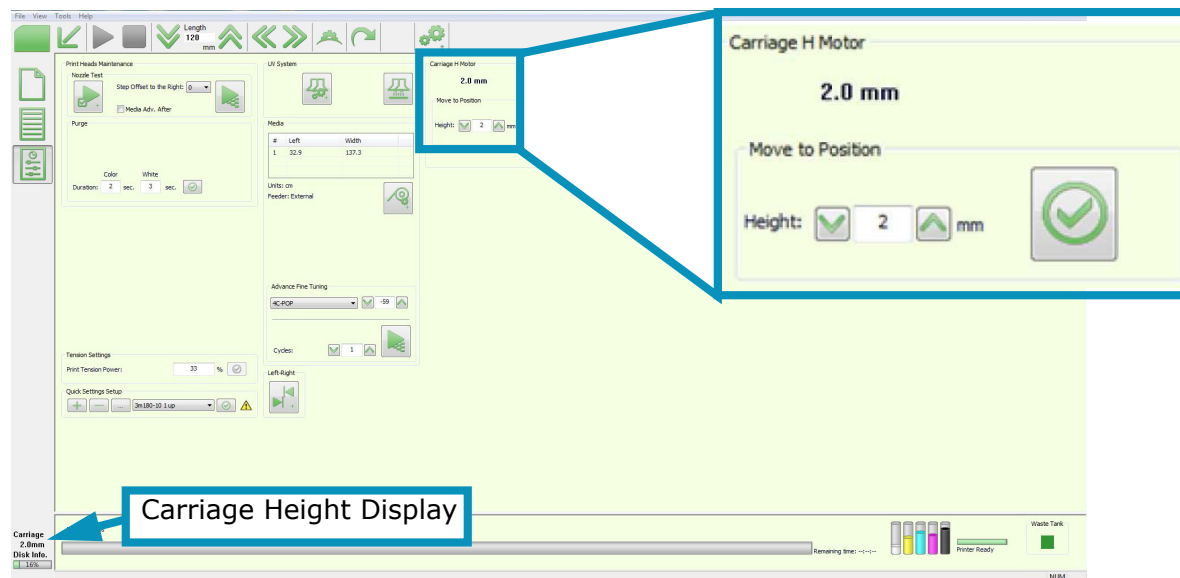



Figure 5-8 : Carriage H Motor Fields

### 5.2.4.2 Media Settings Dialog Box

The height of the carriage has to be adjusted according to the thickness of the media on which you are printing.

1. Choose the  icon on the front-end window to open the Media Settings dialog.

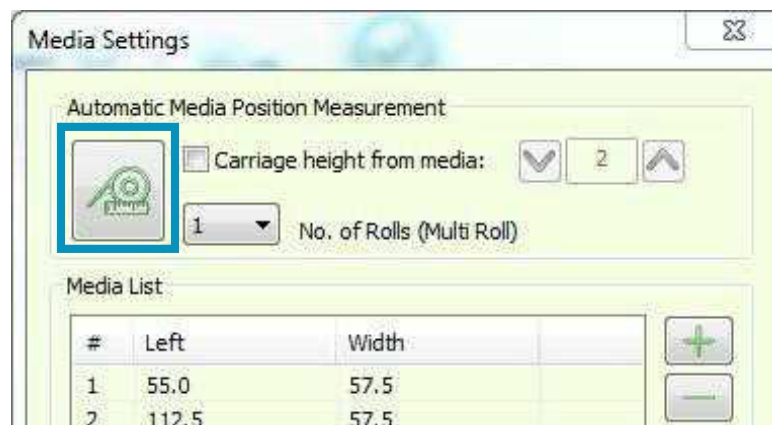



Figure 5-9

2. Before measuring, specify the required height **above** the media in the spin box.
3. Click the Measure Media icon.  The detector measures the height and adjusts the carriage height. After adjustment, the carriage height displays in the Carriage H Motor Group Box.

## 5.3 Cleaning Print Heads

It is crucial to clean the print heads and keep their nozzles clear.

### 5.3.1 Purge Print Heads

In order to open clogged nozzles, purge some ink through the print heads (using air pressure). The ink is forced through the print head and drips onto the ink tray. The purge duration can be controlled through the Duration field in the Front End window's control panel (limited to 5 seconds).

1. In the Duration field, enter the number of seconds you want the purge to take, 5 seconds maximum. The recommended duration for everyday use is 2 seconds.



Figure 5-10 : Select Print Heads

2. Click **Apply**.
3. Press each of the purge buttons on the left side of the printer in order to conduct the purge.



Figure 5-11

### 5.3.2 Wipe Print Heads

*NOTE:* See OMM-00166 Pro 32r Maintenance Guide at <https://inkjet.support.efi.com/doc.php?doc=4728> for the details about wiping print heads.

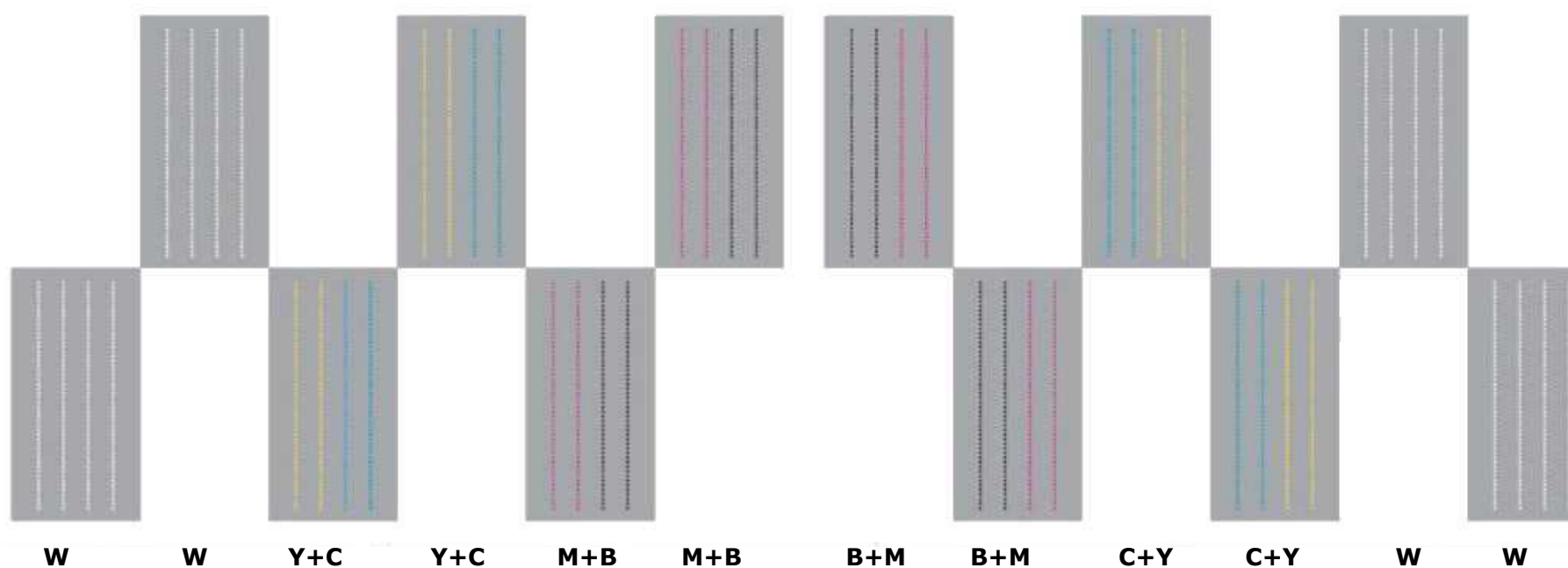


Figure 5-12

1. Remove any ink that has accumulated on the print heads, using fiber-free wipes (only). When using the wipes, pass them over the nozzles once and then use a clean part of the wipe to repeat the process.



Figure 5-14 Hold Folded Wipe



Figure 5-13 : Wipe Print Heads



**Caution: Only use fiber-free wipes to clean the nozzles.**



### 5.3.3 Nozzle Test

Carry out a nozzle test to check that all the nozzles are clear of any obstruction and that the ink is passing through them.

1. Conduct the nozzle test from the **Nozzle Test** group on the Front-end window's control panel.
2. In the **Step Offset To The Right** field, select the required offset for the nozzle test on the media.
3. Choose **Print Nozzle Test**. The nozzle test is printed. (See samples on following pages.)

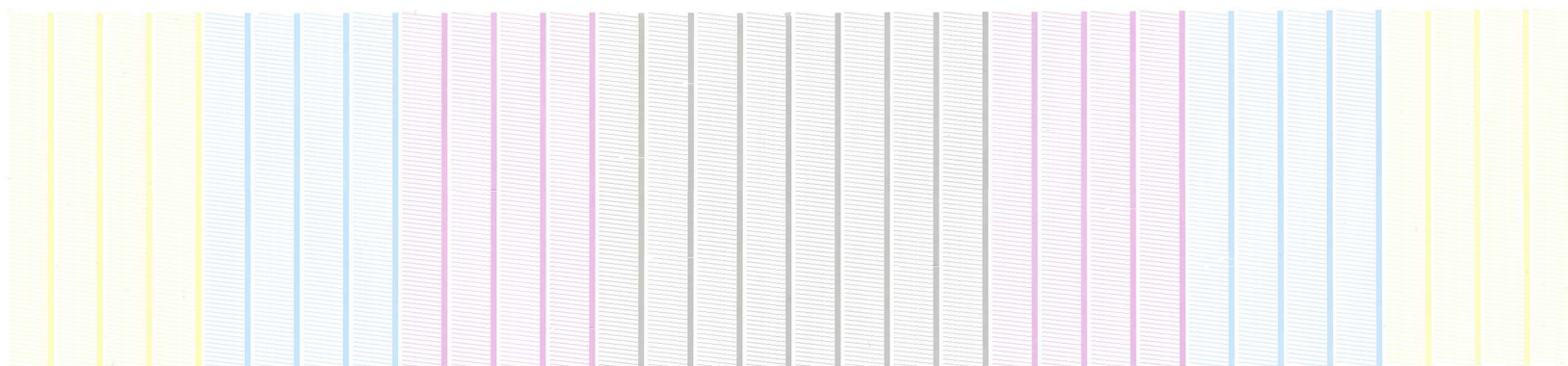


Figure 5-15 : Nozzle Test with No Missing Data

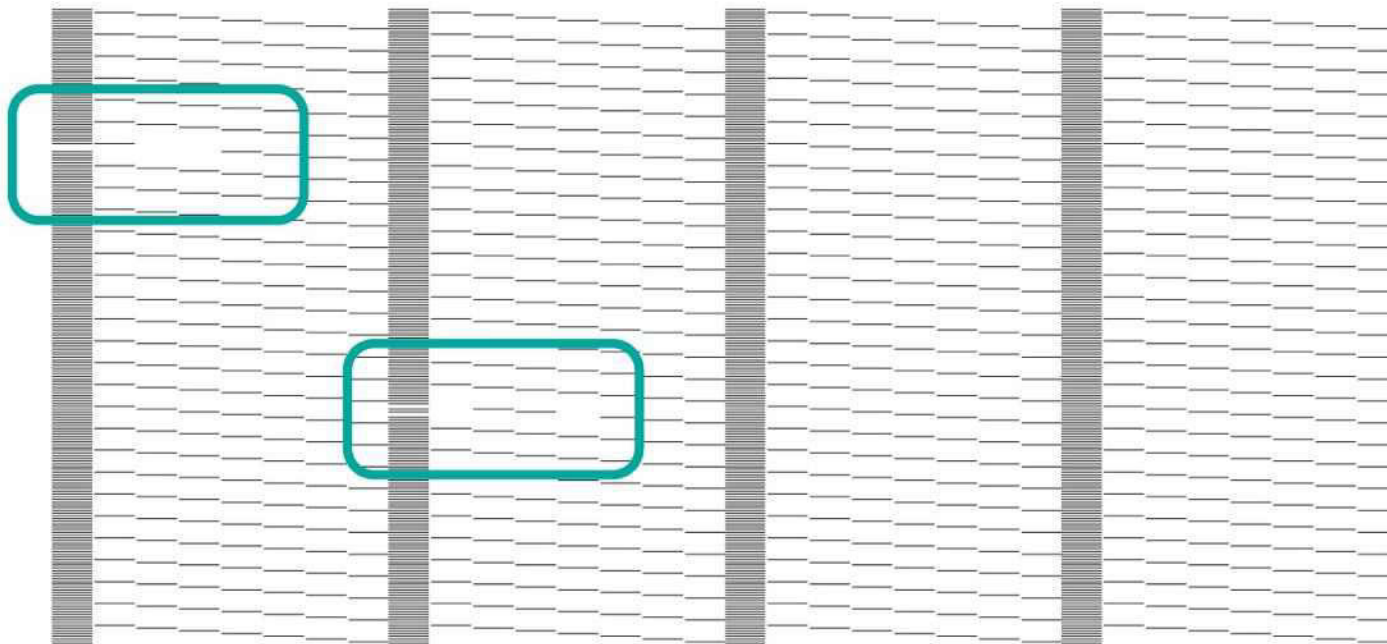


Figure 5-16 : Nozzle Test with Missing Data

4. Carefully examine the entire test. Repeat the purge and wipe.
5. Carry out another test and carefully examine the results, until you are satisfied that all the nozzles are firing.




### 5.3.4 Left-Right Calibration Procedure

The printer prints bidirectionally. That is, each carriage pass prints (both right-to-left and left-to-right).

The two directions must be aligned in order to retain accurate and well-calibrated printing results.

To do that, you have to perform a left-right calibration test.

1. Choose the **Left – Right icon**  to open the Left – Right Calibration dialog box. (See [Left-Right Calibration Dialog](#) for details.)
2. Select the **Print Mode**, **Step Offset to the Right**, and **Speed**. Then choose the **Print Pattern** button.
  - The test pattern includes a fixed scale to represent the number you need to add to or subtract from the value in the relevant spin box.
  - The ideal calibration is that where the highest concentration of color is in the area of '0'. Your aim is to get the most concentrated area of the pattern around 0, with a tolerance of  $\pm 16$ .
  - For example: you are calibrating for 3PassFine Print Mode, in Fast speed.
    - If the most concentrated area of the pattern is around -16, subtract 16 from the Fast value, and print the Pattern again to see if it moved to the 0 area.
    - If the most concentrated area of the pattern is around +32, add 32 from the Fast value, and print the Pattern again to see if it moved to the 0 area.

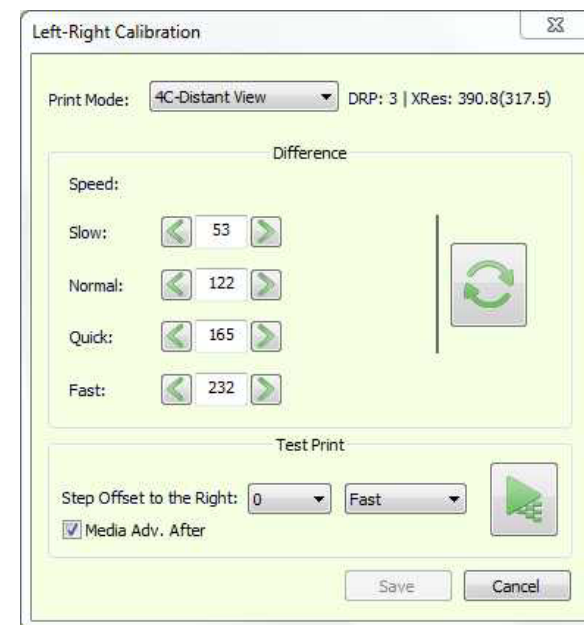


Figure 5-17

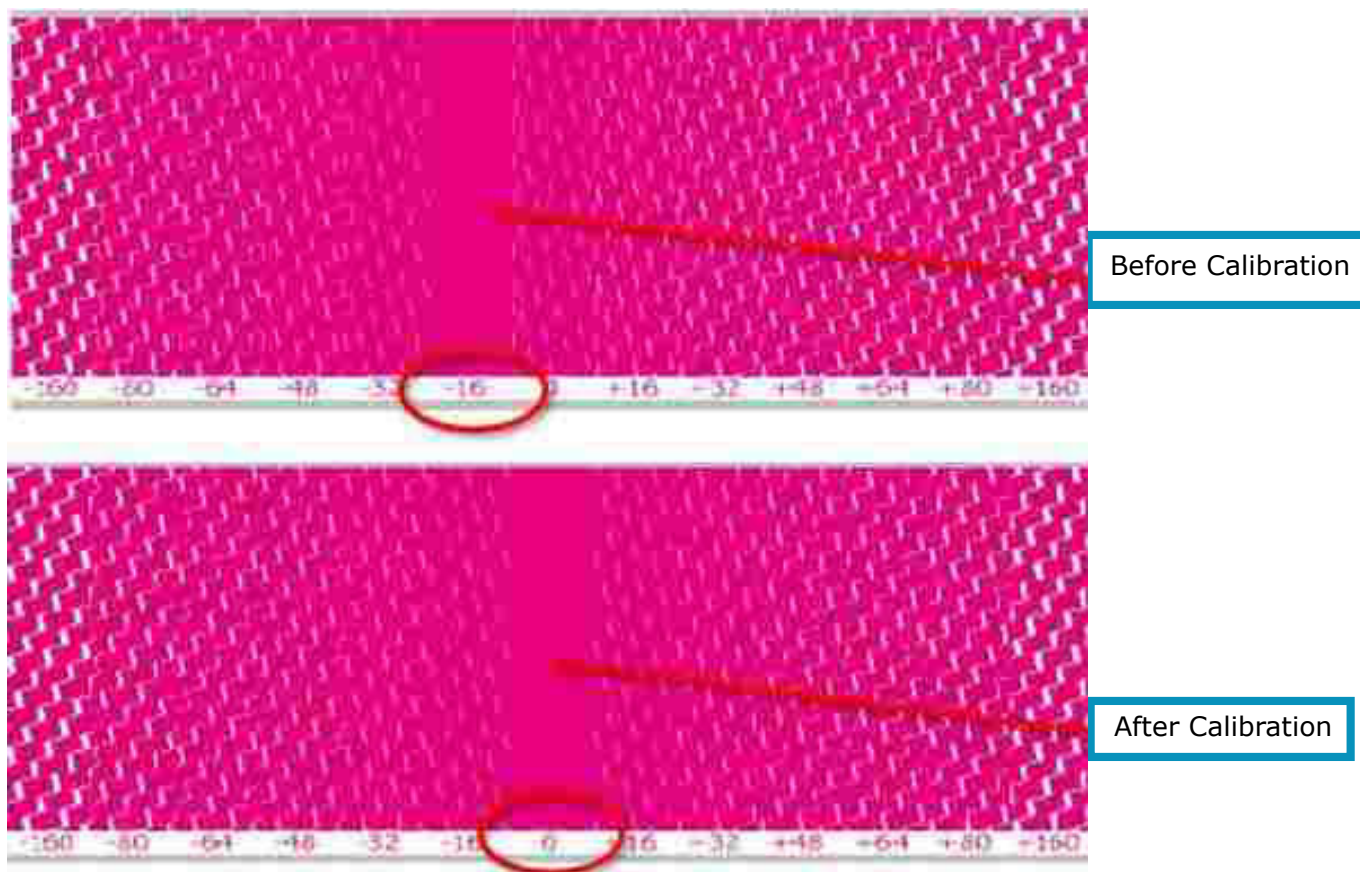


Figure 5-18 : Test Pattern Before and After Calibration

*NOTE: Calibration to zero is the goal, but +/-16 is within acceptable tolerance.*

3. Repeat this test until you are satisfied with the result.

### 5.3.5 Auto Left–Right

The Auto Left-Right feature enables the automatic change of the Left – Right value when changing the carriage height, especially during printing and working with the wrinkle detector feature. To calculate the Left – Right value for change of height, you have to calibrate the drop velocity.

*NOTE: Calibrate and activate this feature when working with the wrinkle detection feature (in the General group box in the Preferences dialog box).*

Calibration is carried out by printing the Left-Right calibration pattern at two heights – 2 mm and 3 mm. The drop velocity is calculated from the difference between the two values. Once calculated, the Left-Right calibration is automatically applied at any change of the carriage height, of up to 3 mm.

1. To enable this feature, from the **Preferences** dialog box, check the **Auto Left-Right** check box, and choose **OK**.

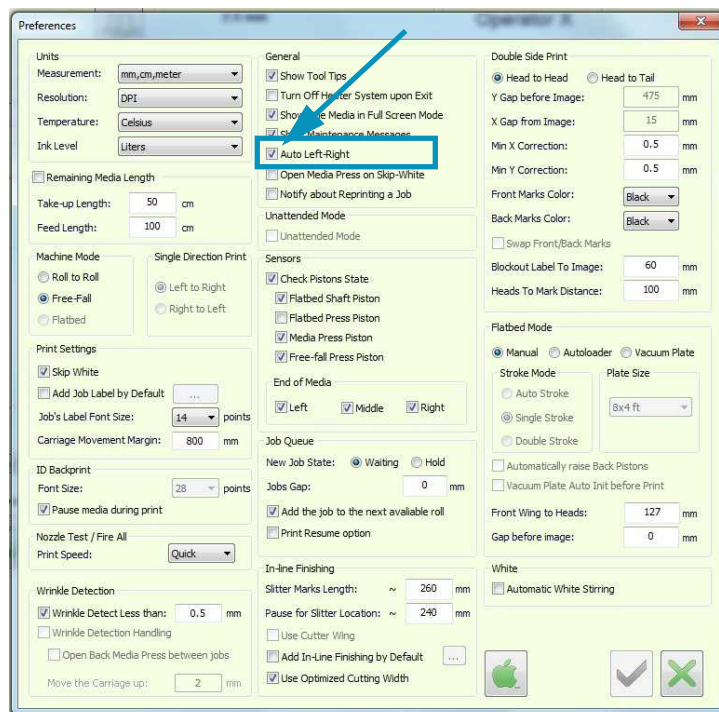



Figure 5-19 : Auto Left-Right Check Box on Preferences Dialog Box

2. Choose from **Tools > Calibrations > Drop Velocity** to open the Automatic Left-Right Calibration dialog box.
3. Choose the **Test Print**  button. The carriage automatically goes to 2mm height. The Left – Right calibration pattern is printed.

