

# HP PageWide XL Printer Series

## Recommendations for Printing Directional Signage on HP PageWide XL printers

September 2017

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## 1. Application description

The customer is addressing the following printing need of their customer.

### Directional Signage



Use of the application	Show and alert customers of hazards and risks
Customer profile	Environments with restricted access such as construction sites or energy plants
Applications environment	<ul style="list-style-type: none"> <li>- Stick on the wall</li> <li>- Hanging from the ceiling</li> <li>- In a frame</li> </ul>
Environment placement	Indoor-Outdoor
Relevant elements	<ul style="list-style-type: none"> <li>- Maximize visibility with vibrant colors</li> <li>- Resistance to UV fading</li> <li>- Optimal Black density</li> </ul>
Viewing distance	8-10 feet
Exposure time	Approx. 1 month

### Printing Characteristics

Color addressed	Mainly 2 or 3 colors: Yellow-Red-Black
Media thickness	Between 90 gsm and 120 gsm
Area printing	One side printing
Common sizes	B1 size 39.37"x27.83" mm
	B2 size 19.69"x27.83" mm

This document **does not cover** the printing of the following use cases:

1. Printing on rigid substrates
2. Environment with continuous heavy rain conditions if the product is not processed after printing with laminated finishing.

## 2. Media application with Pagewide XL

Below are some examples matching materials for specific signage applications for all HP PageWide XL printers.

### Media types:

Recommendations for these examples include the medias listed below, but there are also many more substrates available, and the list continues to grow as more media manufacturers develop offerings suited for printing on PageWide XL printers.

### HP media

Media name	Media vendor	Grammage g/m2	Media size	Roll Size
HP 4Mil Double Matte Film	HP	160	24" / 36" / 40"	300'
HP Matte Polypropylene	HP	100	40"	150'
HP Universal Heavyweight Coated Paper	HP	120	40"	300'

Media name	Profile ready	Profile name
HP 4Mil Double Matte Film	Already installed in the printer	HP 4Mil Double Matte Film
HP Matte Polypropylene	Already installed in the printer	HP Matte Polypropylene
HP Universal Heavyweight Coated Paper	Already installed in the printer	HP Universal Heavyweight Coated

### 3<sup>rd</sup> party media vendors

Media name	Media vendor	Weight	Media size
SpotOn SynPaper	Drytac	120 gsm	40"
3372 Rocket Photo Paper PE Satin	Sihl	100 gsm	36", 40"
Self-adhesive paper w. ReTac,	Drytac	4 mil	36", 40"

Media name	Profile ready	Profile name
SpotOn SynPaper	Download from the Media Locator	40164 SpotOn® SynPaper
3372 Rocket Photo Paper PE Satin	Download from the Media Locator	Use HP Satin Poster profile
Sunijet Fluo Jonquille	Download from the Media Locator	Sunijet Fluo Jonquille

\* Sunijet Fluo Jonquille is a fluorescent media. It is recommended to print Using Black Color only in order to increase the visibility of the paper

Print Mode: Fast to avoid composite and increase the black density.

### 3. Expected PageWide XL Performance

Recommendations in this document apply to the following printers: HP PageWide XL 8000, HP PageWide XL 5000, HP PageWide XL 4500 and HP PageWide XL 4000.

#### **Lines/Fast**

- This Print Mode maximizes the impact of Black in the applications
- There is no Composite usage. Black and grays only with black ink
- Provides Lowest servicing (costs over color uniformity)

#### Speed implications:

- PWXL8000: 30 D size per minute
- PWXL5000: 14 D size per minute
- PWXL4000: 8 D size per minute

#### When to use:

- To maximize print speed, where directional signage/text content are used.
- This print mode maximizes the black density, while not requiring transitions between colors.

#### **Uniform Areas**

- Smoother transitions between colors due to composite ink usage.
- Servicing is more intensive: Keeps the printheads clean in order to guarantee color uniformity

#### Speed implications:

- PWXL8000: 14 D size per minute
- PWXL5000: 8 D size per minute
- PWXL4000: 8 D size per minute

#### When to use:

- Only for those images where some color transition and color uniformity is necessary.