The carriage raises to 3 mm and the pattern is printed again. The carriage returns to the height it was at, before you opened the Automatic Left-Right Calibration dialog box. The process is displayed in the progress bar.

4. Choose the Stop button  to stop the print process.
5. Adjust the Left-Right values according to the printed patterns.
6. When you choose **Save**, the drop velocity is calculated and stored for each of the four drop settings.
7. From the **Control Panel**, open the **Left-Right Calibration** dialog box and set the current LR value for fast speed.
8. Choose **Update** to automatically set the LR values for other speeds.
9. To enable this feature, from the Preferences dialog box, check the Auto Left-right check box, then choose OK.

From this point on, the system is able to automatically calculate the LR for a change in carriage height.

- The Left-Right values are automatically adjusted according to any change in the carriage height that is less than 3 mm.
- For any change above 3 mm, manually calibrate the LR for Fast speed and choose Update again.

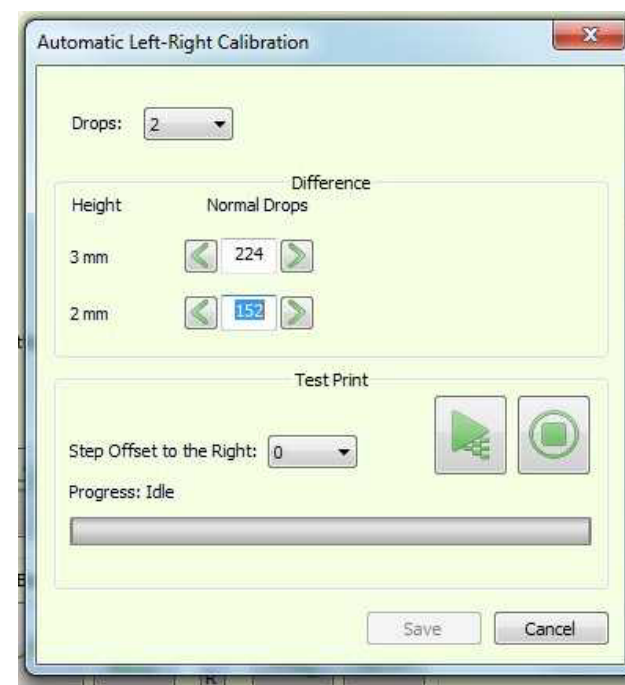



Figure 5-20 : Automatic Left-Right Calibration Dialog Box

## 5.4 Advanced Fine Tuning

The Advanced Fine Tuning feature affects the media advance, thus preventing gaps or overlaps between the passes in the Y-axis. The aim is to maintain no gap or overlap between the passes. The media Advance Fine Tuning enables you to slightly open (positive value) and close (negative value) the gaps during printing. A change in media tension or print table vacuum level affects the media's advance fine tuning.

1. Load the required media and set the Tension and Print Table Vacuum level.
2. From the **Advance Fine Tuning group** box in the Control Panel, choose the **Print Mode** you want to fine tune.
3. Set the number of cycles (1 - 10). One cycle prints a test pattern equaling the circumference of the Y Roll.
4. Choose Print Pattern  and examine the output.

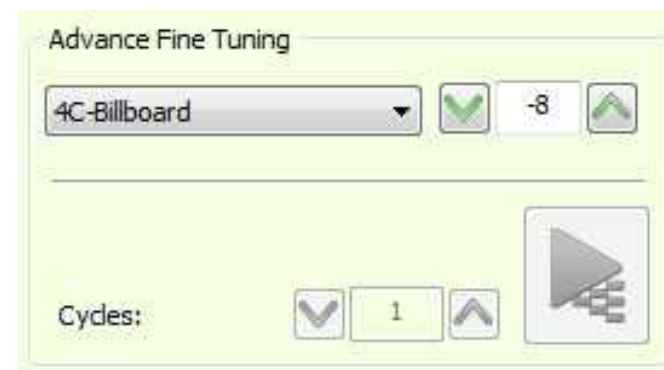


Figure 5-21

5. Examine the print and mark the most concentrated pattern area of each row, in the middle of the row.

The print pattern is comprised of several rows, with a fixed scale to represent the number you need to add or subtract. Mark the most concentrated pattern area for each row and decide on the average number.

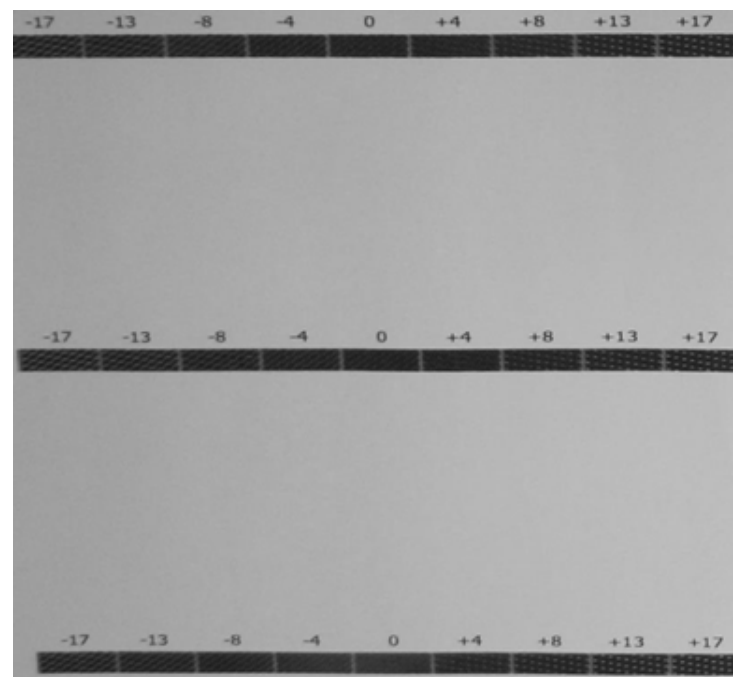


Figure 5-22 : Test Print Example

For example: If you print 1 cycle in 3PassFine, and you get the following result:

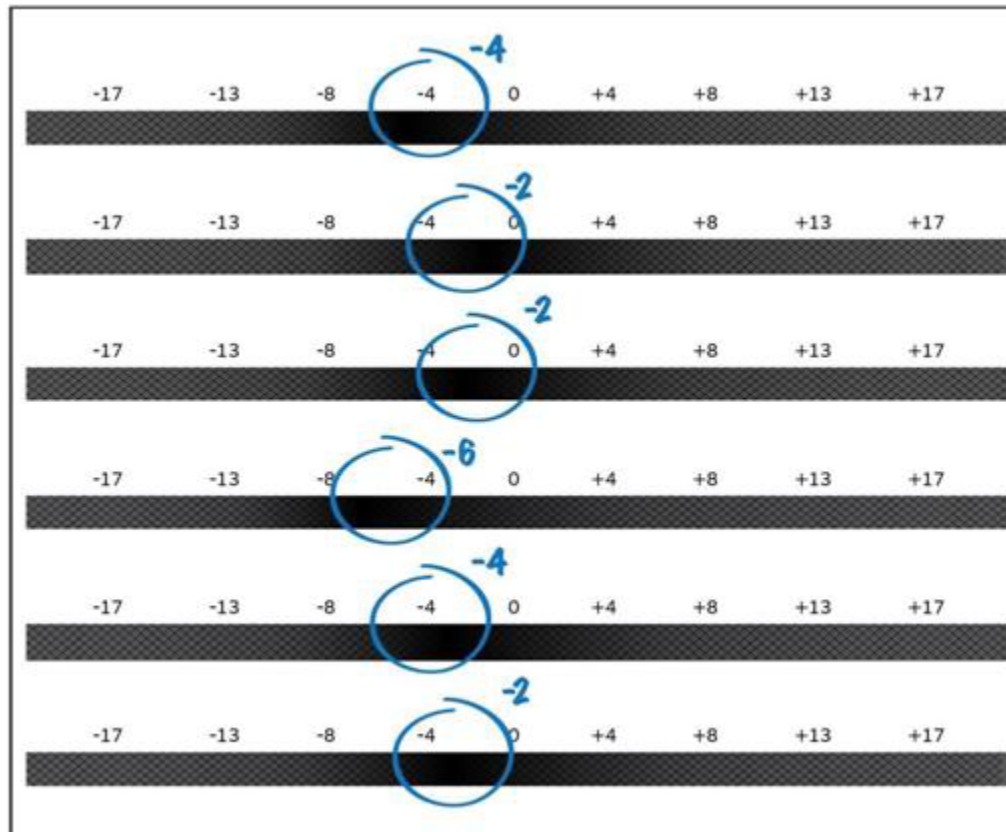


Figure 5-23 : Sample Print 1 cycle in 3PassFine

- You can see the marks of the most concentrated part of the pattern in each row.
  - In the second row, you can see that the most concentrated part is between 0 to -4, i.e. -2.
  - Find the average value in your marks. In this example it is  $-2 - 3$ .
  - Finding that, you should now subtract 3 from the value in the For 3 Pass Modes field, in the Advance Fine Tuning group.
6. Print the pattern again and make further adjustments if required.

*NOTE: During printing, all the pass values are inactive, except for the one being used. You can adjust the fine tuning during printing.*



## 5.5 Other Preparations

### 5.5.1 User's Login

The user login documents the identity of the user in the Job History log file. This feature serves as a management tool and is divided into two sections:

- User
- Manager

#### 5.5.1.1 User: Logging in to the software

1. On the desktop, open the software. The Operator Login dialog box appears.



Figure 5-24 : Operator Login Dialog

2. Select your **operator's name** and choose **OK**.

The name of the current operator is displayed at the top right corner of the Front end window.

1. To change the operator name, choose **Tools > Operators > Switch Operator** and log in.
2. Select the required name from the list and choose **OK**.

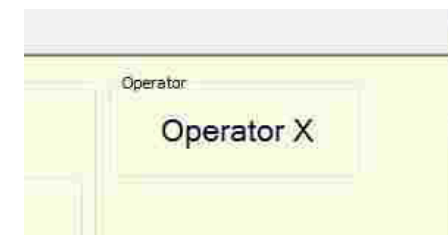


Figure 5-25 : Operator Name



### 5.5.1.2 Manager: Managing Users and Passwords

The management of users and passwords is carried out through the Operator Manager in the Tools menu. Adding or removing users is password protected. To set or change a password, you have to know the old password.

*NOTE: The initial software password is 1234*

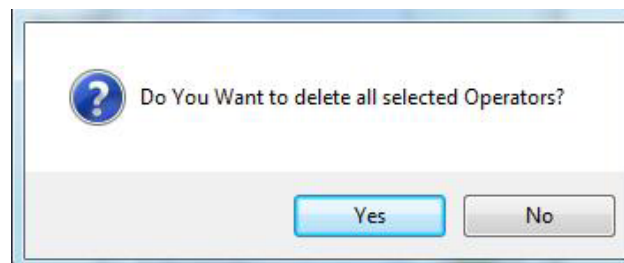
### 5.5.1.3 Adding or removing a user

1. Choose **Tools > Operator > Operator Manager**.



Figure 5-26 : Operator Manager

2. Enter the Administrator's password and choose OK.
3. To remove a user, select the user and choose Remove (-).



4. Choose Yes to remove or No to cancel.

### 5.5.1.4 Changing a Password

1. Choose **Tools > Operator > Operator Manager**.

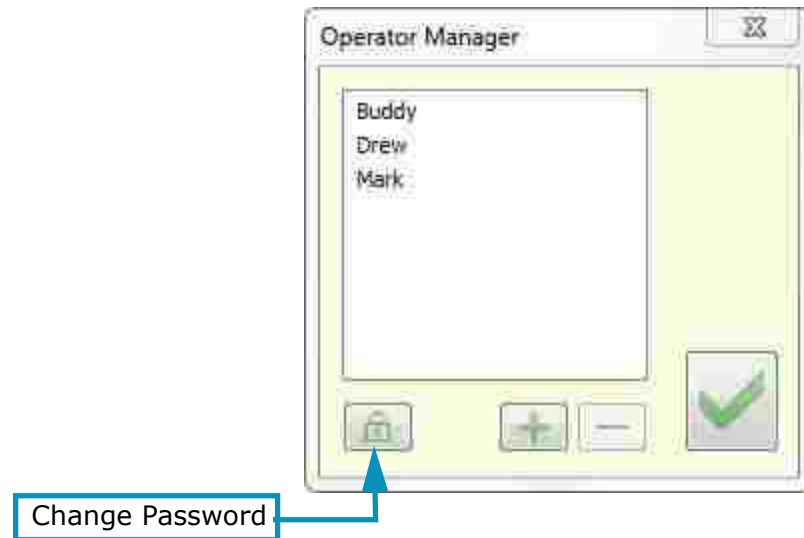


Figure 5-27 : Operator Manager

2. The initial Password is '1234'. To change this password, choose **Change Password**.



Figure 5-28 : Change Password Dialog Box

3. Enter the current Password, enter the new Password and confirm it. Choose **OK**.
4. Reset password is enabled only in Engineer mode. The reset password button appears in the dialog and choosing it resets the password back to '1234'.

## 5.5.2 Quick Settings Setup Feature

Quick Setup is a 1-stop tool for defining all the settings for a particular media. Each media requires a different set of printer settings. Using this feature, you can save the printer settings for each media; thus creating a media list. Each time you want to print with media that appears on the list, load it onto the printer, select it from the Quick Settings drop-down list, and choose Apply.

### 5.5.2.1 Create/Apply Settings in the Media List

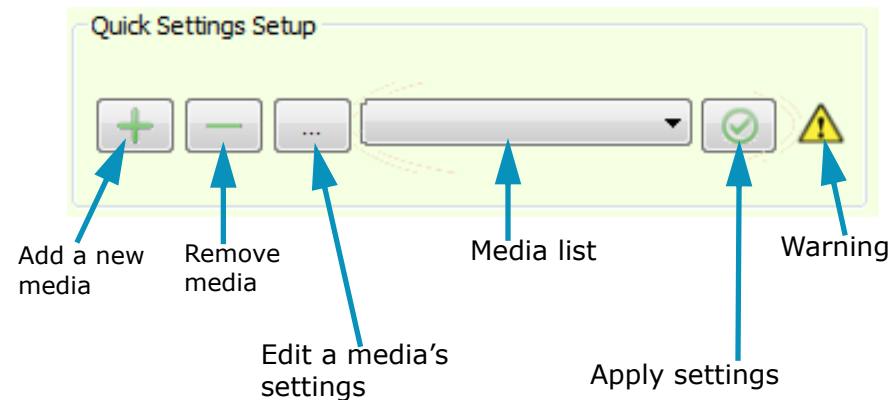


Figure 5-29 : Quick Settings Set Up

1. Load the media and step-by-step, set the printer's parameters:
  - Feeder configuration
  - Left – Right
  - Freefall Continuous Collector (Z)
  - Tension
  - Carriage Height
  - Carriage Movement margin
  - Media backward distance
  - Freefall Pistons Pressure (Currently disabled in the dialog)
  - Press Roller Pressure (S) (Currently disabled)
  - Press Roller Pressure (C) (Currently disabled)
  - Vacuum (Currently disabled)
  - Advance Fine Tuning

2. After choosing all the required settings, choose the **Add** button to open the Name dialog.
3. Enter the media's name and choose **OK**.

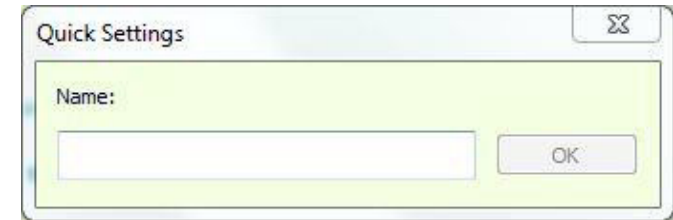
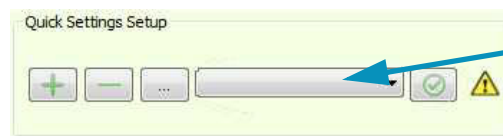


Figure 5-30 : Quick Settings Dialog Box



Figure 5-31 : Quick Settings Dialog

4. Choose **OK** to save the settings. The media name appears in the Quick Settings drop-down list.
5. To apply quick settings, select the defined media type from the list and choose **Apply**. The printer is now set up.



List of media types with quick setting definitions

### 5.5.2.2 Remove Item from Media List

1. In the Quick Setup group, select the media you wish to remove and choose **Remove**.

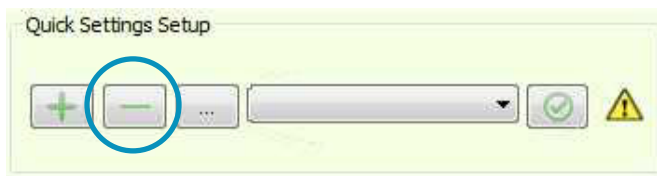


Figure 5-32 : Quick Setup "Remove" Button

The following prompt appears.

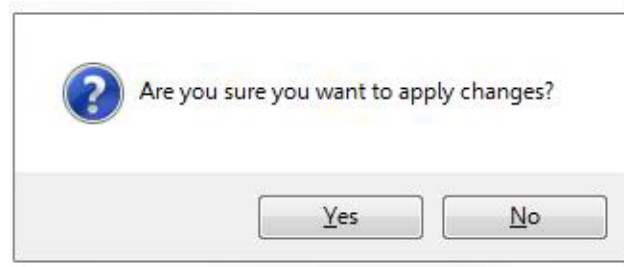


Figure 5-33 : Deletion Confirmation Prompt

2. Choose **Yes**.

The settings for the selected media are removed.

### 5.5.2.3 Edit Media Setting

1. In the Quick Setup group, select the media you wish to remove and choose **Edit** (ellipsis) button.

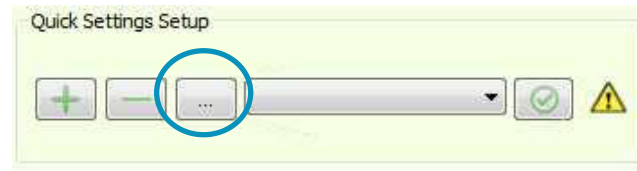


Figure 5-34 : Quick Setup "Edit" Button

The Quick Settings dialog box appears, showing the settings that belong to the specified media.

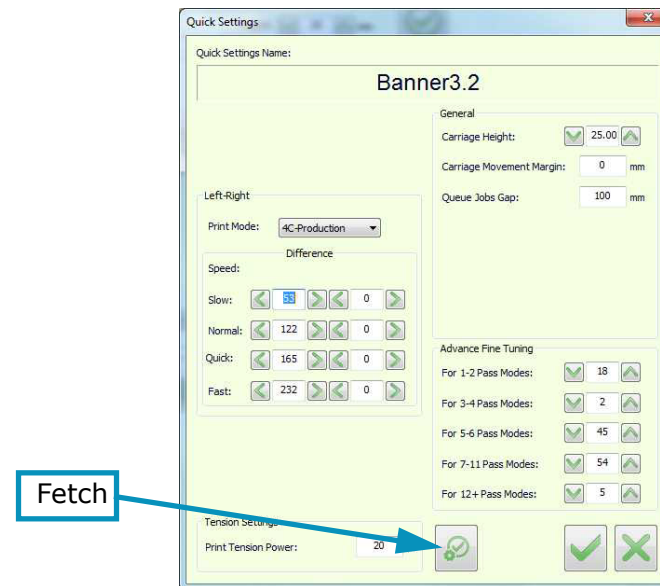


Figure 5-35 : Quick Settings Dialog Box

2. Make changes in the dialog box or choose **Fetch**.

The Fetch button sources the current printer settings and replicates them for the media's settings.

3. Choose **OK** to save changes.

### 5.5.2.4 Warning Symbol

The yellow warning symbol appears when there is a difference between the selected media's printer settings and the current printer settings.

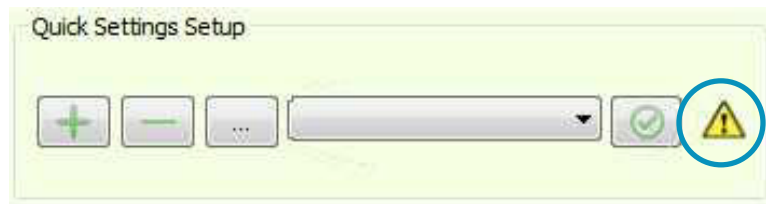


Figure 5-36 : Quick Setting Warning Symbol

- If you want to revert to the original settings, choose Apply.
- If you wish to save the current settings of this media, choose Edit. The Quick Settings Setup dialog box appears.
- Choose the Fetch button to replicate the current printer settings, and then choose OK.

### 5.5.3 Importing/Exporting All Media Settings

1. To export all the stored media settings, choose **File > Export > Quick Settings**.
2. The software creates a ZIP file named `QuickSettingsReport.qs`, in the selected directory. (`qs` is a special extension.) The ZIP file contains an XML file for each media type.
3. To import settings to the machine from a `.qs` file, choose **File > Import > Quick Settings**.

A prompt appears for each media currently defined on the Printer and prompts you to choose accordingly. Media that are not in the list will be added.

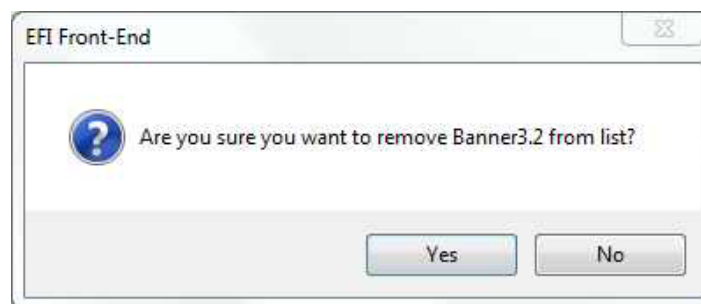


Figure 5-37 : Confirmation Prompt

4. Choose Yes to replace the existing file, or No to cancel the procedure.



# Operations Guide

## 6.0 Printer Operations

## 6.0 Printer Operations

This chapter covers the process for both standard and backlit printing on the EFI Pro 32r, including defining job settings, cropping a job, and multi-roll printing (optional).

### 6.1 EFI Pro 32r Start Up Procedures

Perform all start-up checks and actions every day before printing.

1. Check that the emergency stop buttons are set to "Off."
2. At the rear left side of the machine, turn the main switch clockwise, to the on position.
3. At the right front of the printer, push the start button. The start button lights up. The printer and workstation turn on.
4. Ensure that print table is clear of any foreign objects and any other obstructions.
5. From the workstation computer, double-click the EFI FE icon. The Main Screen appears.
6. Click INIT. The printer's systems now initialize:
  - Carriage Y axis: Carriage activates and rises to its maximum height (factory set).
  - Carriage X axis: Carriage moves along the print table and goes to the Home Position.
  - H Motor Sensor: The Sensor scans the Print Table to measure its highest point.
  - In-line finishing: If features are installed, printer prompts you to initialize them.
7. Purge and clean print heads.
8. Run nozzle test.
9. Perform required maintenance procedures as defined in the **Maintenance Guide** at <https://inkjet.support.efi.com/doc.php?doc=4728>.



Figure 6-1



Figure 6-2

## 6.2 Defining Job Settings

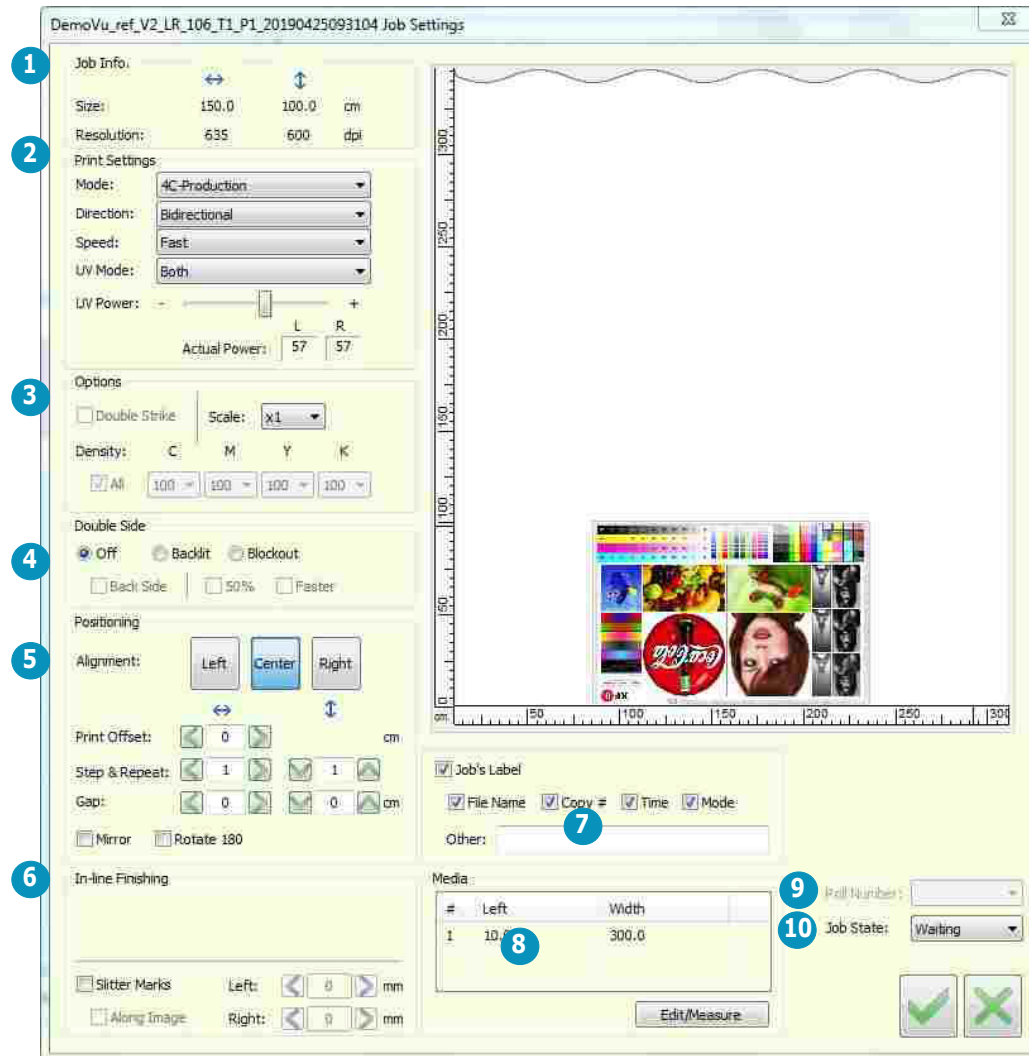


Figure 6-3 : Job Settings Dialog Box

1	Job Info	<p><b>Size:</b> The width and length of the Job.</p> <p><b>Resolution:</b> Set by default, according to the mode.</p>
2	Print Settings	<p><b>Mode:</b> Set by default, according to the mode. Cannot be changed.</p> <p><b>Direction:</b> Single or Bidirectional Printing. Can be changed before you print.</p> <p><b>Speed:</b> Available options depend on the Resolution and Mode. Can be changed before you print.</p> <p><b>UV Mode:</b> Depending on the direction of the carriage: Leader: the front lamp is lit.</p> <p><b>Trail:</b> the rear lamp is lit.</p> <p><b>Both:</b> both lamps are lit. This is the default setting. Can be changed before you print.</p> <p><b>UV Power</b> – Percentage of the lamp's total power to be used, defined from the UV Power Setting dialog box. Can be changed before and during printing.</p> <p><b>Actual Power</b> – The actual UV power in numbers.</p>
3	Options	<p><b>Noise:</b> Choose from 1-6, only if the print mode allows it.</p> <p><b>Double Strike:</b> Doubles the density of the file for backlit printing, only if the print mode allows it.</p> <p><b>Scale:</b> To enlarge the Job's size.</p> <p><b>Density:</b> To adjust the CMYK density (all, or individual).</p>
4	Double Side	<p><b>Off:</b> One side printing</p> <p><b>Backlit:</b> Backlit printing.</p> <p><b>Blockout:</b> Blockout printing</p> <p><b>Back side:</b> to print the back side of double side.</p> <p><b>50%:</b> Set the print density to 50%.</p>
5	Positioning	<p><b>Alignment:</b> Aligns the file to the Left, right or center of the media.</p> <p><b>Print Offset:</b> Moves the image to the left/right with a set value.</p> <p><b>Step &amp; Repeat:</b> Set number of horizontal and vertical copies. Only vertical copies can be changed during print. If number of copies results in no gap between copies, there is no gap between newly inserted copies.</p> <p><b>Gap:</b> Insert a gap between images. This cannot be changed while printing a Job.</p> <p><b>Mirror:</b> Mirror Flip.</p> <p><b>Rotate 180:</b> Rotate 180°</p>
6	In-line Finishing	<p><b>Cutter (optional):</b> Activates the X cutter</p> <p><b>Top/Bottom:</b> The Job can be cut in its edge (0), in Margins (Negative value) or in Bleed (Positive value)</p> <p><b>Slitter Marks:</b> Activate to print Slitter Marks</p> <p><b>Along Image:</b> Print marks through the length of the Job.</p> <p><b>Left/Right:</b> Locate slitter marks to slit job on its edge (0), in margins (negative value) or in bleed (positive value)</p>
7	Jobs Label	Prints any of the following data on the job: File name, Copy #, Time, Mode, manually inserted information.
8	Media	Location and width of the media roll(s). <b>Edit/Measure:</b> Access to the Edit/Measure dialog box.
9	Roll Number	Specify on which of the multi rolls you wish to print the Job.
10	Job State	To put the Job on Hold or Waiting to be printed mode.

## 6.3 Remaining Media

The Remaining Media option helps you reduce waste by inserting a signature at the end of a print job, with the following data printed on the media:

- Media Type
- Remaining media on the roll
- Date and time

1. Choose **Tools > Preferences** and check the **Remaining Media Length** option in the top left corner of the dialog box.

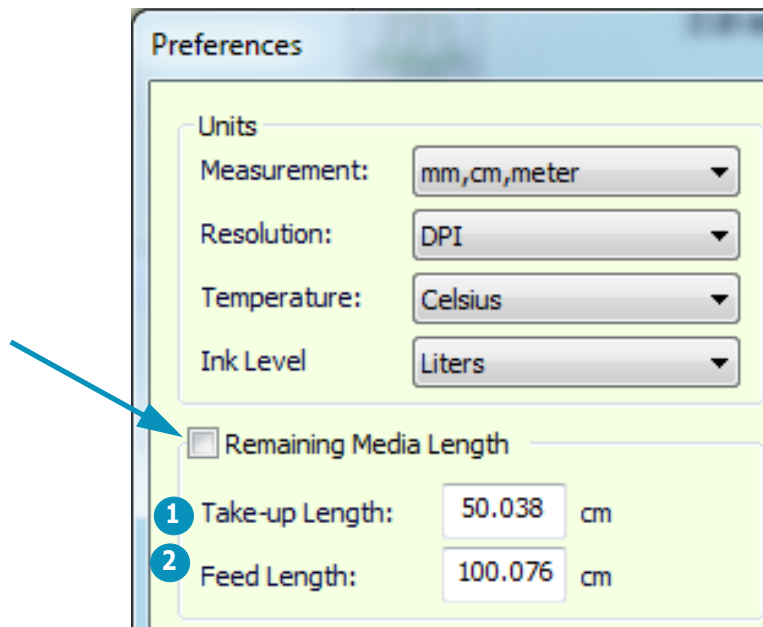


Figure 6-4 : Preferences Dialog Box

1	The Take-up Length is the length between the front edge of the media and the place where it begins to unroll.	2	The Feed Length is the spacing between the end of the printing and the end of the media.
---	---	---	--

- After loading the media, enter the length of the loaded media, in the Media Settings dialog box.

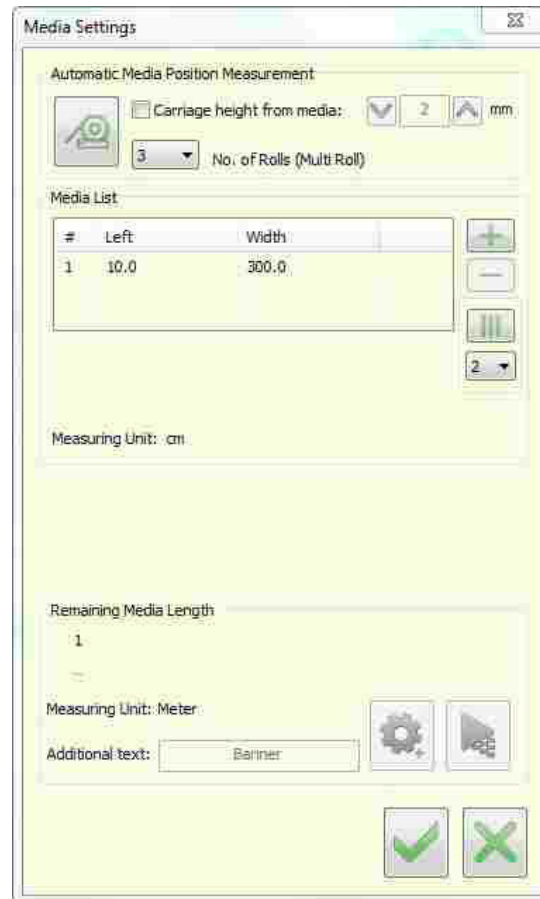


Figure 6-5 : Media Settings Dialog Box

- Choose the **Settings** button. 

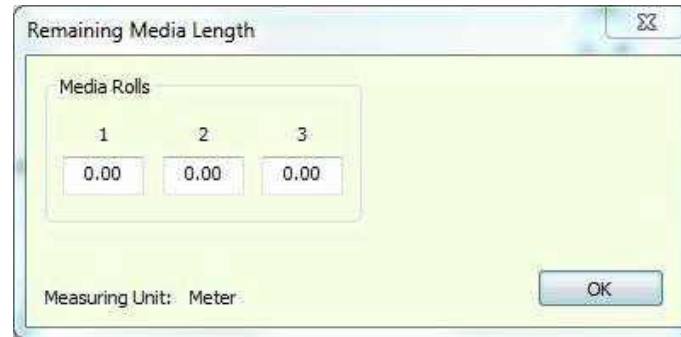


Figure 6-6 : Remaining Media Length Dialog Box

- Enter loaded media length for each roll. Choose **OK**. If there is insufficient media for the job(s), an appropriate message appears.

The software counts (in the background,) the amount of media that has been used. At the end of the job, choose **Print** in the Media Settings window. The signature is stamped on the remaining Media.

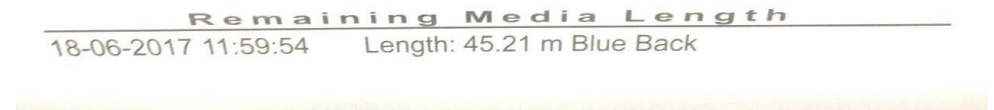


Figure 6-7 : Signature Stamped on Remaining Media

If you don't set the remaining media length, a confirm/cancel prompt appears.



Figure 6-8



## 6.4 Changing Settings During Printing

The following settings can be changed during printing:

Setting	Can be changed in ...
Nozzle Test (Fire-all At Home Position)	The Control Panel <ol style="list-style-type: none"> <li>1. Pause the printer.</li> <li>2. Purge and wipe the print heads.</li> <li>3. From the Fire All dialog box, in the At Home Position, choose the Fire button.</li> <li>4. Choose OK.</li> </ol>
Free-Fall Continuous Collec-	The Control Panel (If the option is activated.)
Print Tension Power	The Control Panel
Advance Fine Tuning	The Control Panel
Calibrations	The Control Panel
Printer Status	The Printer Status dialog box (accessed by double-clicking the printer status bar, to the left of the UV Status indicator in the Control Panel).
Increase/Decrease UV Power	The Printer Status dialog box
Image Position	The Printer Status dialog box (Left – Right, forward – backward).
Step & Repeat (in Y) Specify number of copies.	The Job Settings dialog box. If you have specified a Gap, then it will appear in subsequent copies.
Carriage Movement Margin	The Preferences dialog box.

## 6.5 Resuming Print

Using the Print Resume option enables you to resume printing from where it stopped due to a malfunction.

1. In the Preferences dialog box, check the Print Resume option.

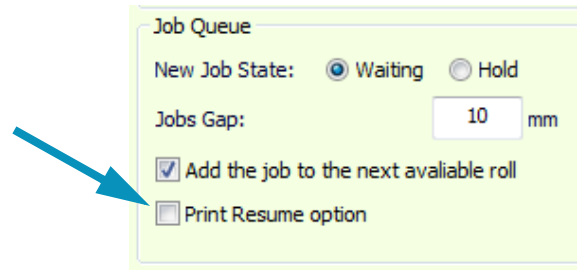


Figure 6-9 : Print Resume Option Check Box

When the machine stops, the job is automatically sent to the queue's red pane.

2. Choose the job and drag it back to the green pane.



Figure 6-10 : Resume Job Prompt

3. To resume printing where it stopped, choose **Yes**.

- If you want to start printing the job from the beginning, choose **No**.

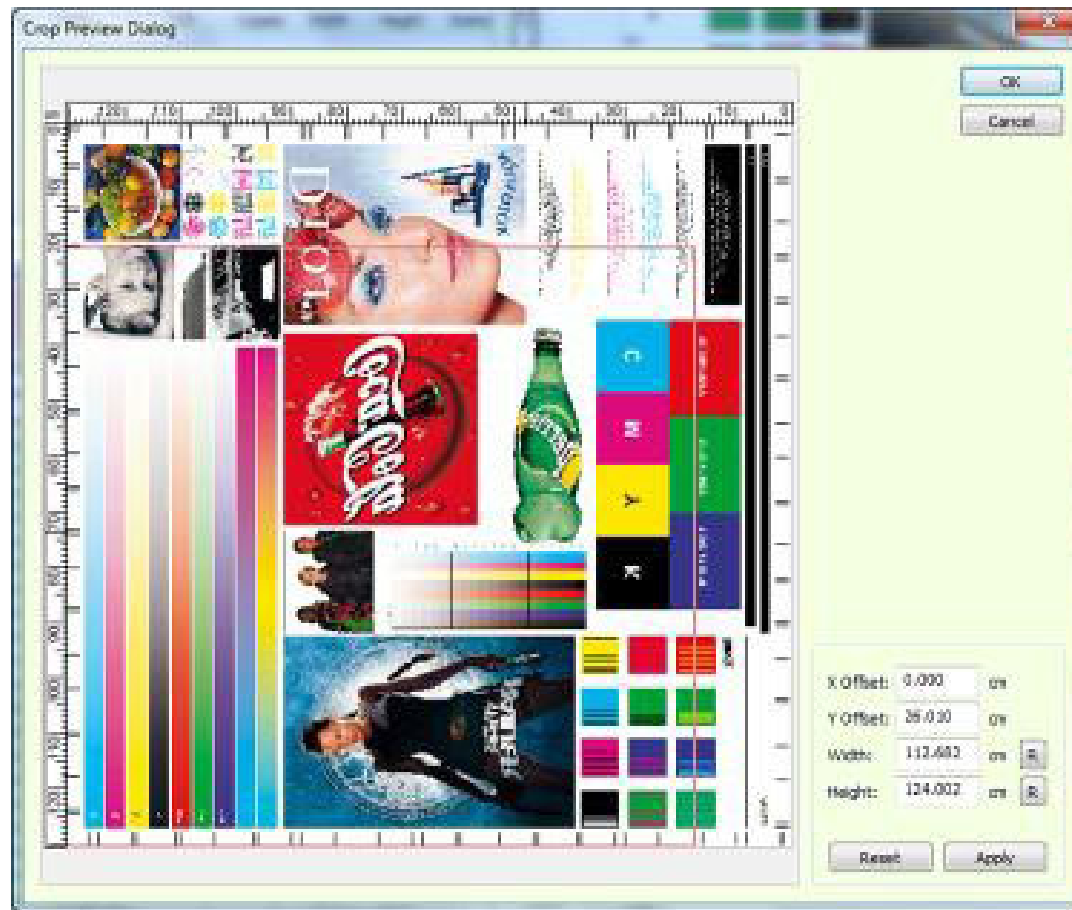


Figure 6-11

- If you want to continue with the printing, choose **OK**.
- If you wish to make adjustments, do so, and then choose **OK**.

## 6.6 Grouping

The grouping feature enables to print Multi-Jobs and Multi-Layers.

- Click the Grouping button in the Queue View to open the dialog box.

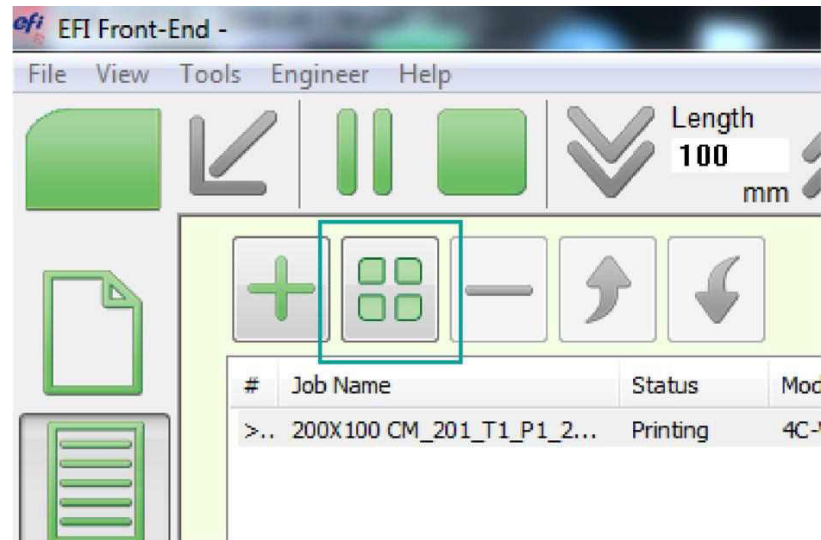


Figure 6-12

### 6.6.1 Multi-Job Printing

1. Name the Group and select the **Multi-Jobs** Type.
2. Click **OK**.

The Multi-Jobs Group Settings dialog opens.



Figure 6-13

3. In the Multi-Jobs Group Settings dialog, click "+" to add a job or click "-" to remove selected jobs.

All the Job Settings apply to all the Jobs in the Queue, except for Step & Repeat, Mirror, Rotate180 and the label.

4. To optimize the jobs layout, click the Multi-Job Optimizer icon.
5. Click OK to add the group to the print queue.
6. To reopen the Multi-Jobs Group Settings dialog, double-click the group in the print queue.

*NOTE: All jobs in a group must have the same print mode*

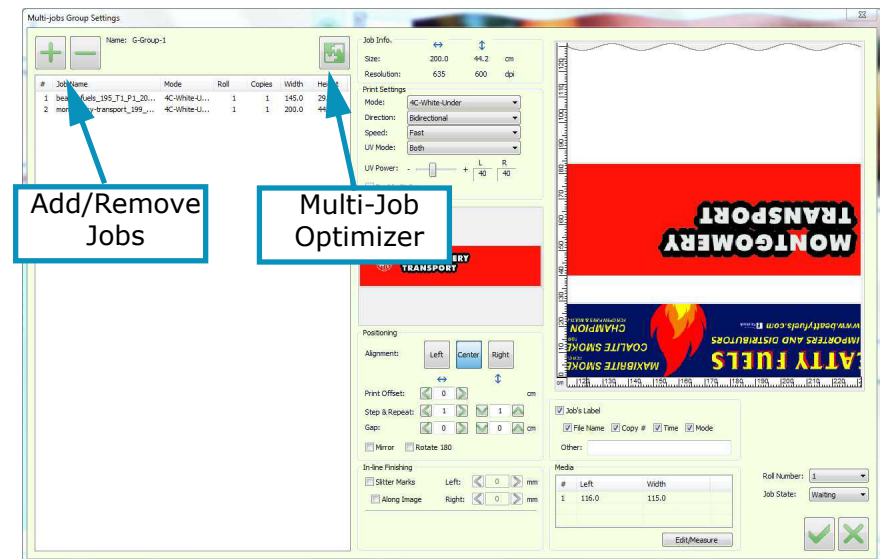


Figure 6-14

## 6.7 Printing with White Ink

This section explains how to use the white printing, feature on the Pro 32r printer. It includes the following sections:

- An Overview
- Print methods and applications
- Print procedure for each method

EFI's white ink option enables white ink printing (in addition to color) on various media types and several applications.