#### **High Detail**

(This print mode is not recommended)

- This print mode maximizes the detail while increasing the quantity of servicing to keep printheads at maximum image quality level and slows down the speed of the printer

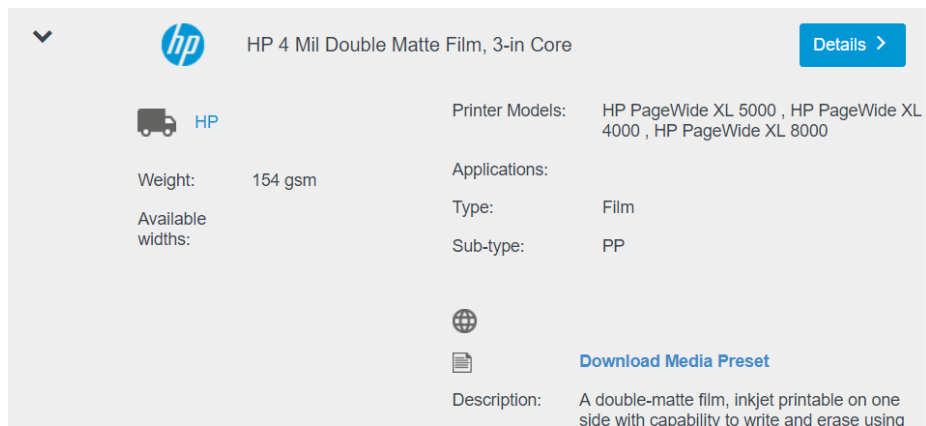
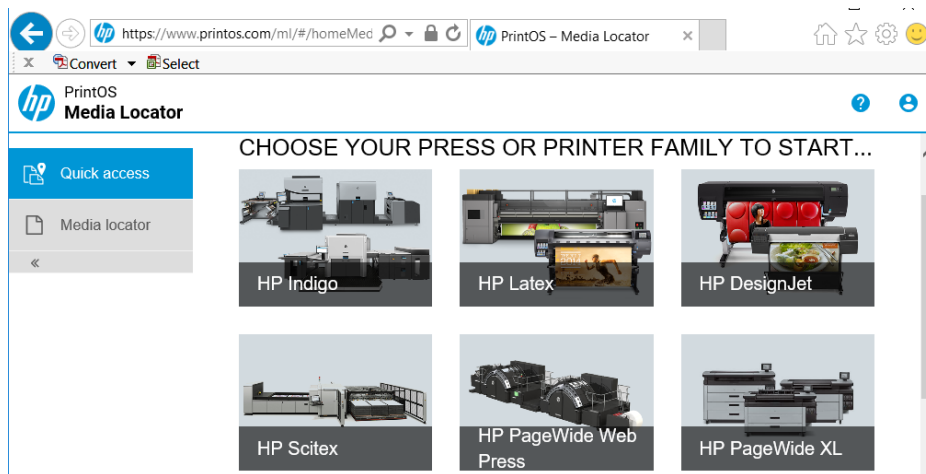
## 4. Before Printing

Download and install the media presets for blueback substrate. The media presets can be downloaded from the media locator webpage and installed in the front panel via USB stick or with the Embedded Web Server.

### 4.1 How to install media presets

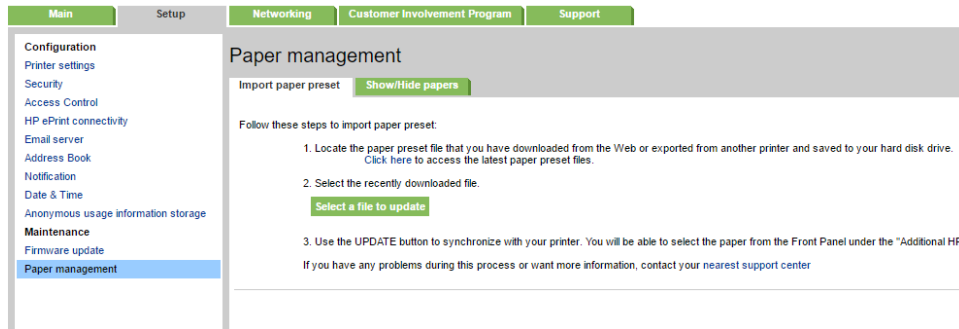
To download and install media presets from the media locator on a Pagewidth XL printer, follow these steps:

1. Open a web browser and visit the HP Media locator page:  
<https://www.printos.com/ml/#/homeMediaLocator>
2. Search for the media preset filtering by printer (Pagewidth XL) and by supplier
3. Download the media presets from the media locator