### 6.7.1 White Ink System Overview

The Pro 32r carriage contains 10 print head blocks, two of which are white. The white heads can be aligned with the other heads, and can be shifted forwards with the software to enable faster print. The white print heads are located at each end of the plate.

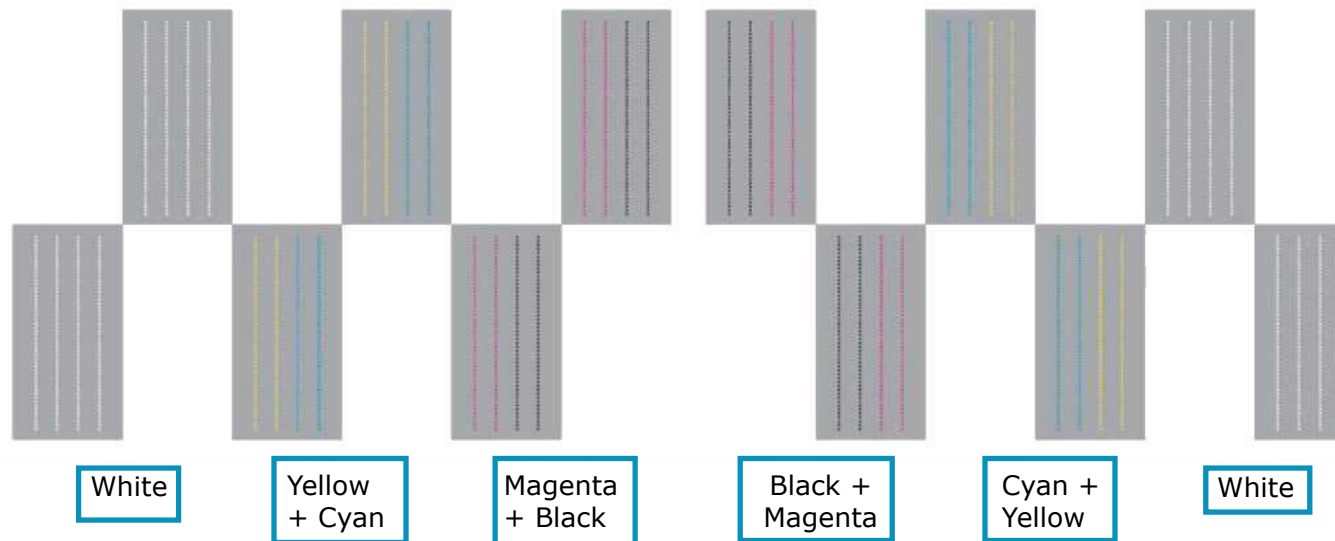


Figure 6-15

The white ink system is independent of the color ink system. It has a separate vacuum generator and the vacuum level for the white SITs should be set separately.

The white ink system incorporates additional hardware (separate valve, stirrer, degassers, etc.) to enable stirring the white ink in the main tank and in the ink in the tubes. The purpose of stirring is to avoid sedimentation that can cause nozzle clogging.

The stirring of ink in the tank is controlled by the software.

1. Before printing with white ink, go to **Tools > White Ink Stirring**.

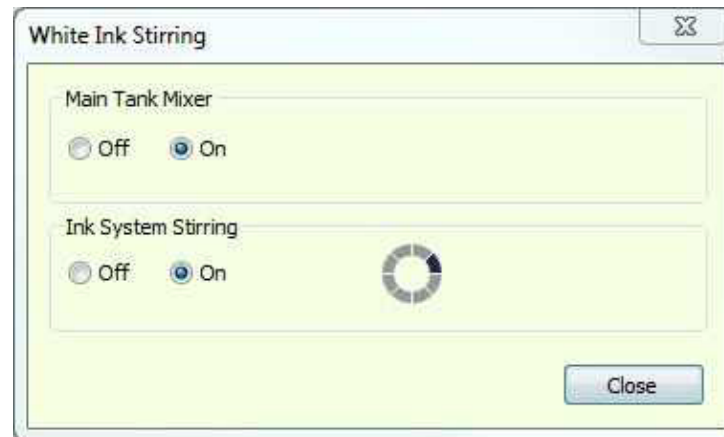


Figure 6-16 : White Ink Stirring Dialog Box

2. Select both ON radio buttons to stir the White Ink, and close the dialog. This process takes a few seconds, but you can continue working while it takes place.



## 6.7.2 White Print Methods and Applications

### 6.7.2.1 White on Non-White Media

Pure white printing on colored media. This method is primarily used for signage, and for maintaining corporate identity colors.



Figure 6-17

### 6.7.2.2 White Under - Color Print On White Layer

Method can be used for printing on non-white media. White opaque layer prints first, allowing colored layer its full gamut.



Figure 6-18

### 6.7.2.3 White Over - White Layer Printed On Colored Layer

This method is used for printing on transparent media. The graphic is printed mirror-flipped on the back side of the transparent media, as it is viewed from the front. The opaque layer on top of the color enables the colored layer its full gamut.

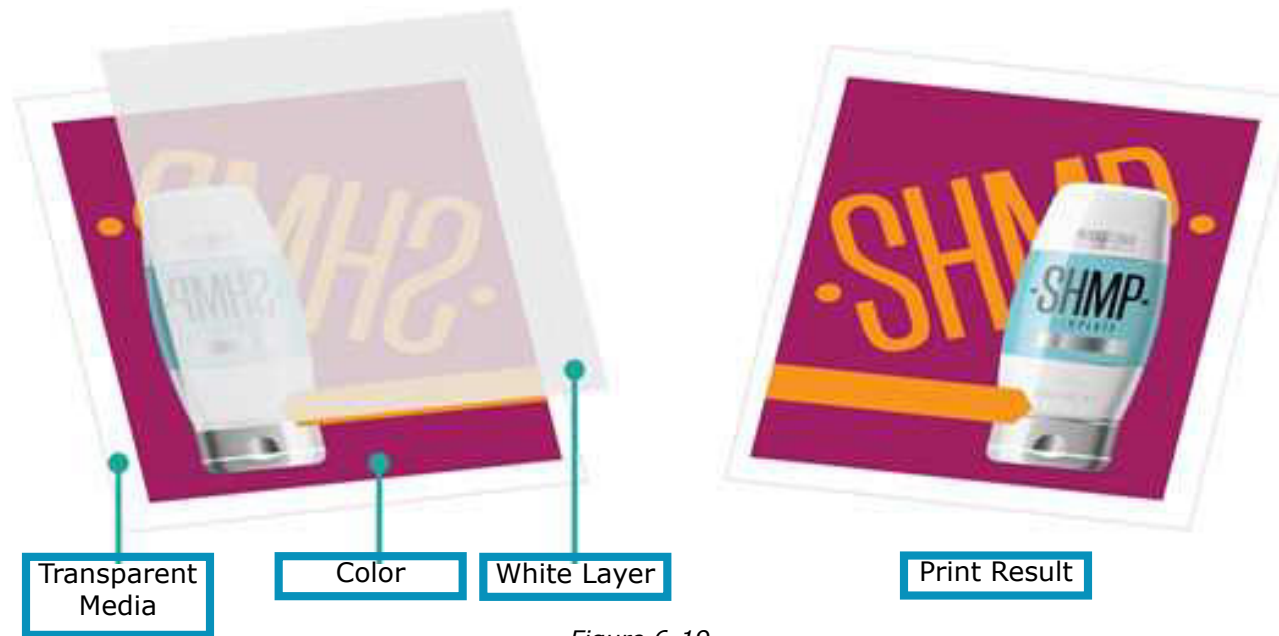


Figure 6-19

### 6.7.2.4 Backlit – Color-White-Color

With this method, an image is printed on transparent media, with layer of white and additional 50% density layer of color.



Figure 6-20

## 6.8 Multilayer Printing

Multilayer printing enables to print two different images on transparent media, in one run. At the end of the process, each side of the media shows a different image.

### Types of Multi-layer:

- Blockout on transparent media - Prints both sides in a single run. The layers are: Color1 -White-Black-White-Color2.

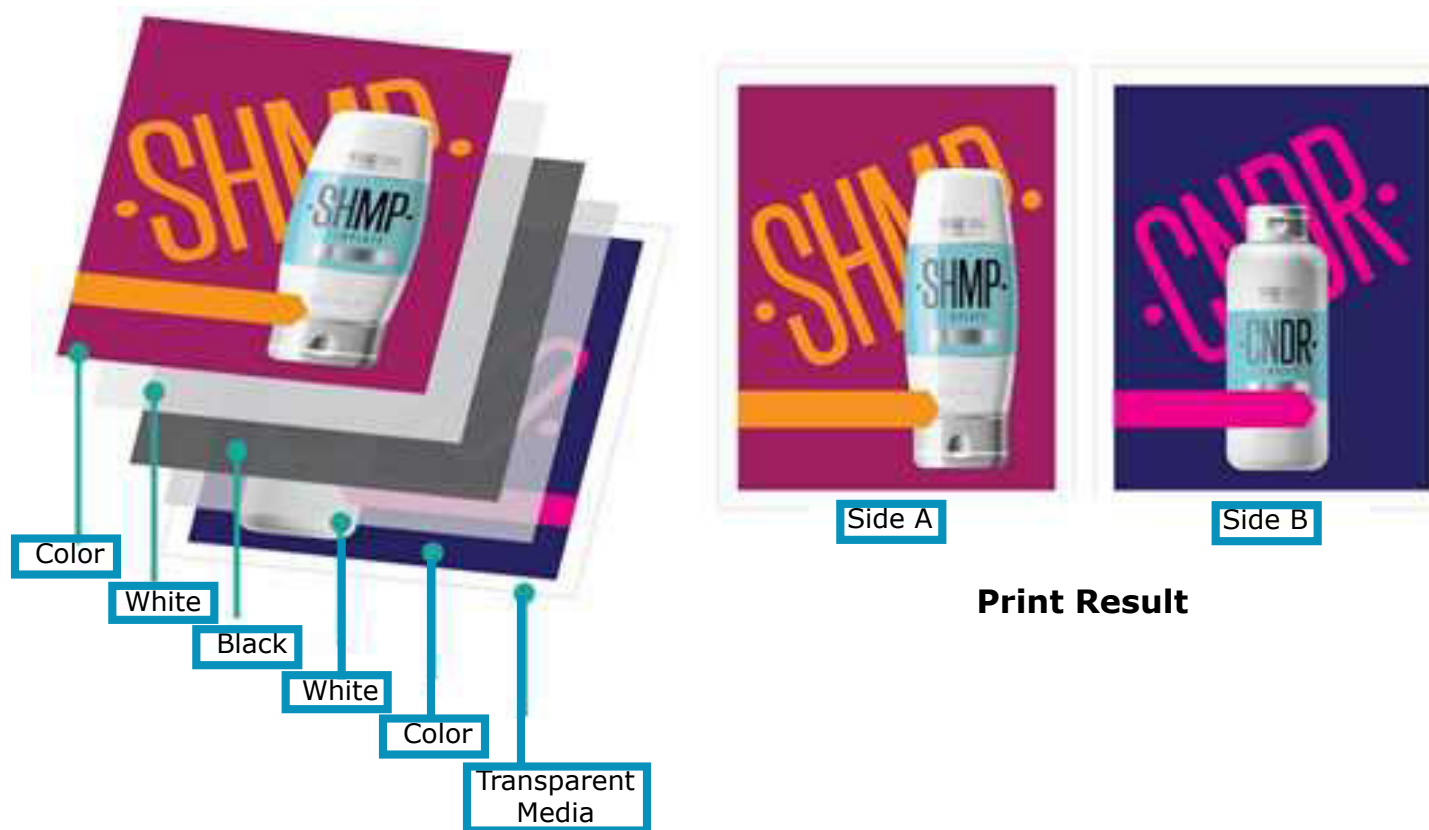


Figure 6-21

- Day-Night on transparent media, Day-Night on backlit media - Prints two different images - one image for front lit or day-view, the other image for backlit or night view. The layers are: Color1 - White - Color2.

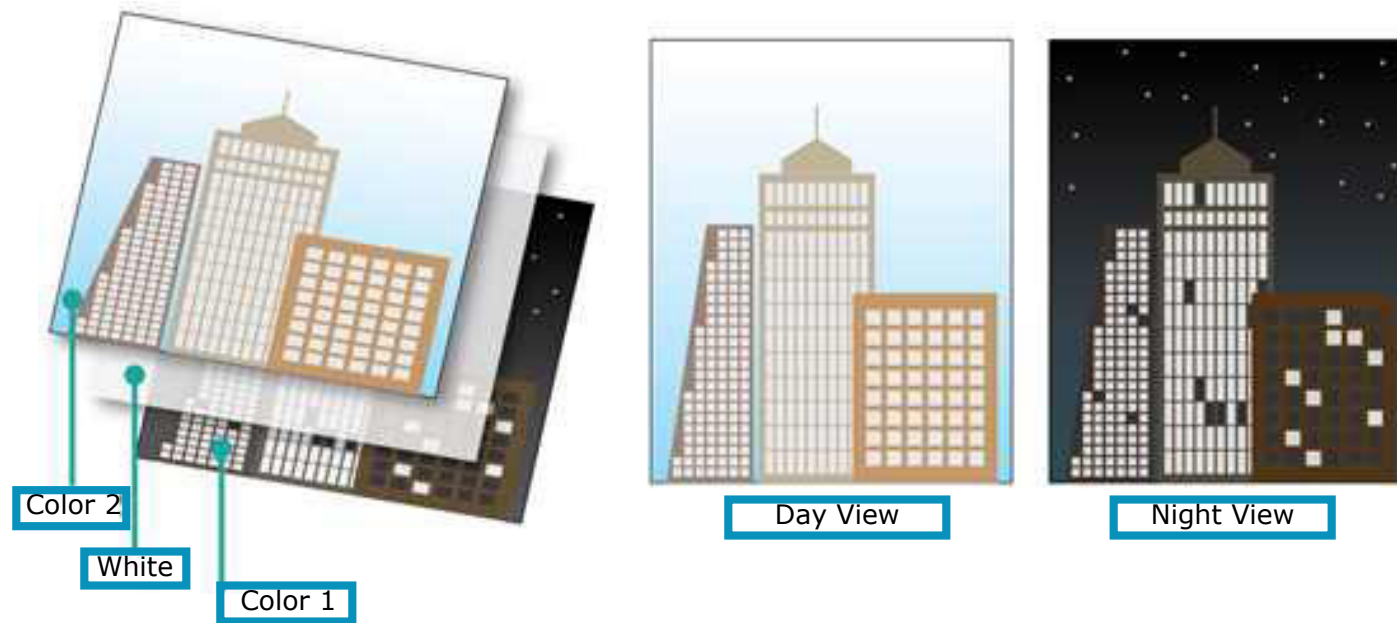


Figure 6-22

### 6.8.1 Multi-layer: White / Multi-layer

For this mode you must add a White layer to the image file from within the RIP application.

1. **RIP** the file in the relevant Print Mode and add the white layer.
2. Load the relevant media.
3. Make sure all nozzles are firing properly.
4. Calibrate the **Left-Right** for the relevant Print Mode.

The print workflow of a job with white (White only, White under Color, White Over Color or Color-White-Color) is identical to printing a CMYK Job.

5. Add the job to the Print Queue
6. Print.

## 6.8.2 Multi-layer: Blockout

In this method the white layer is added to the image file in the RIP application.

1. **RIP** the files (C1 and C2) in the relevant Print Mode.

Available printing applications:

- Blockout on Transparent media
- Day-Night on Transparent media
- Day-Night on backlit media

2. Open the **Grouping** dialog box
3. Name the group, and select **Multi-layers** and **Blockout on transparent media**
4. Click **OK**. The Multi-layer Group Settings opens.
5. Click the "+" button to add the files. The Jobs are automatically mirrored and placed in the correct order.

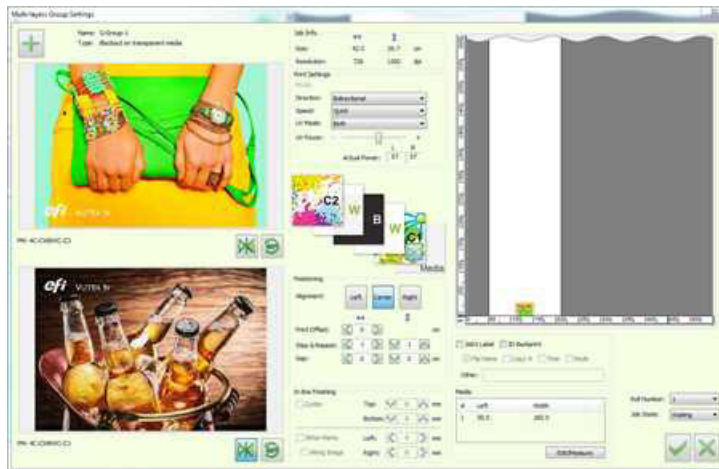


Figure 6-24

6. Set the files and click **OK** to add the Multi-layer Job to the printing Queue.
7. Print.

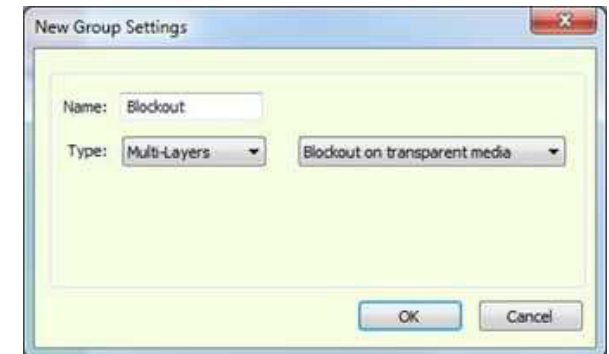


Figure 6-23

### 6.8.3 Multi-layer: Day-Night on Transparent Media

1. Open the **Grouping** dialog box
2. Name the group, and select the Type: **Multi-layers** and **Day-Night on transparent media**
3. Click **OK**. The Multi-layer Group Settings opens.
4. Click the "+" button to add the files. The Jobs are automatically mirrored and placed in the correct order.

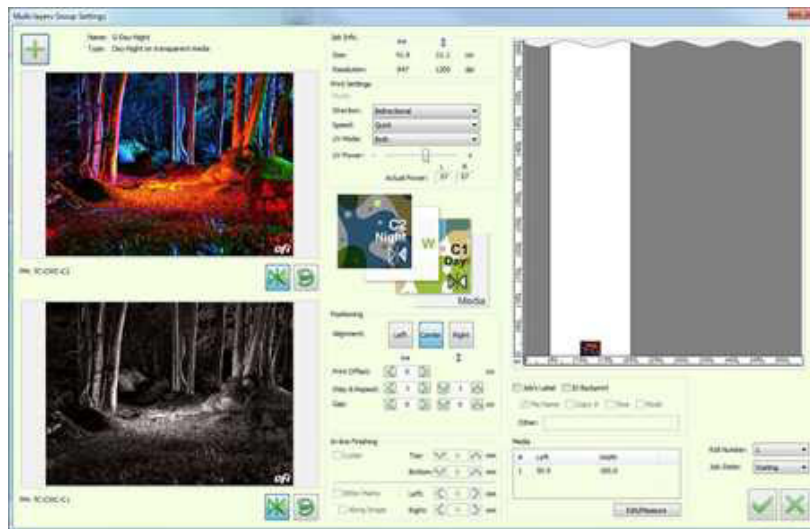


Figure 6-26

5. Set the files and click **OK** to add the Multi-layer Job to the printing Queue.
6. Print.



Figure 6-25



### 6.8.4 Multi-layer - Day-Night on Backlit media

1. Open the **Grouping** dialog box
2. Name the group, and select the Type: **Multi-layers** and **Day-Night on Backlit media**
3. Click **OK**. The Multi-layer Group Settings opens.
4. Click the “+” button to add the files. The Jobs are automatically mirrored and placed in the correct order.

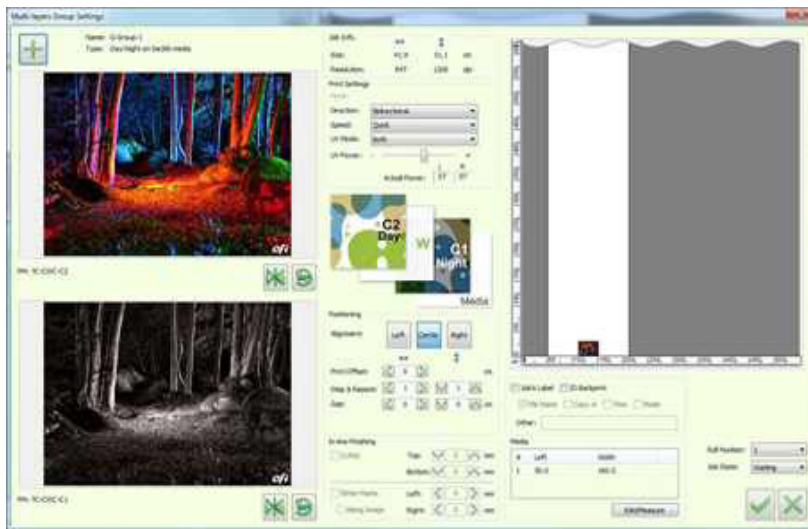


Figure 6-28

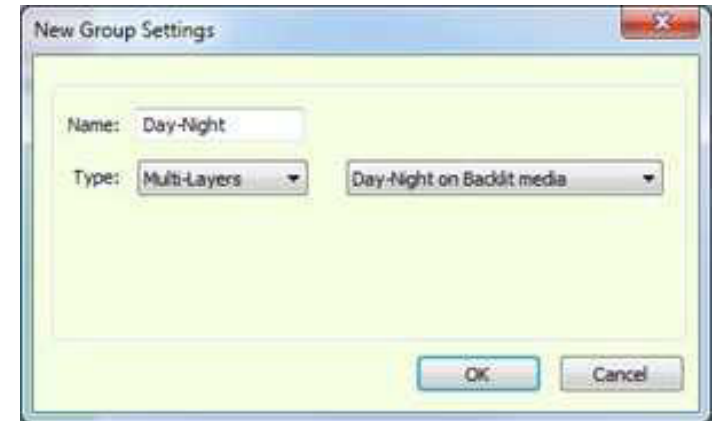


Figure 6-27

5. Set the files and click **OK** to add the Multi-layer Job to the printing Queue.
6. Print.



## 6.9 Media Handling

This chapter describes the media handling accessories and sets out procedures for loading, winding and unwinding options.

Media loading, winding, and unwinding have a great impact on the print results. Proper media handling maintains print quality and is key to accurate double-sided printing and overcoming challenging media-feeding issues. Proper media handling also helps avoid unwanted print artifacts, which can be caused by media distortion, wrinkles, uneven media stretch, tilt and misalignment, etc.

### 6.9.1 Media Loading and Winding

The printer is equipped with a rear air shaft for media unwinding and a front air shaft for media winding. The air shaft has inflatable rubber bladders that when inflated, hold the media steady in place, and the media advance through the printer in accordance with the tension rolls and the front air shaft.

### 6.9.2 Media Path

The media path depends on the media, whether it is printed and collected face-in or face-out.

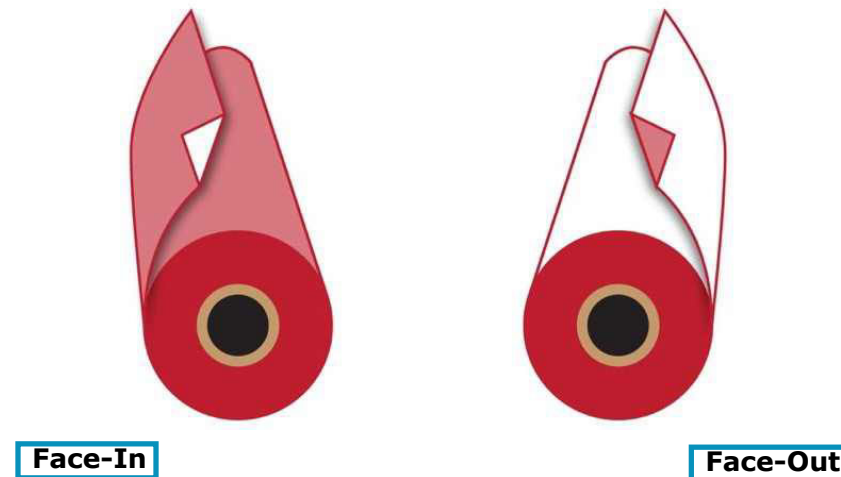


Figure 6-29

The media is fed to the printer from the media roll on the rear air shaft, through the pinch roller, above the tension roller, over the print table. From the print table, through the front tension roller, over the pinch roller to the air shaft. See [Figure 6-30](#) for options on the media path.

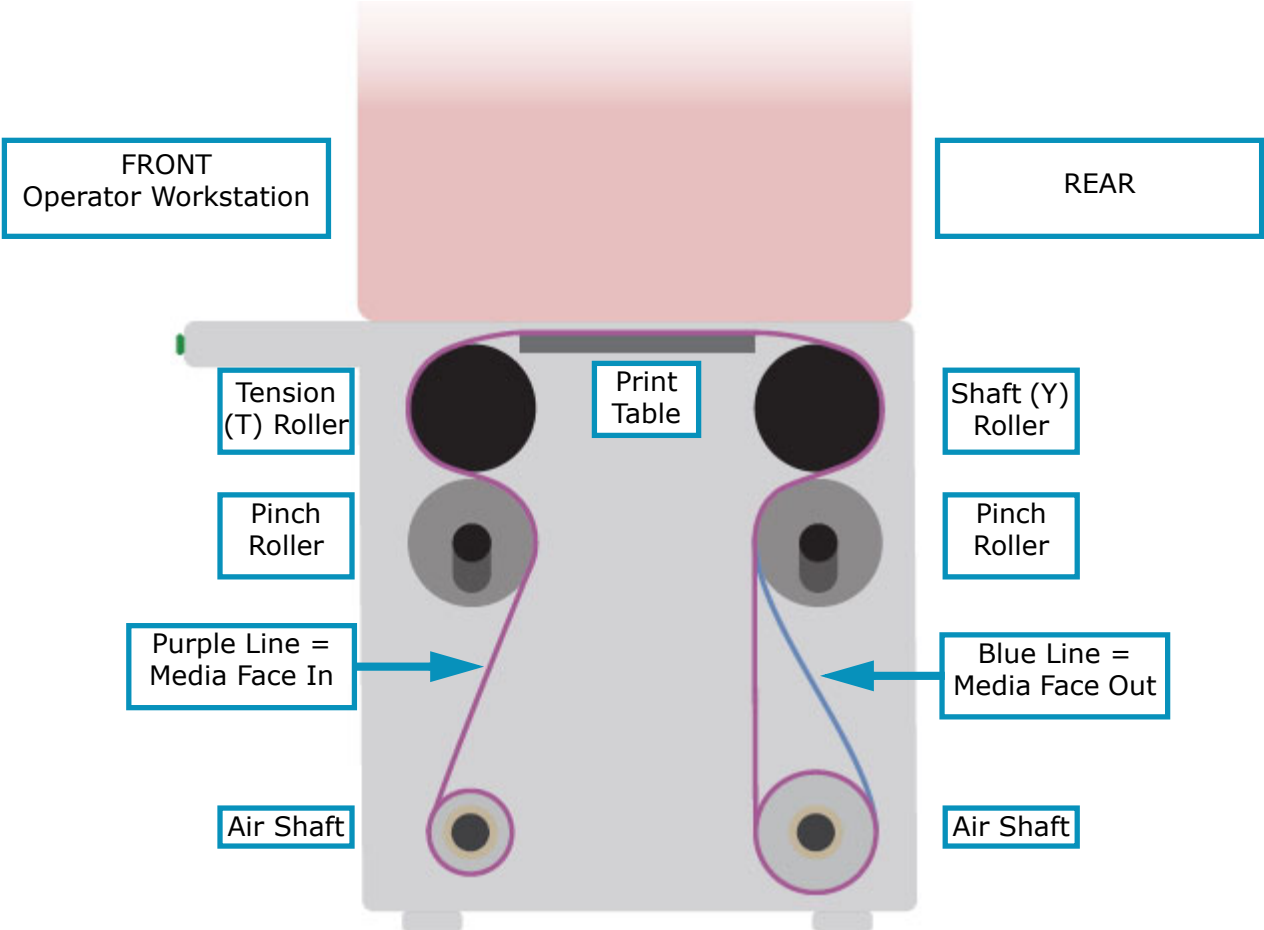


Figure 6-30

### 6.9.3 Loading Media

1. Load media to the air shaft.
2. Load the air shaft to the printer and close the chuck.
3. Place the media on the X axis. You can use the ruler for fine adjustment.
4. Put the air gun in the air inlet. Pump air to hold media steady in place.
5. Take up the media through the pinch roller. Make sure it is straight and parallel to the media roll.
6. Lead the media to the tension roller, over the print table and the front of the tension roller, and then between the tension and pinch rollers.
7. Close the pinch roller



Figure 6-31

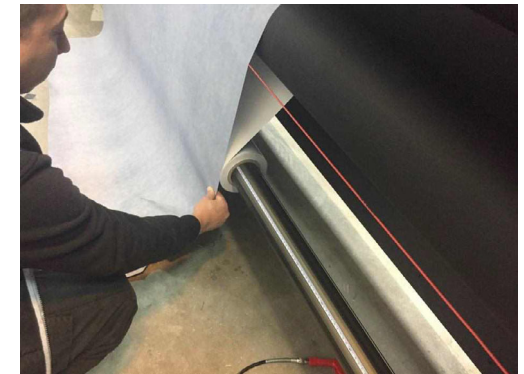


Figure 6-32



Figure 6-33

#### 6.9.4 Winding or Collecting the Media

1. Load a media core to the front air shaft. The media core must be at least as wide as the media.
2. Load the air shaft to the printer, and then close the chuck.
3. Center the core to the media and lock it in place by pumping air to the air shaft's air inlet.
4. Close the pinch roller.
5. Advance the media to reach the front air shaft and attach the media's edge to the core. You can either paste it with paper masking tape, or by winding some media.

*NOTE:* See [Air Pressure Gauges](#) for a table with the media parameters to set before printing.

## 6.9.5 Multi-roll Loading



Figure 6-34

### Hardware:

- Media roll collars
- Air Shaft Race
- Center Support Stand

1. Before setting up center supports, align air cores to table.
2. Then install the race onto the air core.
3. Install and adjust the center support stand.
4. Load media rolls, media roll collars, and air shaft race onto the unwind and rewind shafts (air cores).
5. Secure shaft race to the center of the unwind shaft by turning the spanner nut. Hand-tighten ONLY.

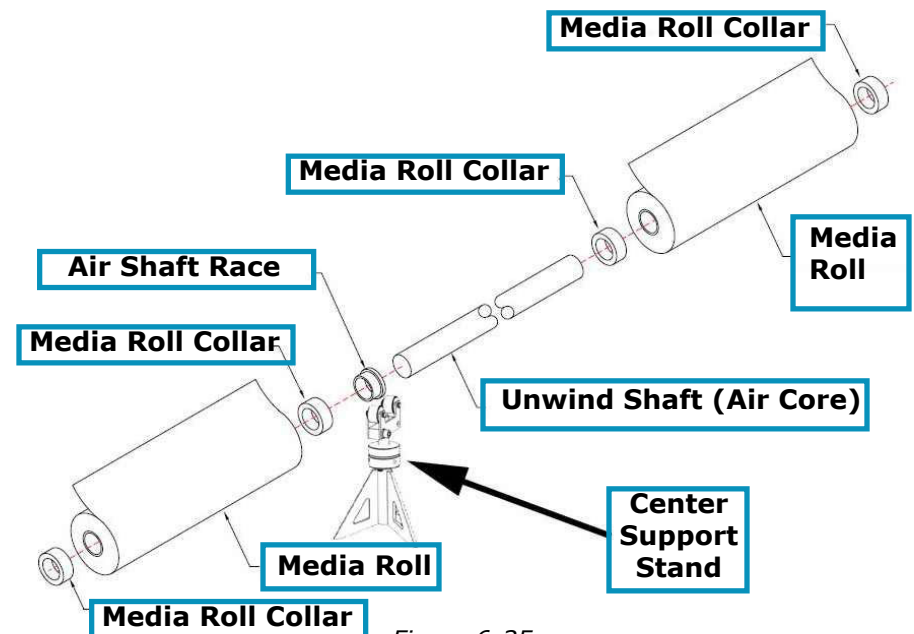


Figure 6-35

- Center the media rolls and collars between the air shaft race and the ends of the unwind and rewind shafts.
- Secure media rolls with media roll collars by tightening each collar.

*NOTE: Do NOT inflate air core for the rewinding shaft.*



**Caution: The fully loaded Unwind Shaft (Air Core) is extremely heavy. Care and safe lifting procedures should be observed or serious injury can result.**

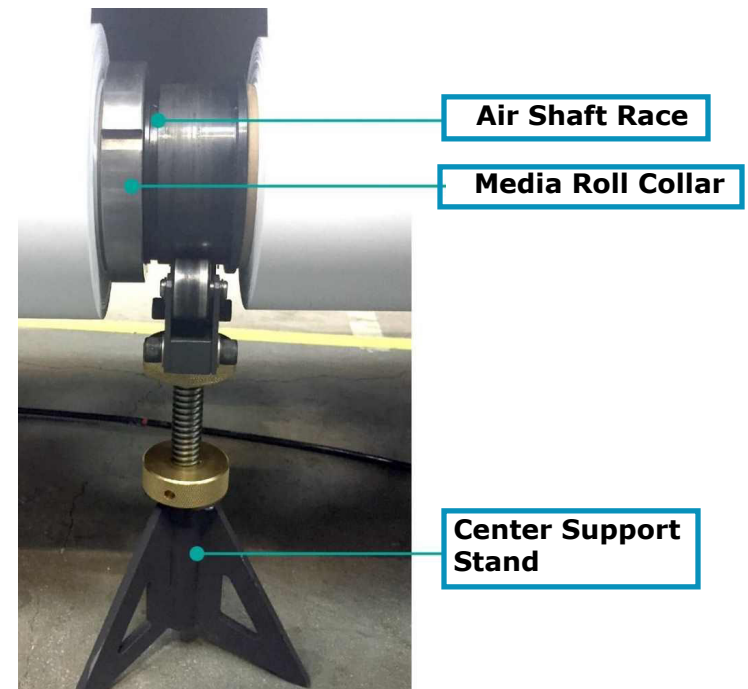


Figure 6-36

## 6.10 Printing on Mesh

When printing on mesh or other porous media, some measures should be carried out to maintain good print quality and to protect the print table from excess ink.

*NOTE: To avoid any damage to the print heads, the carriage must be raised to at least 14mm before you start the procedures.*

1. Before starting to prepare the printer for mesh printing, go to **View > I/O Control**.
2. In the Misc Sensors group, find the Mesh Table sensor display to make sure that the mesh table is working. When the wings are raised, the display turns green.

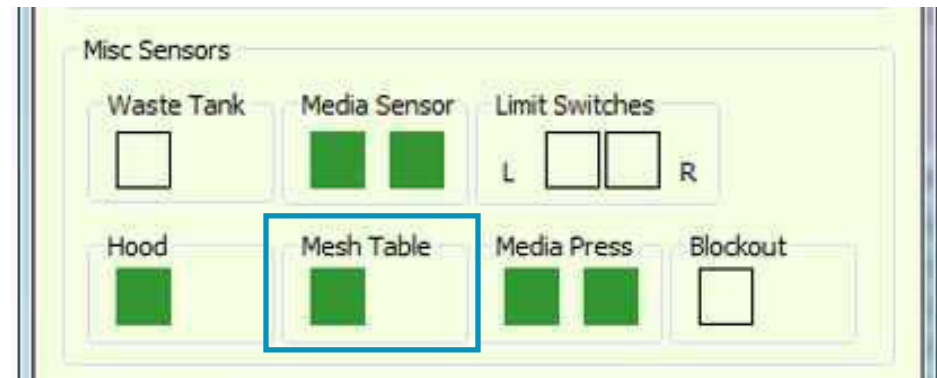


Figure 6-37

3. Raise the wings of the print table by pushing the button marked **Wings**, on the front control panel.
4. Turn off the vacuum supply with the vacuum regulator.



Figure 6-38

5. Place the absorbent cloth along the print table, between the wings.
6. Attach both edges of the cloth to the table frame, using Scotch Tape.
7. Make sure the cloth edges are totally covered with tape and properly attached.



Figure 6-39



Figure 6-40

The printer is now ready to print on mesh media.

8. To return to another printing mode, lower the wings by pushing the Wings button again on the front control panel and removing the absorbent cloth.
9. If necessary, clean the print table from any ink residue.

**6.10.0.1 Recommended Settings**

Tension	40	
Front air shaft (winding)	22	Uninflated
Rear air shaft (unwinding)	20	Until about half roll than needs to lower gradually
Vacuum table	5	
Head height	14mm	



## 6.11 Cropping a Job

Before adding a job to the queue, you have the option of cropping it.

1. From the front-end window, choose the **Add** icon.

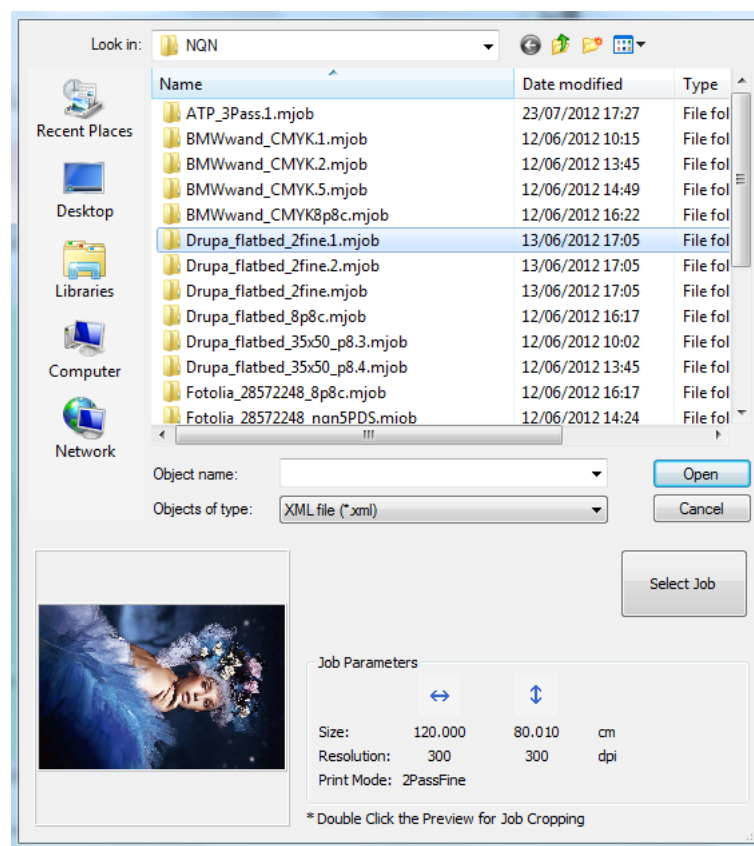


Figure 6-41 : Select a File

2. Double-click the job's preview box at the lower left corner of the Select Job window.

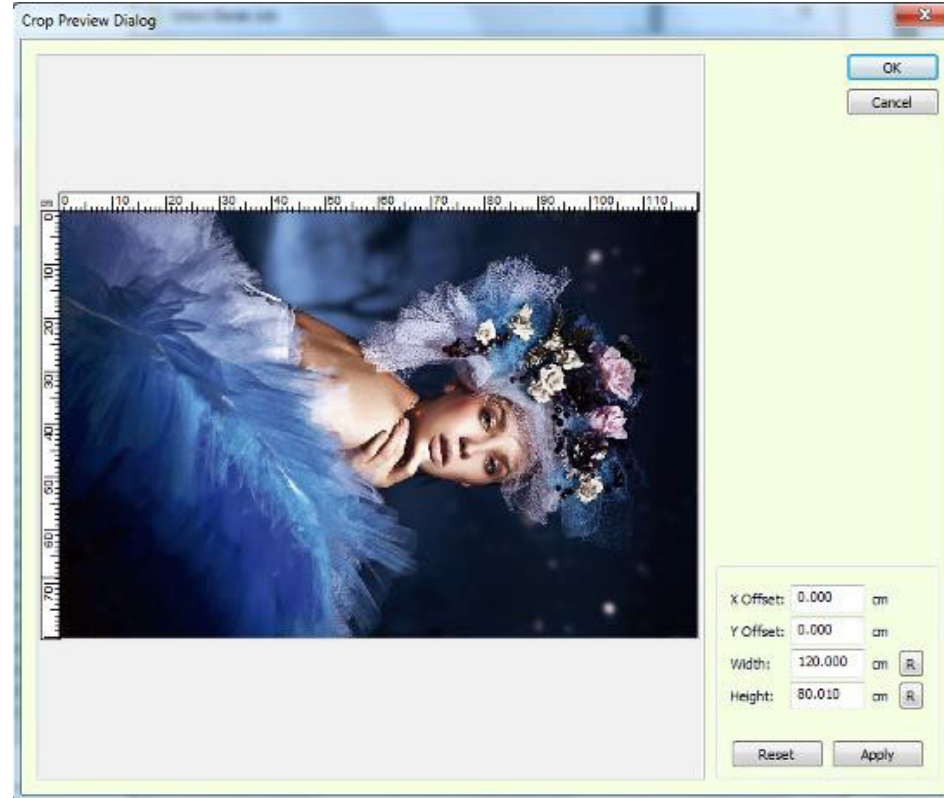


Figure 6-42 : Crop Preview Dialog Box

You can crop the job by:

- Entering the required values at the lower right corner of the dialog box, choose **Apply** and then **OK**.
- Drag the cross-hair cursor over the image, to define the area that has to be cropped, and choose **OK**.

The job's preview box shows the job before cropping, as well as the crop marks.

3. Choose **Select Job**.

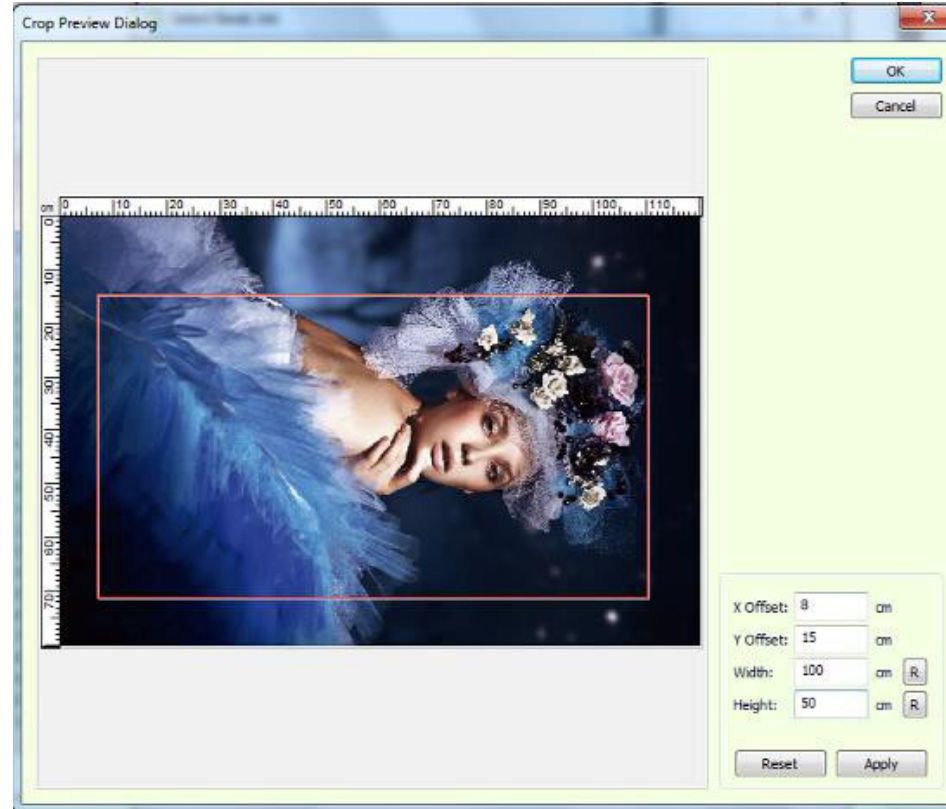


Figure 6-43 : Crop Preview Dialog

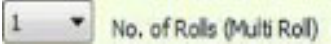
## 6.12 Multi-Roll Printing (Optional)

The procedure for multi-roll printing is very similar to that of printing on a single roll. Make sure you have sufficient external core holders.