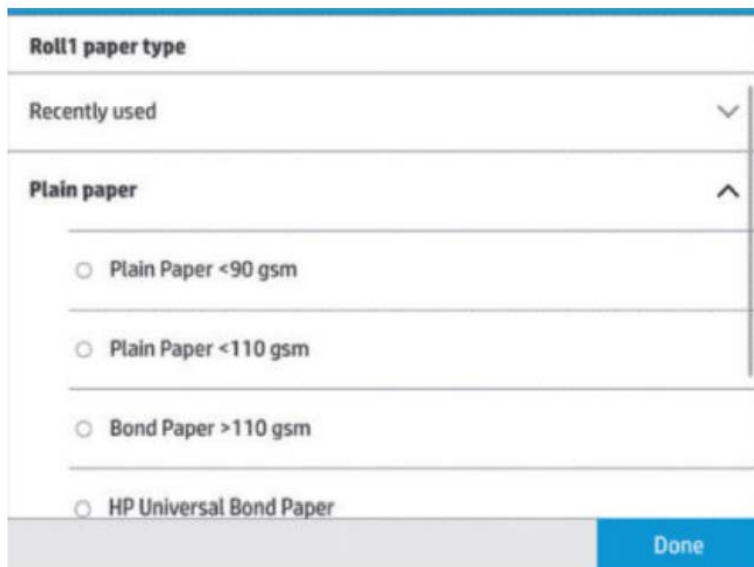
4. Install the media presets on the printer using the Embedded Web Server (EWS). The process to install the media preset is:

- a. Open a web browser and enter the IP address of the printer in which the profile will be installed.
- b. On the top menu, select the **Setup** tab.
- c. On the vertical menu, select **Paper management**.
- d. Then select **Paper Preset**.
- e. Using the **“Select a file to update”** button, choose the media preset (an .oms file) that was previously downloaded from the media locator web page.



## 4.2 How to adjust paper presets and media profiles

Once the paper is loaded, select the proper Profile displayed on the touchscreen.

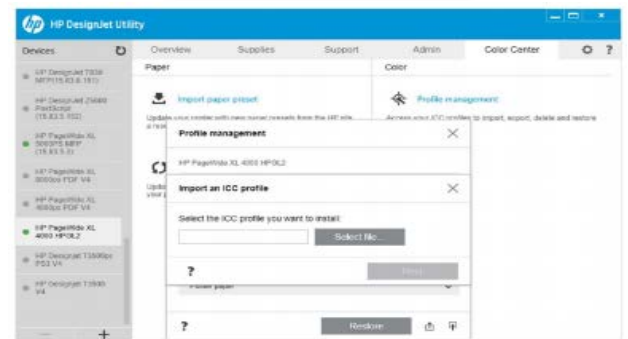
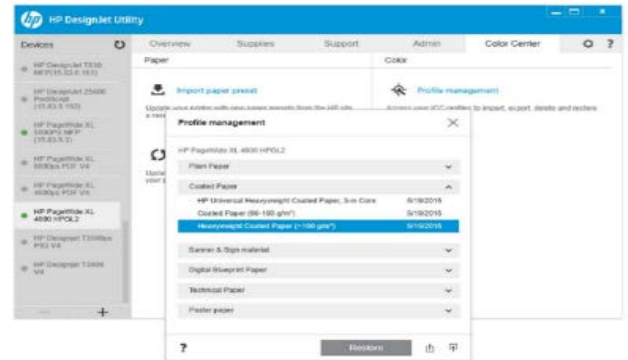
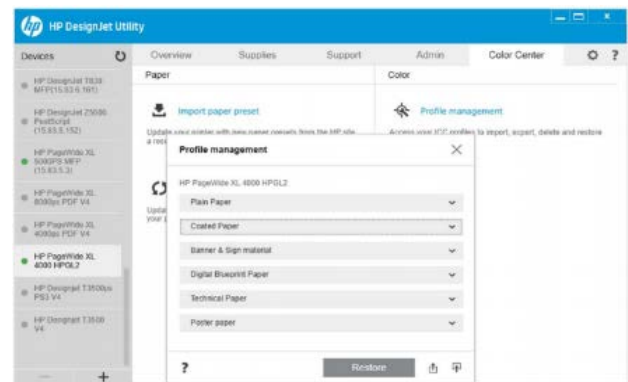
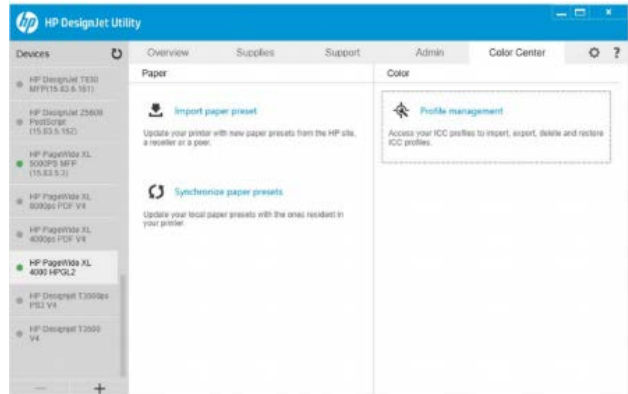


### Ink Density Adjustment:

From Firmware coded 08.xx onwards, there is the option for partners to adjust some media profiles due to advanced paper management functionality via the Service Menu.