### 6.12.1 Configuring

1. From the front-end window, go to Preferences dialog box.
2. In the End Of Media box, check the appropriate end of media options and choose OK.

### 6.12.2 Preparing the Printer for Multi-Roll Printing

1. In the Automatic Media Position Measurement from the Media Settings dialog box, select the appropriate number of rolls to be printed. 
2. To measure the media choose the Measure Media button.

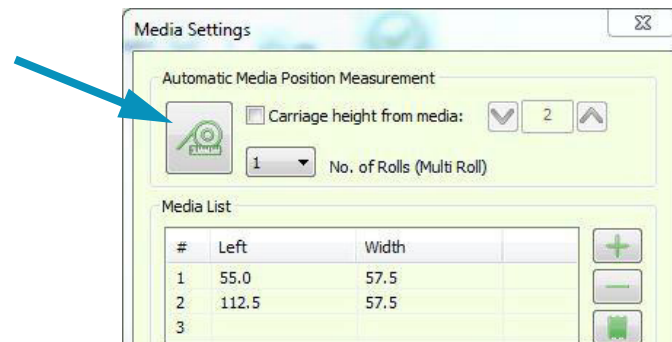


Figure 6-44 Measure Media Button

3. When the measurement is complete, choose OK.
4. Import the relevant file and specify the number of copies required.

The file is 120 cm wide. If there is not enough room on current roll for the next copy (along the X-axis,) the copy is printed on the next roll.

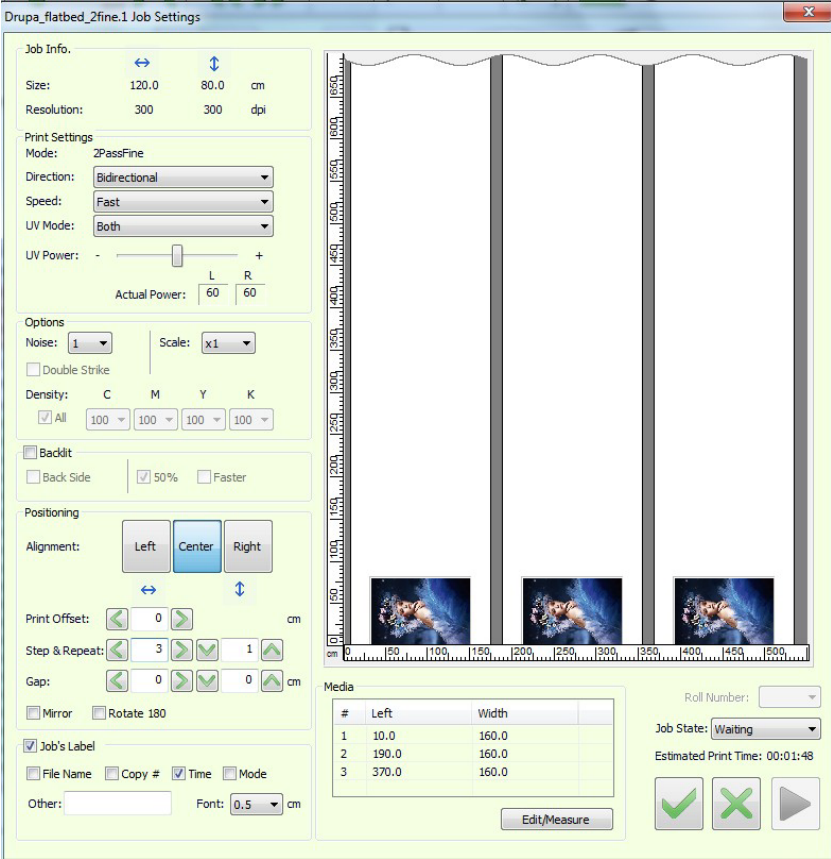


Figure 6-45

### 6.13 Skip White Printing (Optional)

When the Skip White feature is activated, any continuous white area (that is, area free of printing data) is skipped. When the carriage reaches a 'white' area, it returns to the home position and pauses. The media continues to pass through the printer at a faster rate and without being printed on. When the media reaches the specified position, it starts to print again. This saves print time and consequently reduces the total job time.

When the Skip White check box is selected in the Preferences dialog box, the printer skips 'white' areas. The carriage goes to home position, and the media advances continuously, until reaching the next printing area in the job. Then the printing continues normally.

The following figure shows the image that is to be printed, in this case, the Japanese flag with crop-marks. When the carriage reaches the area marked 'skip', the carriage returns to its home position and the media continues to pass through the printer. When the media reaches the area marked 'print', the carriage resumes printing.

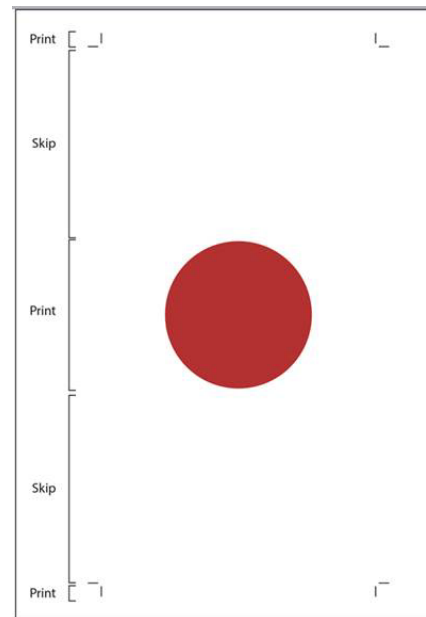


Figure 6-46 : Print with White Areas to Skip

### 6.13.1 Enable Skip White Feature

From the Print Settings group box in the Preferences dialog box, check the Skip White option. The Open Media Press On Skip-white option is used when printing on a challenging media that is tension sensitive and tends to wrinkle. When this option is activated, the press shaft opens when the media advances to skip white and closes as the printing resumes.

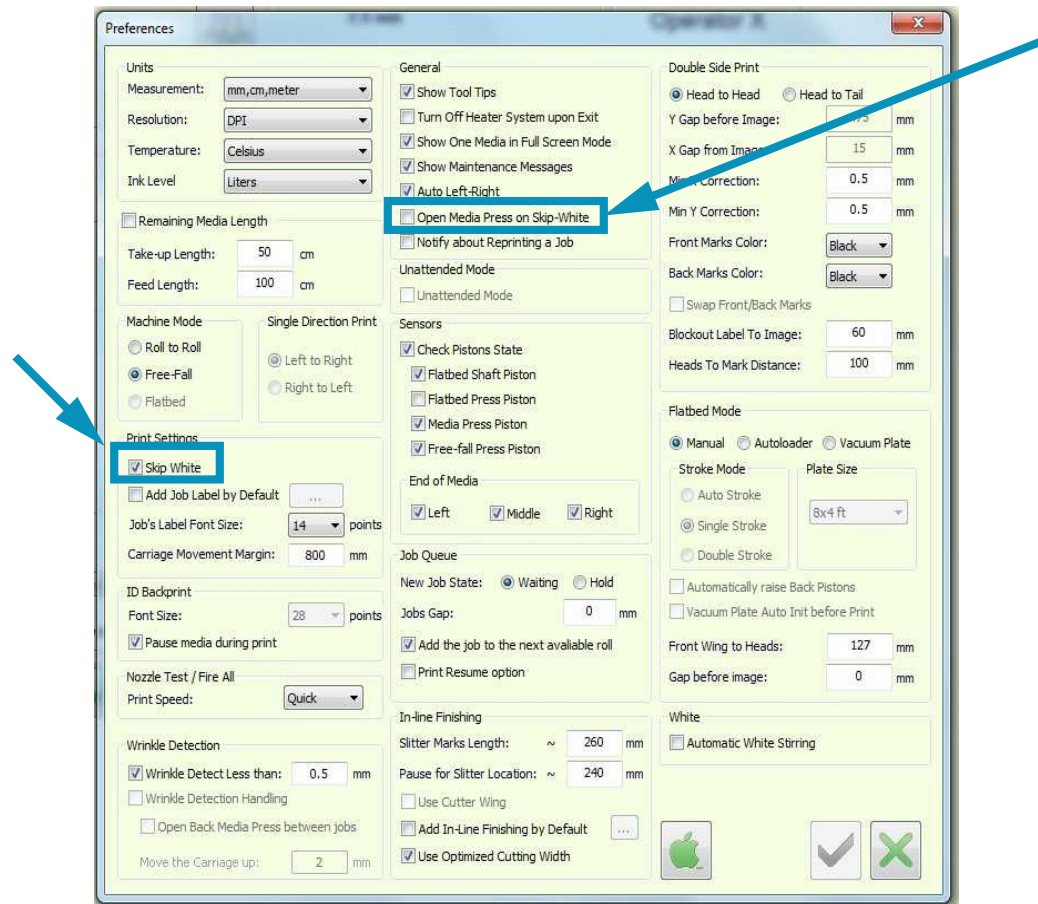


Figure 6-47 : Skip White Settings

## 6.14 Shutdown Procedure

The following procedure can be used for printer shutdown periods of up to 72 hours. For long-term shutdown (over 72 hours) or for printer storage, contact your EFI service representative.

*NOTE: Unless there is an emergency, do not use the Emergency Stop Buttons or Cord to turn off the printer.*

1. Purge and clean print heads.
2. Close FE software and shut off computer.
3. Switch off main power switch.



# Operations Guide

## 7.0 Double-sided Printing

## 7.0 Double-sided Printing (Optional)

Double-sided printing enables you to print jobs with accurate print registration between the front and back of the media.

There are two types of double-sided printing:

- **Backlit** – Print the same image on both sides of the media. (See [Backlit Printing \(Optional\)](#).)
- **Blockout** – Printing a different image on each side of the media. (See [Blockout Printing](#).)

The double-sided settings are in the Double Side Print group in the Preferences dialog box. (See [Preferences Dialog Box](#).)

Double Side Print

Head to Head  Head to Tail

Y Gap before Image: 469.9 mm

X Gap from Image: 20 mm

Min X Correction: 0.254 mm

Min Y Correction: 0.254 mm

Front Marks Color: Black

Back Marks Color: Black

Swap Front/Back Marks

Blockout Label To Image: 15 mm

Heads To Mark Distance: 97 mm

Short Measure

Figure 7-1

Both the Backlit and Blockout processes can be carried out in two ways:

- **Head-to-head** – Print Side A, then roll the media back, flip it, reload it, and print Side B.
- **Head-to-tail** - Print Side A, cut the media at the end of the job, then take the printed media, load it onto the Printer, and print Side B.

## 7.1 Registration Print Marks

- Backlit – Side A squares, side B cross, along the Y axis.

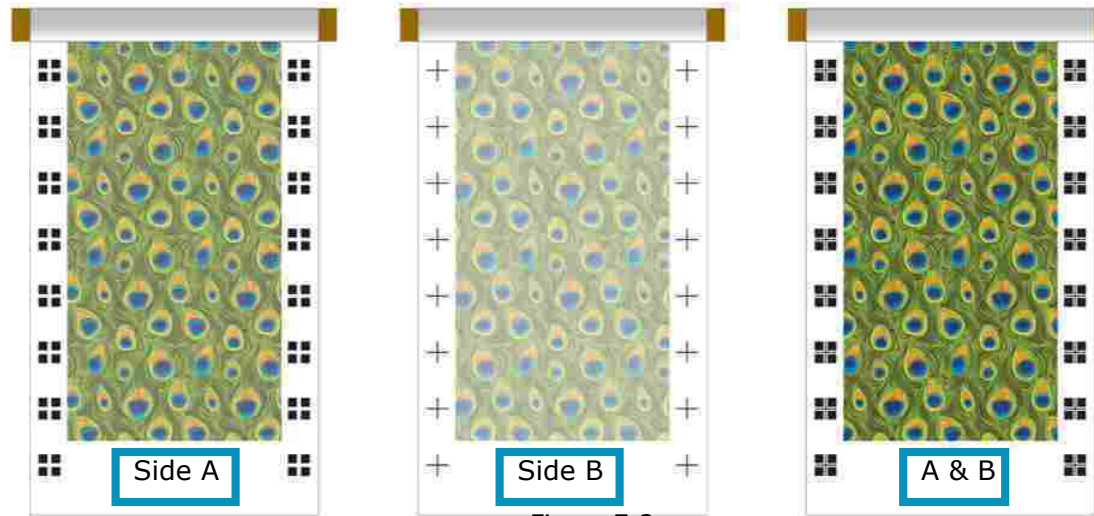


Figure 7-2

- Blockout – Horizontal Blockout label, on side A only



Figure 7-3

### 7.1.1 Y Gap before Image

The distance between the first printed Backlit registration marks and the image, along the Y-axis. The value is usually set to 600 mm, so the initial correction is done before the image starts to print.

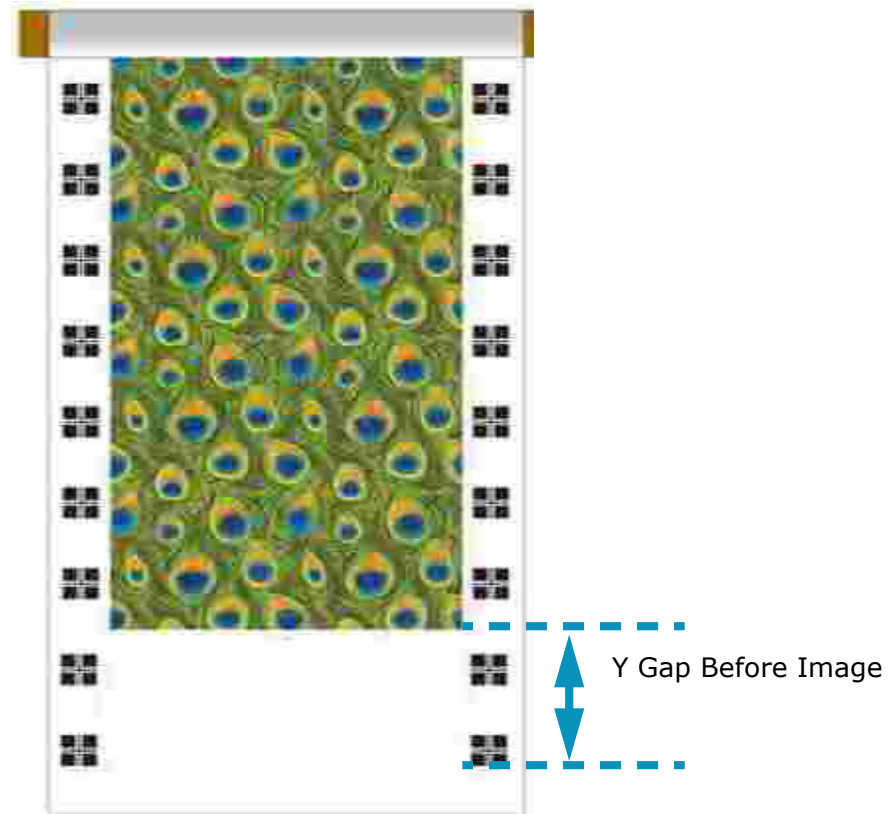


Figure 7-4

### 7.1.2 X Gap from Image

The distance between the printed backlit registration marks and the image along the X-axis. This value depends on the image and the media width. It is recommended to leave a 15 mm gap between the image and the marks.

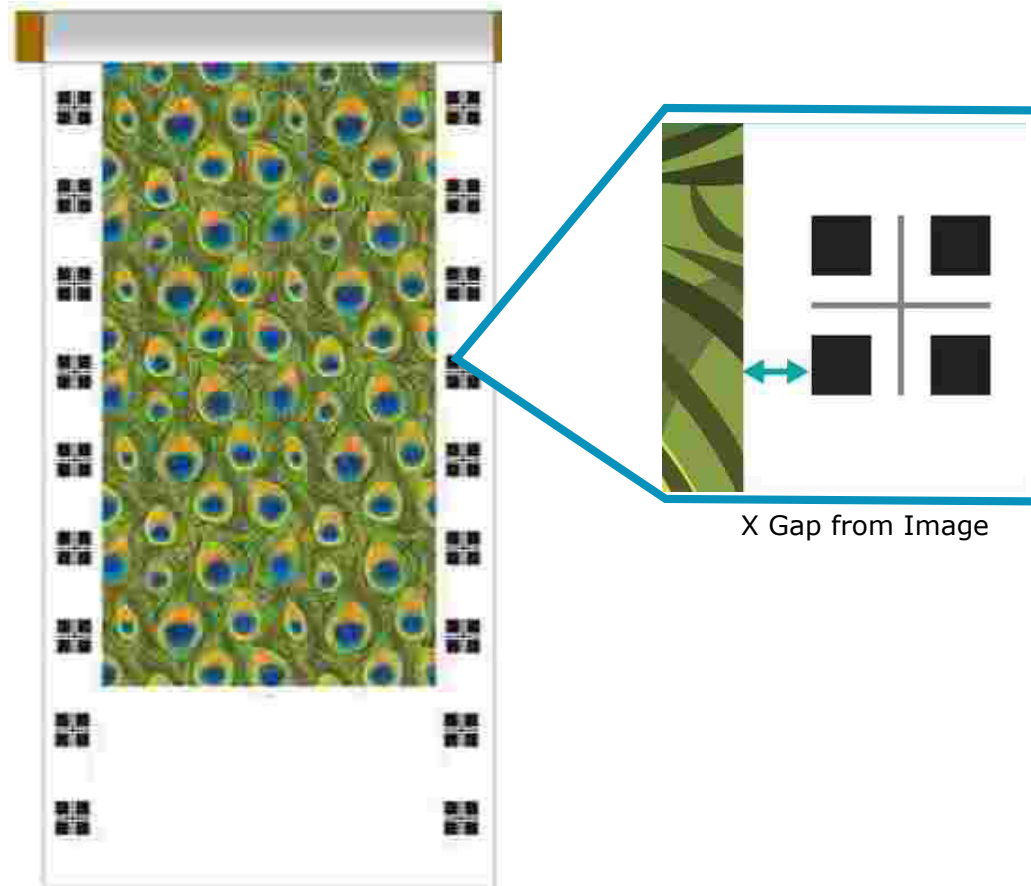


Figure 7-5

**Front Mark Colors/Back Mark Colors**

You can select between C, M, Y and K for the front mark color and back mark color.

**Print Cutting line** – This line is printed at the end of side A, and marks where to cut the media, leaving sufficient margin for loading the media to the Printer to print Side B (2nd line), as shown in [Figure 7-6](#).

**Blockout Label to Image** - Sets the distance of the Blockout label from the Image. The minimum value is 30 mm, there's no need for a higher value.

**Short Measure** - Shortens the Measure Media function between copies in Blockout.

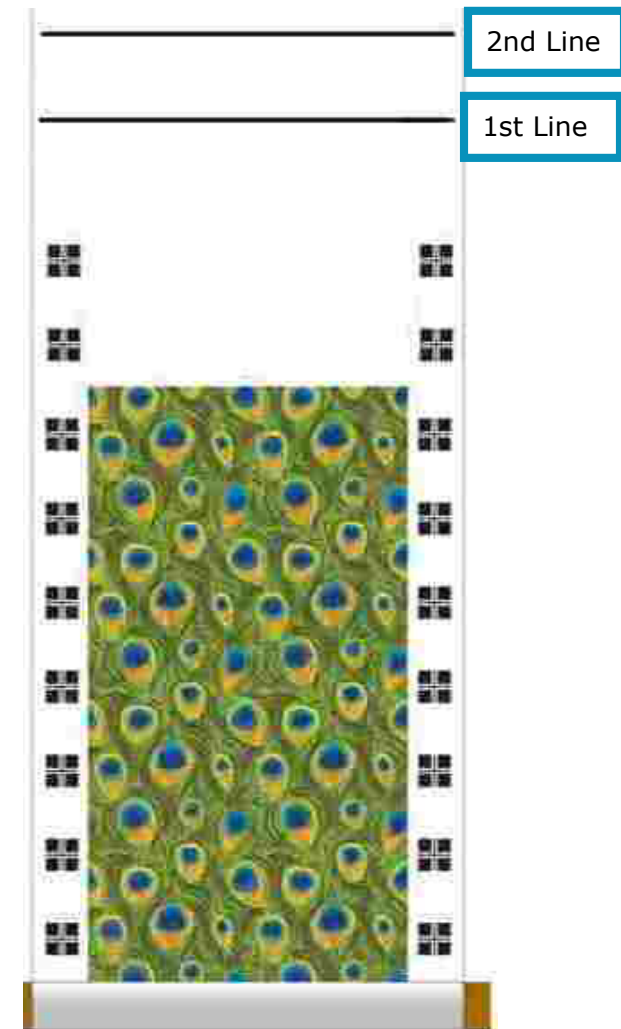


Figure 7-6

## 7.2 Backlit Printing (Optional)

This feature enables you to print the same image on both sides of the media, while maintaining accurate registration between both sides. The image on Side B can be printed in with either 100% or 50% density (if enables in the Print Mode).

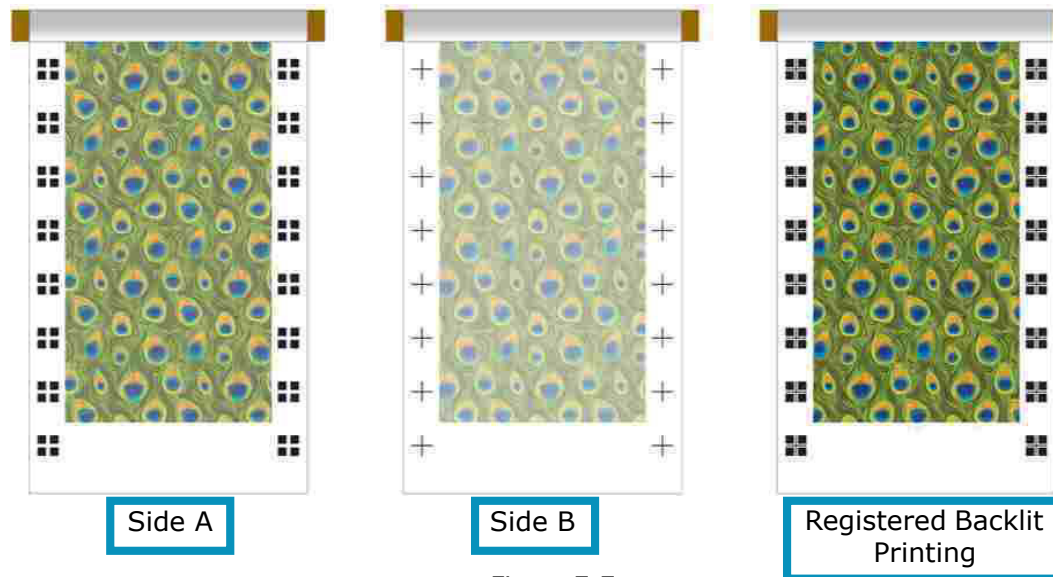


Figure 7-7

To see the marks printed on Side A when printing Side B, use the LED illumination bars.



### 7.2.1 LED Illumination Bars

The LED illumination bars are installed on the edge of the print table, under the media. They illuminate the back side of the media so that the registration marks are visible to the camera. The illumination bars should be manually switched on before printing Side B. The switch is located on the front right side of the printer.

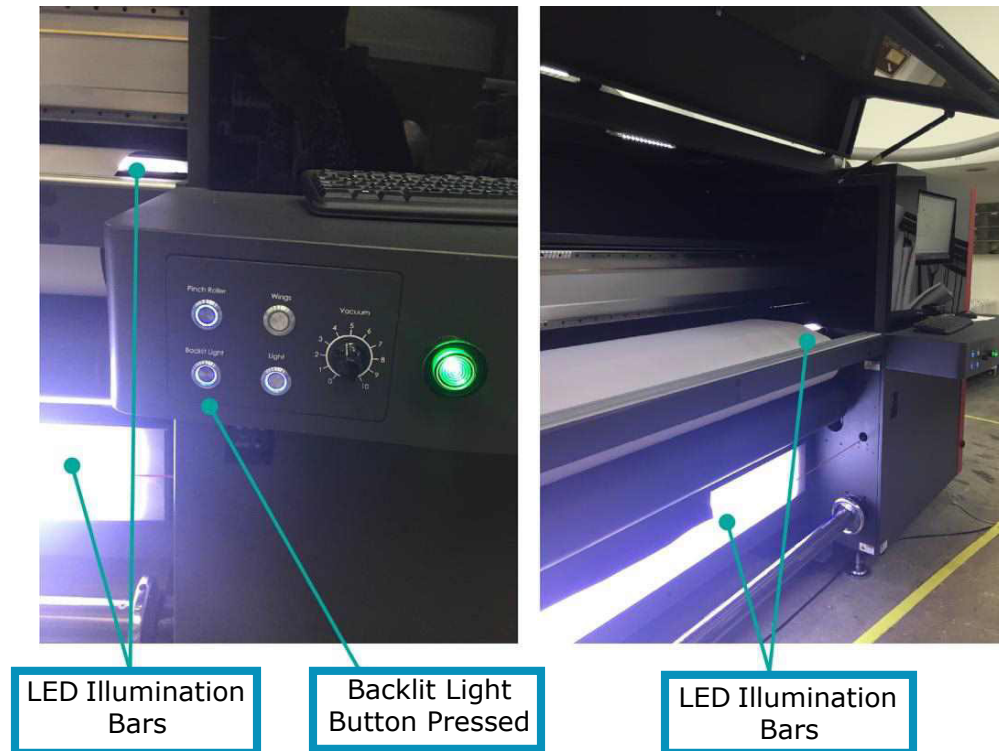


Figure 7-8



### 7.2.2 Backlit - Head-to-Head - Print Side A

1. To start the backlit print process, load suitable media onto the printer.
2. Perform Measure Media and prepare the printer to print.
3. Before starting to print Side A, cut two slits in the left and right edges of the media, at the edge of the print table.

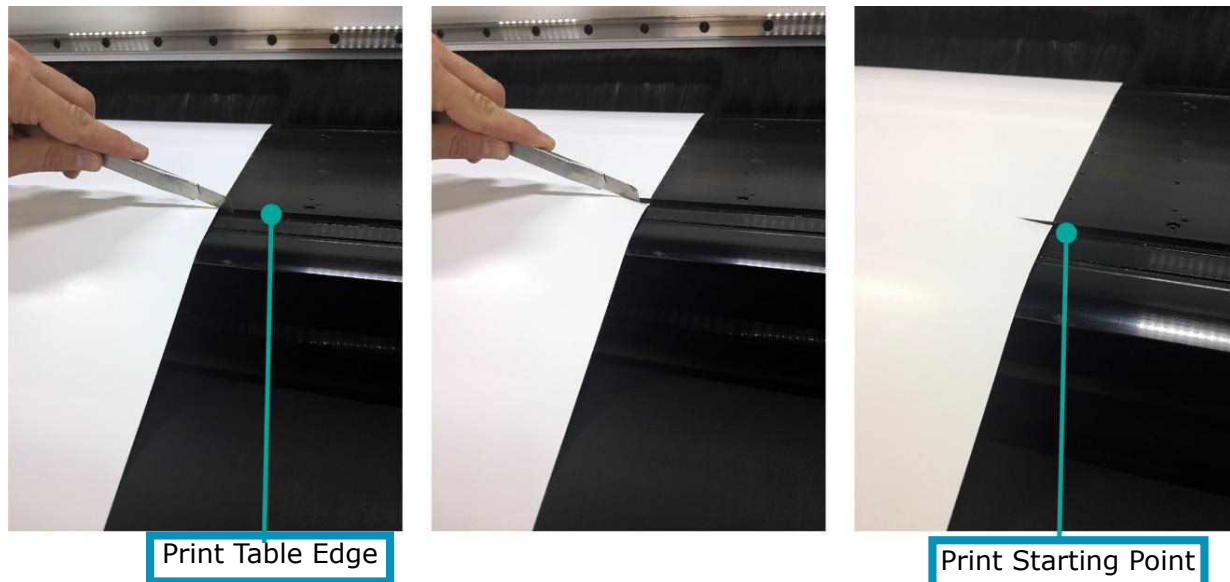


Figure 7-9

4. In the EFI FE, add the job to the queue. In the Job Settings dialog > Double Side group box, select the **Backlit** option, as shown in [Figure 7-10](#).
5. Start printing Side A.

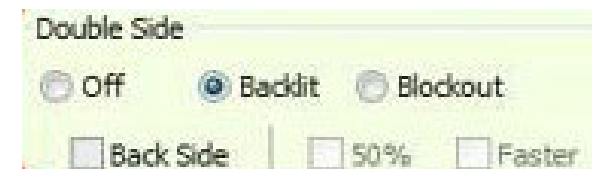


Figure 7-10

*NOTE: Make sure that the media is collected properly on the front shaft.*

6. When you finish printing Side A, roll the media back, unload it, flip the media and load it to the printer.

*NOTE: Do not change Double-sided settings in Preferences after printing Side A. Do not change the Job settings, except for the Backside check box.*

### 7.2.3 Backlit - Head-to-Head - Print Side B

1. After loading the media, align the slits to the edge of the print table.
2. Perform **Measure Media**.
3. Turn the Backlit illumination ON.
4. In the EFI FE, take the mjob from the Done pane to the Printing Queue. Double-click the mjob to open the Job Settings.
5. In the **Job Settings** dialog's **Double Side** group box, check the **Backside** check box, and click **OK**.

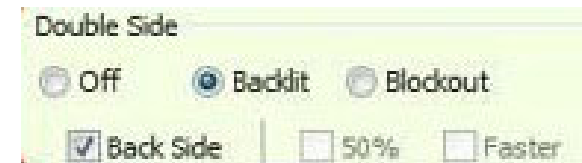


Figure 7-11

6. Start printing Side B.

The printing starts with the Back side Marks and pausing for adjustments.

7. Click **Yes**. The carriage docks at the home position. You can open the printer's cover and check the registration between the front and the back marks.

The Printer Status window opens. The goal is to align the marks of Side B to the center of the marks of Side A.

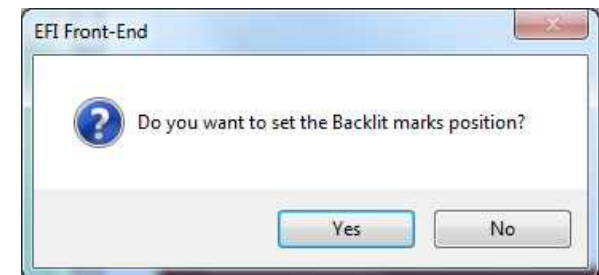


Figure 7-12

8. In the **Image Position** spin boxes, set the required adjustment according to the print result.
9. Resume printing, constantly checking the registration. If required, you can adjust the image position during printing.

### Examples:

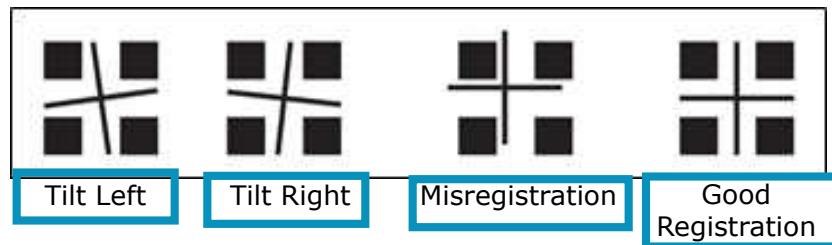


Figure 7-14

**Tilt Left** – Insert a positive value in the Left spin box.

**Tilt Right** – Insert a positive value in the Right spin box.

**Misregistration** - Insert a positive value in the left-right spin box, and a negative value in the up-down spin box.

*NOTE: You can also open the Printer Status window by double clicking the Ink Level icon on the bottom right side of the screen.*

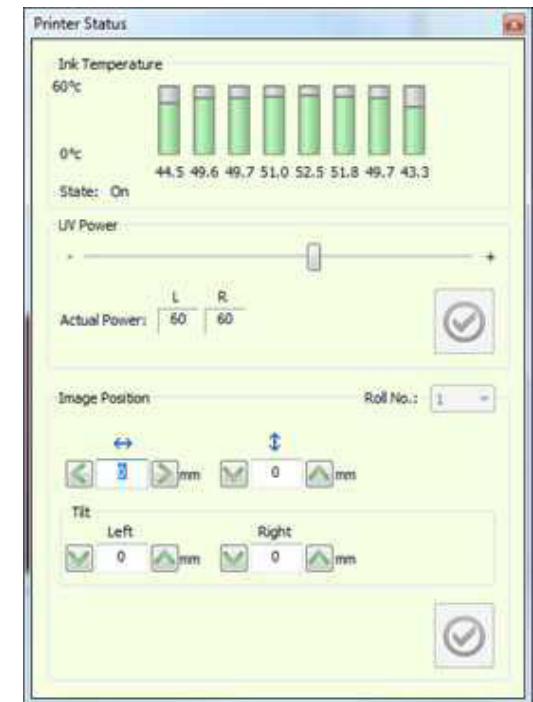


Figure 7-13



Figure 7-15

### 7.2.4 Backlit - Head-to-Tail - Print Side A

1. Load suitable media onto the printer.
2. Perform **Measure Media** and prepare the printer to print.
3. In the EFI FE, add the mjob to the Queue. In the **Job Settings** dialog's **Double Side** group box, select the **Backlit** option.
4. Start printing Side A.

*NOTE: Make sure that the media is collected properly on the front shaft.*

5. When you choose Print, the Skip Media prompt appears.

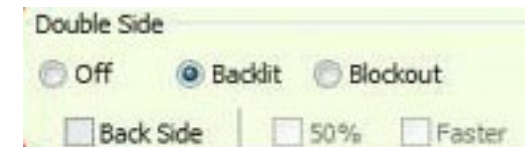


Figure 7-16

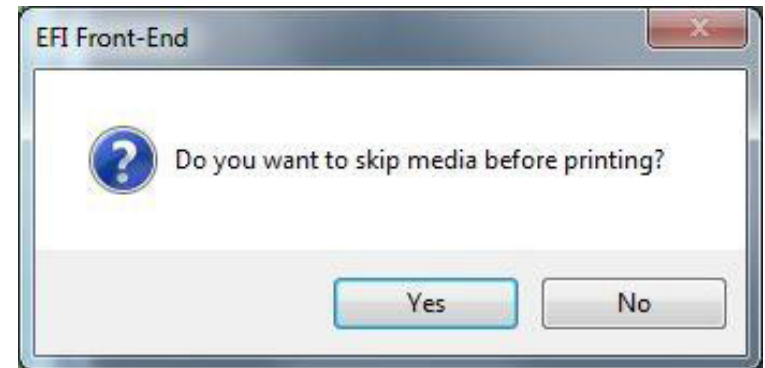


Figure 7-17

You must ensure that there is enough media on the core so that the media does not detach from it at the end of the Side B printing. If you choose Yes on the prompt, the media advances by 50 cm before printing starts. If you choose No, printing starts immediately.

The first line indicates the start of Side B print. As the media will be upside down when you print Side B, you will not be able to see this line. Therefore you should make two slits in the media, exactly on that line, one on the left and one on the right.

The second line indicates where to cut the media, so that you leave sufficient margin to load it on the Printer to print Side B.

*NOTE: It is recommended to take an extra space ( $\pm 1$  meter) from the second line.*

6. Cut the media to release it from the Printer.

*NOTE: Do not change Double side settings in Preferences after printing Side A. Do not change the Job settings, except for the Backside check box.*

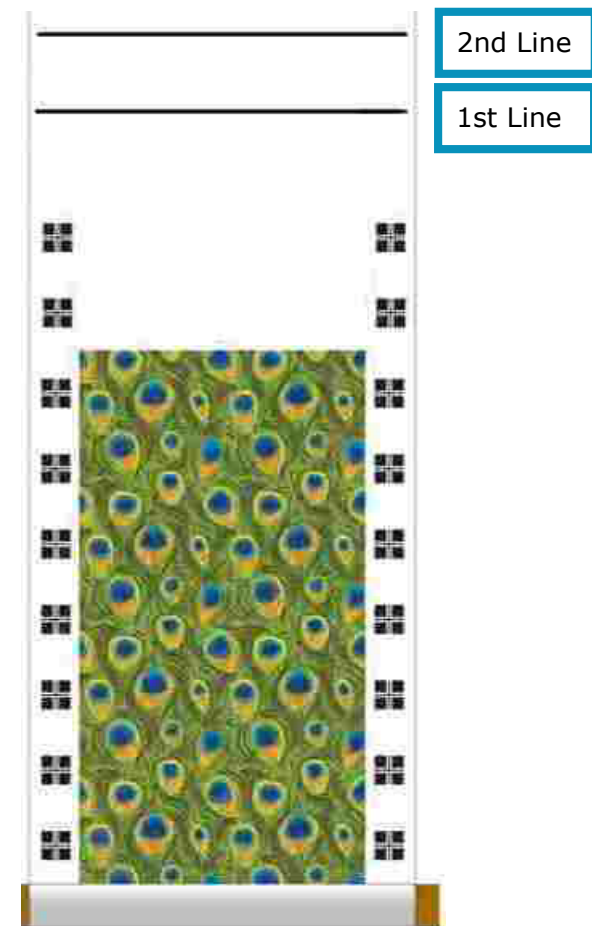


Figure 7-18 Print Side A

## 7.2.5 Backlit - Head-to-Tail - Print Side B

1. Load the media for printing Side B. Remove the air shaft with the printed media, and load it to the rear side of the printer without flipping or turning it.
2. Align the slits to the edge of the Print Table.
3. Perform Measure Media.
4. Turn the Backlit illumination ON.
5. In the EFI FE, take the mjob from the Done pane to the printing queue. Double-click the mjob to open the Job Settings.
6. In **Job Setting** window's **Double Side** group, check **Backside** check box, and click **OK**.
7. Start printing Side B. Printing starts with Back side marks and pausing for adjustments.
8. Click Yes. The Carriage docks at home position. You can open the printer's cover and check the registration between the front and the back marks.
9. The Printer Status window opens. The goal is to align the marks of Side B to the center of the marks of Side A.
10. In the Image Position spin boxes, set the required adjustment according to the print result.
11. Resume printing, constantly checking the registration. If required, you can adjust the image position during printing.

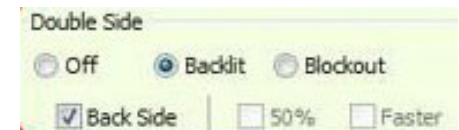


Figure 7-19

## 7.3 Blockout Printing

The Blockout feature provides accurate double-sided printing on opaque media. In addition to the contents of the job, the front side of the media is printed with two horizontal stripes which, when printing the back side, are read by a sensor and the registration between both sides is calculated. Blockout sensor is located at center rear section of print table.

*NOTE: In order to facilitate the correct registration on the back side. It is very important to collect the media straight and tightly onto the roll.*

### 7.3.1 Blockout - Head-to-Head - Print Side A

1. From the Preferences dialog box, in the Double Side Print group, select the **Head-to-Head** option.
2. In the **Blockout Label To Image** field, enter the required distance between the stripes and the image, at a minimum of 30 mm.
3. EFI recommends that you check the **Short Measure** check box.

#### Short Measure

In Blockout printing there is a Measure Media procedure that takes place before and during printing, between copies.

Taking these measurements ensures the correct printing registration between Side A and Side B.

In a regular measurement, the carriage moves along the print table, and measures both the first edge of the media (i.e., the media location) and the media width. It then returns to its home position, and the printing starts or continues.

Short Measure is designed to maintain efficiency. When the Short Measure option is activated, the carriage only takes the first edge measurement and returns to its home position, and the printing continues. This measurement is only taken between copies.

To activate this option, go to Double Side Print group in Preferences dialog, and check Short Measure check box.

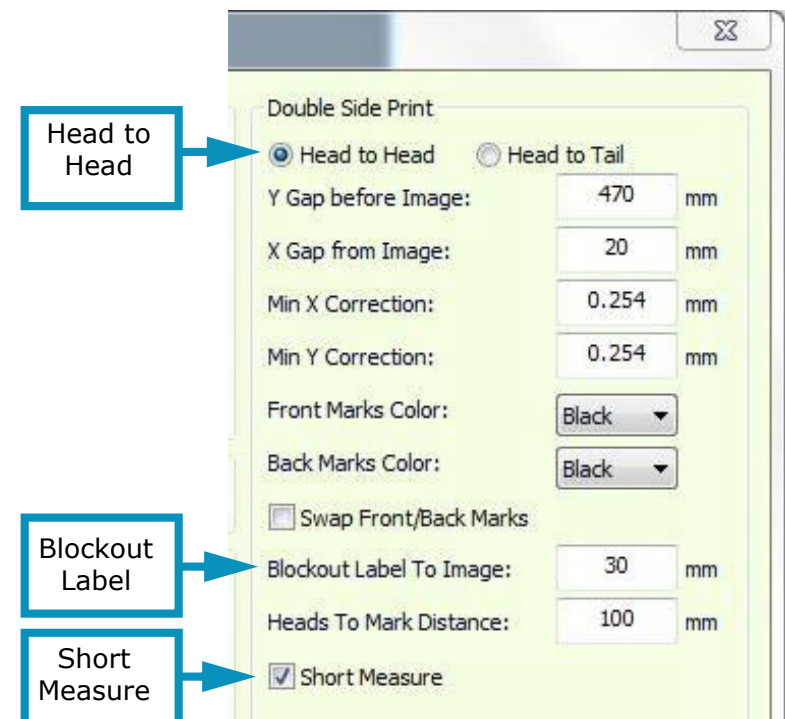


Figure 7-20

4. Load the media onto the printer.
5. Perform Measure Media.
6. Make slits on the left and right side of the media, at the front edge of the print table.

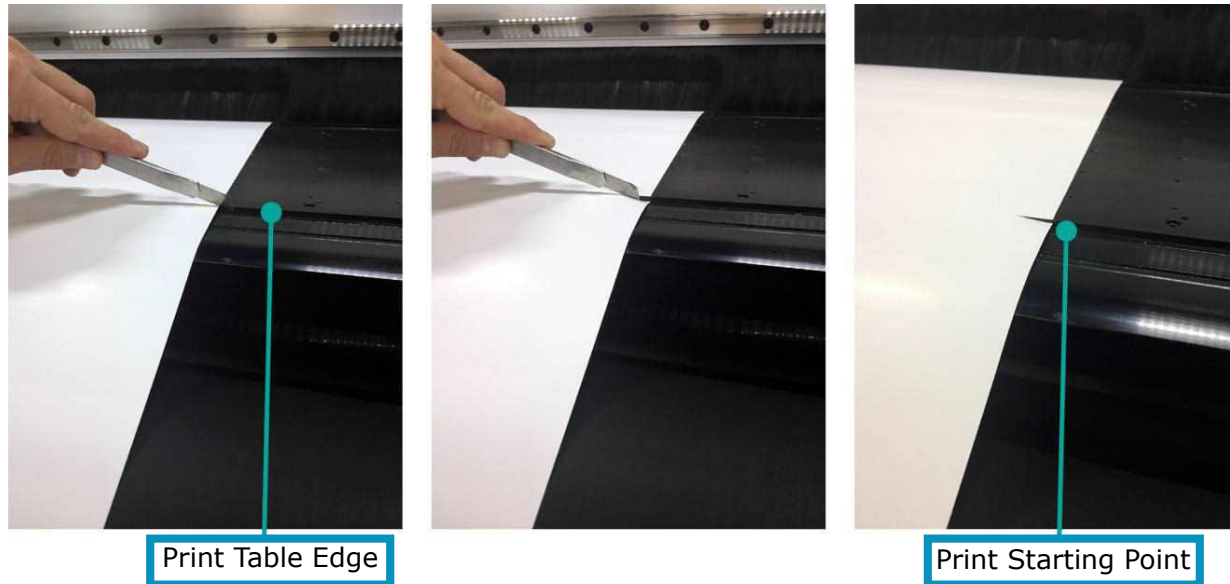


Figure 7-21

7. Open a job (Side A), and in the Job Settings dialog, select Blockout option.

*NOTE: Be sure the job is centered.*

8. Start printing.



Figure 7-22

The media automatically advances and two black horizontal stripes are printed on it. The media is automatically measured again. The job starts printing. This procedure is carried out for each copy.

9. Collect the printed media on a media core, using the front limiters.
10. After printing, roll the media back onto its roll.



### 7.3.2 Blockout - Head-to-Head - Print Side B

1. Flip the media and load it properly again.
2. Bring the two slits to the front edge of the print table. Make sure that both the slits are positioned at the edge of the print table. If the media is tilted, reload it.
3. Perform a Measure Media.
4. Open the Side B job. In the Job Settings dialog box, choose **Blockout** and **Back Side**.

- Make sure that the job is centered.
- Make sure that the Side B file is the same size as side A, and you print the same number of copies.



Figure 7-23

5. Print the job.

The media automatically advances, until the sensor detects the stripes and the print starts at the correct position.

In both Head-to-Head and Head-to-Tail processes, if the blockout sensor does not recognize the two stripes, [Figure 7-24](#) appears.

If this message appears, carry out a blockout sensor calibration. (See [Blockout Sensor Calibration](#) for details)

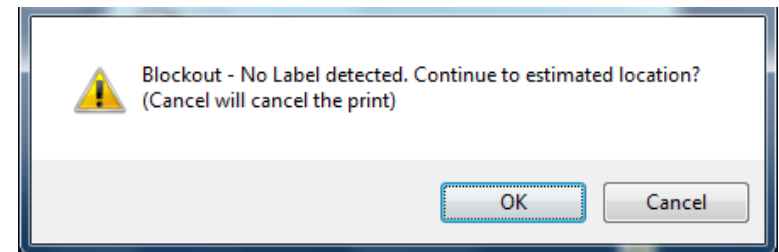


Figure 7-24

### 7.3.3 Blockout - Head-to-Tail - Print Side A

1. Load and collect the media properly.
2. From the Preferences dialog box, in the Double Side Printing group, choose the Head To Tail radio button.

EFI recommends that you check the Short Measure check box. (See [Short Measure](#).)

3. Open a job and in the Job Settings dialog, select the **Double-side** check box and then the **Blockout** option.

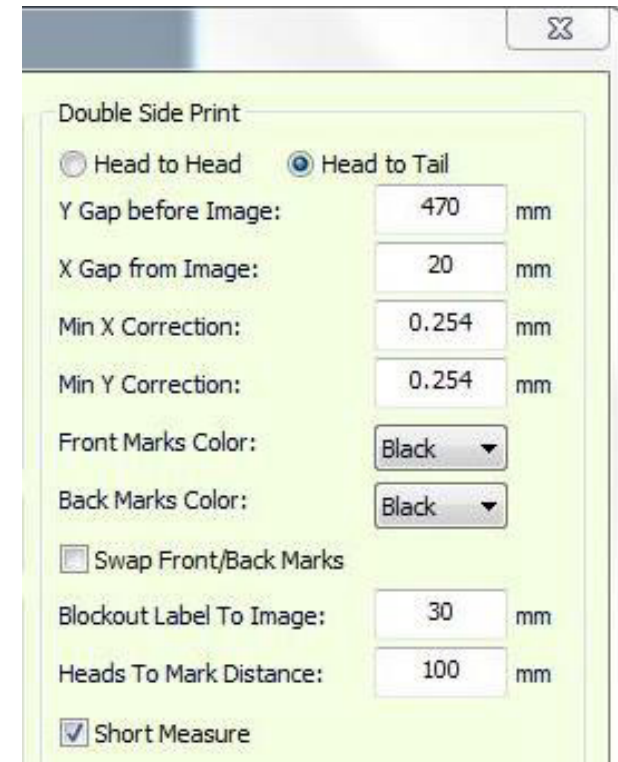


Figure 7-25

4. Print Side A.

The skip media prompt displays.

5. Choose Yes, and the Media advances by 50 cm before the printing starts. Choose No, and the print starts immediately.

*NOTE: Make sure that there is at least 50 cm of collected media on the core. This is to prevent the media from detaching from the core at the end of Side B printing.*

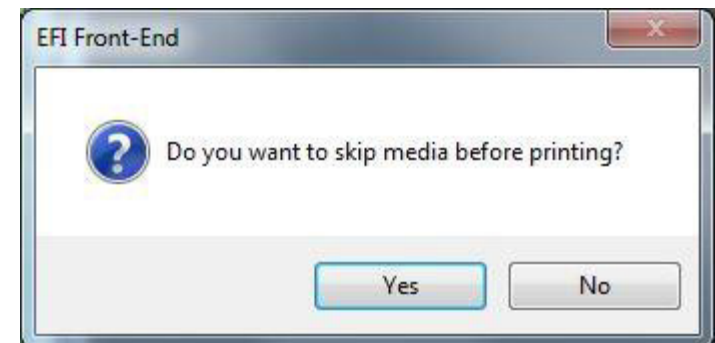


Figure 7-26

At the end of the job, two consecutive horizontal lines are printed. The first line indicates the Start Point of the Side B printing. Cut a slit at both edges of the line. These slits help you find the Start Point, when loading the media to print Side B. The second line shows where to cut the media, so that when loaded to print the other side, there is enough media to reach the freefall pistons.

6. Cut the media at the second line.
7. Load the media for printing Side B. Remove the Air Shaft with the printed media, and load it to the rear side of the Printer without flipping or turning it.

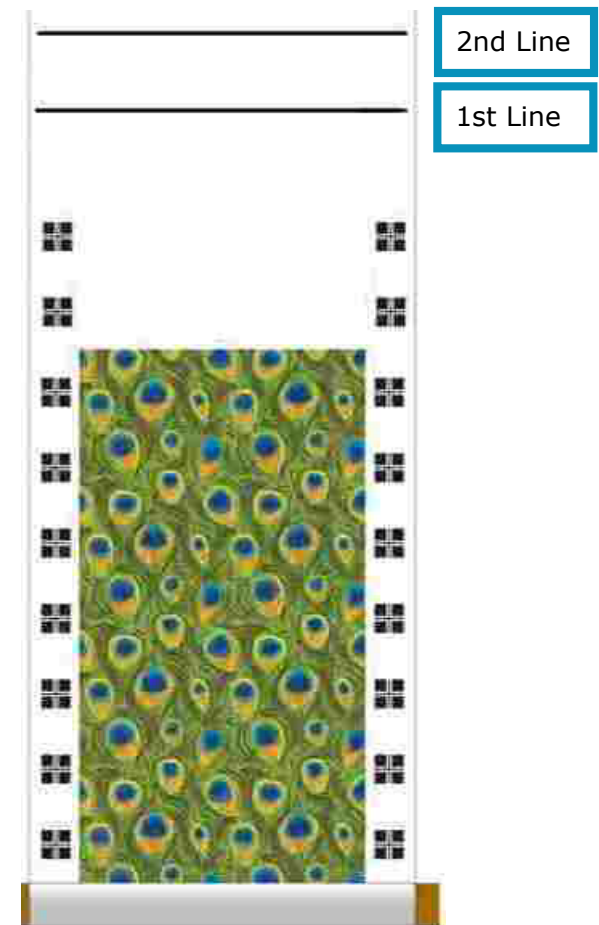


Figure 7-27

### 7.3.4 Blockout - Head-to-Tail - Print Side B

1. Load the printed media to the machine, and bring the slits to the front edge of the print table.

*NOTE: Make sure that the media is properly loaded. If you detect a tilt, reload the media.*

2. Measure the media.
3. Open a job (Side B), and in the Job Settings dialog box, check **Blockout** option.
4. Make sure the job is centered.
  - Make sure that the Side B printing starts with the last job printed on Side A, and ends with the first one.
  - Make sure to print the same number of copies from each job.
5. Print Side B.

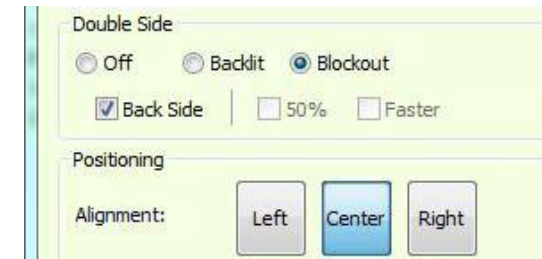


Figure 7-28

The media automatically advances, until the sensor detects the stripes and the print start sat the correct position.

The media advances until the sensor detects the stripes on Side A, and the job is printed at the required location. The media automatically advances, until the sensor detects the stripes and the print starts at the correct position.

In both Head-to-Head and Head-to-Tail processes, if the Blockout Sensor does not recognize the two stripes, [Figure 7-29](#) appears.

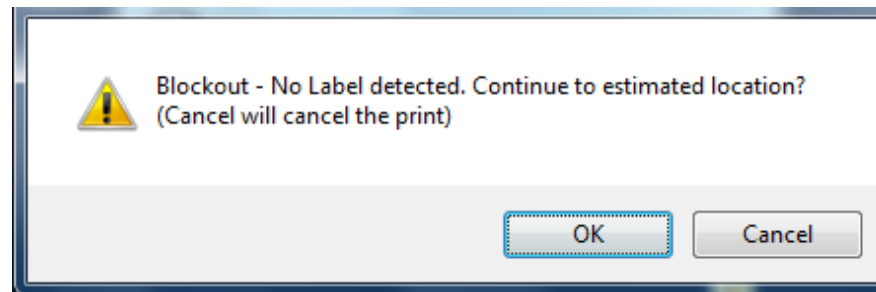


Figure 7-29

If this happens you should carry out sensor calibration. (See [Blockout Sensor Calibration.](#))

### 7.3.5 Blockout Sensor Calibration

*There are two types of block-out sensor calibration: manual and automatic.*

#### Manual

1. Start printing a block-out job according to the standard procedure.
2. After printing the first side, reinstall the media for the second side according to the selected process (Head-tail or Head-head).
3. Align the media to the front edge of the printing print table according to the process.
4. Open the Blockout Sensor Calibration dialog box, select **Manual** and choose **Start**.
5. Advance the media by 50 mm. The first black stripe is above the sensor, and sensor beam is approximately at center of the stripe.
6. Choose **End**.
7. Rewind the media back by 50 mm until it is aligned again with the front edge of the print table and continue printing the second side.

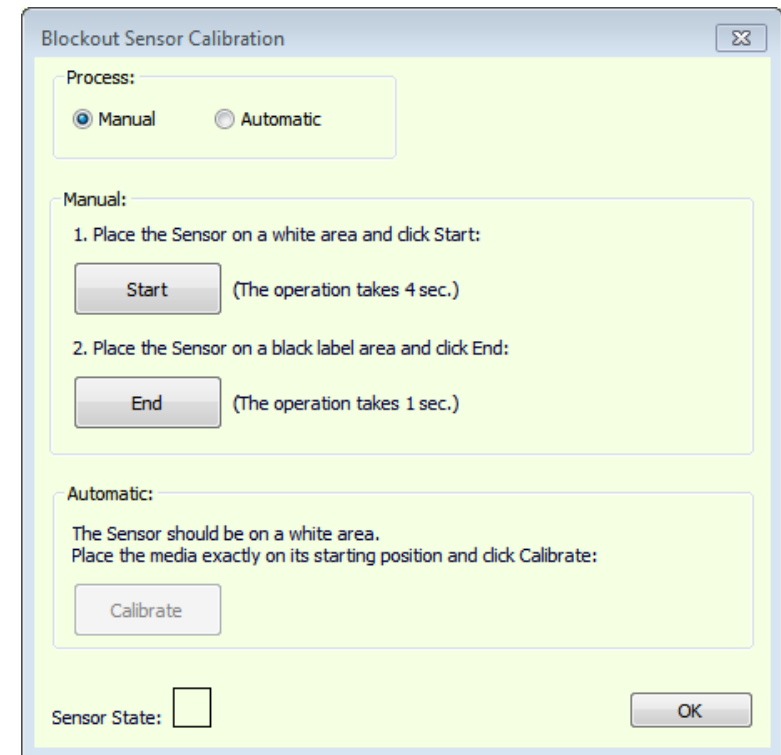
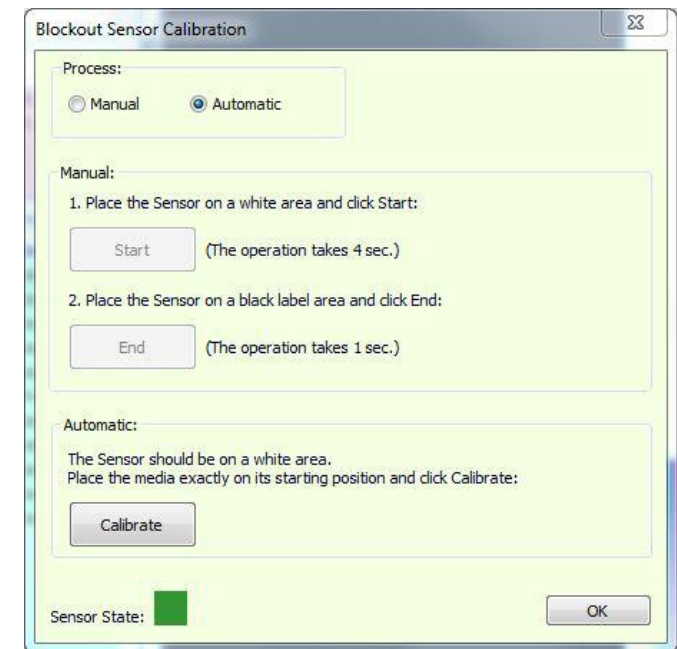


Figure 7-30

**Automatic**

1. Start printing a block-out job in accordance with the standard procedure.
2. After printing the first side, reinstall the media for the second side according to the selected process (Head-tail or Head-head).
3. Align the media to the front edge of the print table according to the process.
4. Open the Blockout Sensor Calibration dialog, select **Automatic** and choose **Calibrate**.
5. Make sure that the media is aligned with the front edge of the print table and continue printing the second side.

*Figure 7-31*

# Operations Guide

## 8.0 In-line Finishing (Optional)

## 8.0 In-line Finishing (Optional)

### 8.1 Media Slitters

The slitter is an in-line finishing device that cuts away any unwanted media (such as side margins) during the printing process. This feature is purely mechanical and is independent of any electrical or pneumatic processes. The blade cuts the media in the Y-axis, as it advances through the printer.



Figure 8-1

The slitter includes a metal body, a blade retractor, a safety pin, and a fastening handle. The slitter is designed to be manually placed anywhere on the front beam, facing the printer. It does not disturb the carriage movement and cannot damage the tension roller. The protrusion on the blade's arm prevents the blade from damaging the tension roller. Raising the roller pushes the blade back to its docking position.

There are two types of slitters:

- Single Bladed
- Double Bladed – Two blades, 8 mm apart.



**Caution: The slitters' blades are extremely sharp! Extreme care must be taken when handling them. You must keep the blades retracted when not in use!**



## 8.1.1 Working with the Slitters

The printer software helps you place the slitters, by printing slitter marks before the job starts.

1. In the Preferences dialog box, set the relevant parameters for the slitter mark locations (in the space between the print table and the T roller) and the mark length.

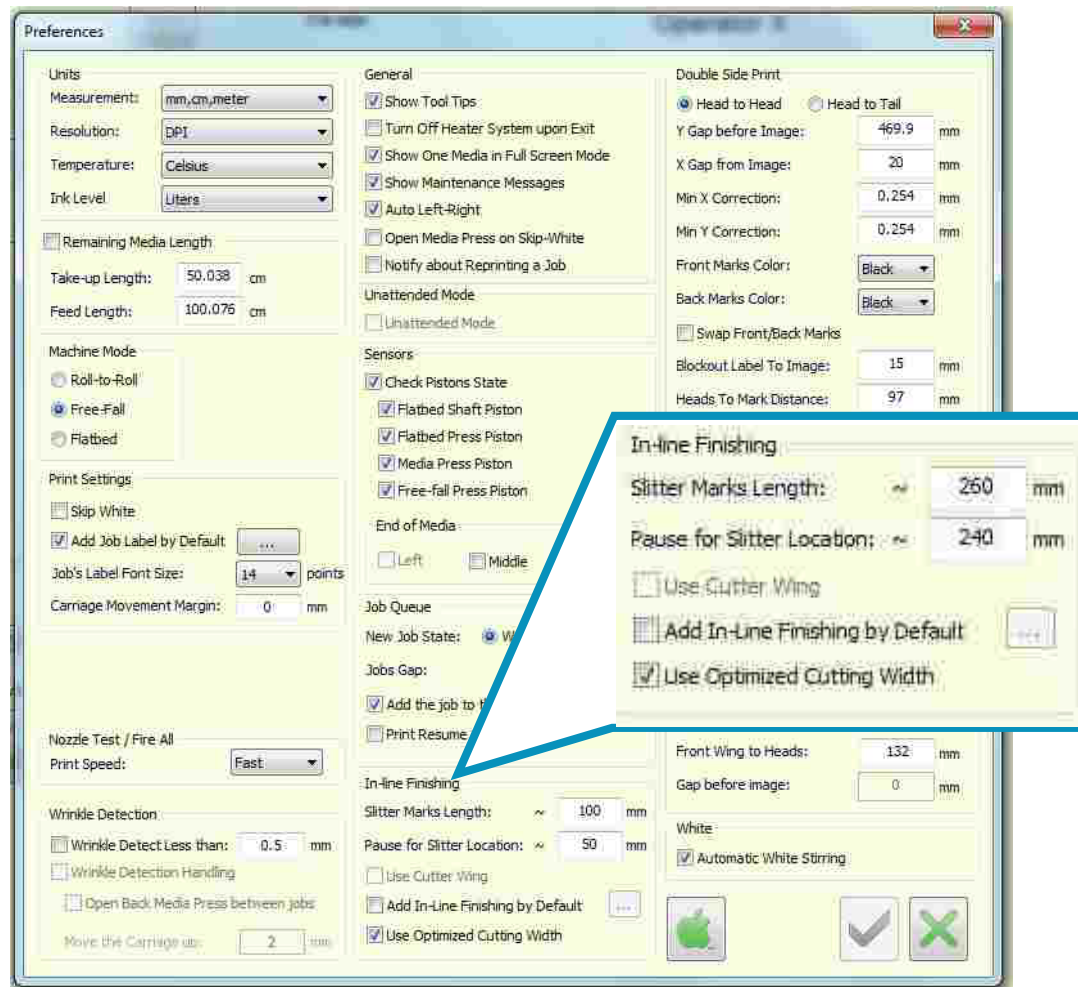



Figure 8-2

2. Set the values in one of the following ways:
  - A. To **260-300 mm**
  - B. Set Location of Slitter Mark Relative to Job. Place a check mark in the option "Add In-line Finishing by Default" and click . Slit Job to edge (0), Bleeding into the image (negative value), or Leaving Margins (positive value).
  - C. For each job in the Job Settings dialog box, import the job to slit and enable the Slitter Mark feature in Job Settings.
3. Start printing the job.
4. After printing the slit marks, the printer pauses and the following message displays:

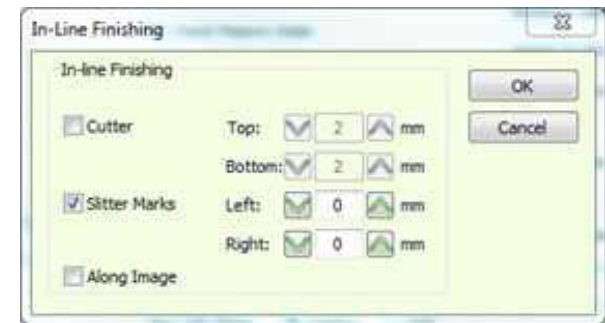


Figure 8-3



Figure 8-4

5.
  - a. Yes: The Carriage moves to the Home Position. Place the Slitters.
  - b. No: Continue printing.

6. Open the cover, attach required number of slitters according to marks, and push handle towards printer to fasten them in place.
7. To activate the slitter blade, extend the blade. The blade should penetrate the media.
8. Close the cover and continue printing.



Figure 8-6

9. To release the slitter at the end of the session, retract the blade and pull the handle.

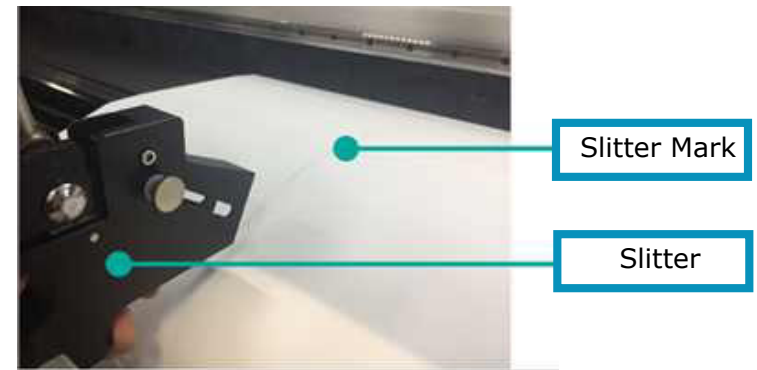


Figure 8-5

### 8.1.2 Waste Media

Collect the waste media or allow it to fall freely at the front of the printer and collect only the net print.