## Procedure for exporting/importing ICC profiles

1. This functionality is available in the HP DesignJet Printer Utility. The printer utility is embedded in the driver's installer.
2. Open the printer utility, select your HP PageWide XL printer and go to the Color Center.
3. Select Profile management. All the media families of the printer are shown. Notice the three buttons on the bottom right of the screen:
  - a. Restore: remove all the changes
  - b. Export: save a profile
  - c. Import: add a profile to the printer
4. Select the media you want to export and use as a baseline for the customization, then click the export button and save it.
5. Change the profile as desired using external software.
6. Once you have a profile ready to be installed on the printer, go back to the printer utility, select the PageWide printer ◊ Color Center ◊ Profile management. Then click the import button.
7. Check, on the printer's front panel, under the paper menu, that this new profile appears.



### 4.3 Printer Calibration

The printer has an internal integrated algorithm which allows for automatic image quality maintenance such as:

- Ink Spitting
- Nozzle health detection and/or recovery compensation
- Printhead servicing

Furthermore, there is the option for manual print quality optimization by users: Printheads Recovery, Color Calibration. Additional diagnostics and maintenance options in Service Menu is accessible by certified technicians such as Manual alignment adjustments.

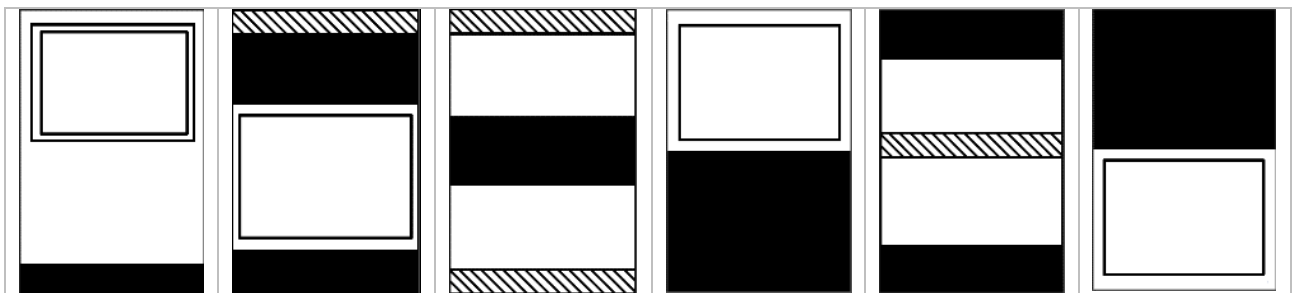
## 5. Image design

The directional signage works in a very simple way:

1. Template image: The template is a pre-defined image with a specific layout.

- These templates have no content themselves, they are just a frame to input the message on top.
- A template image is normally based on 2 colors. Depending on the color of the paper, we recommend the following options:
  - Black & White → for Color Papers (i.e. fluorescent). White spaces in the template will be reflected in the printout with the color of the paper.
  - Black & Yellow/Orange → for white paper
- The size of the template can be variable. By default, a B2 size poster (19.6" x 27.8") might be the standard, but any size can be used.
- These layout templates can easily be prepared with a painting software, and then saved with any image related extension (.pdf .jpg .tiff).
- When printing thru HP Smartstream, the template image will be loaded as normal files (see instructions in section 6.Printing Path)

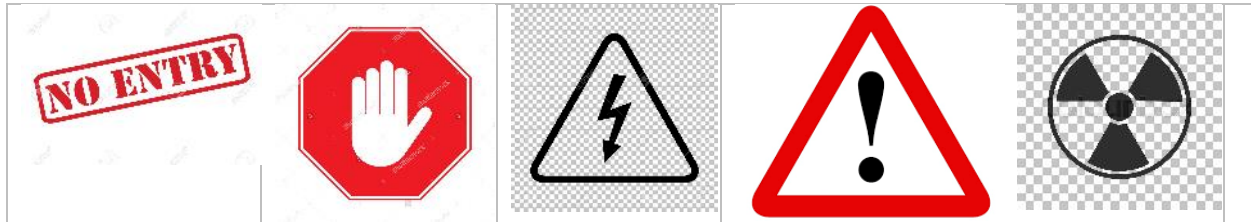
Please find below some examples of Black and White templates.





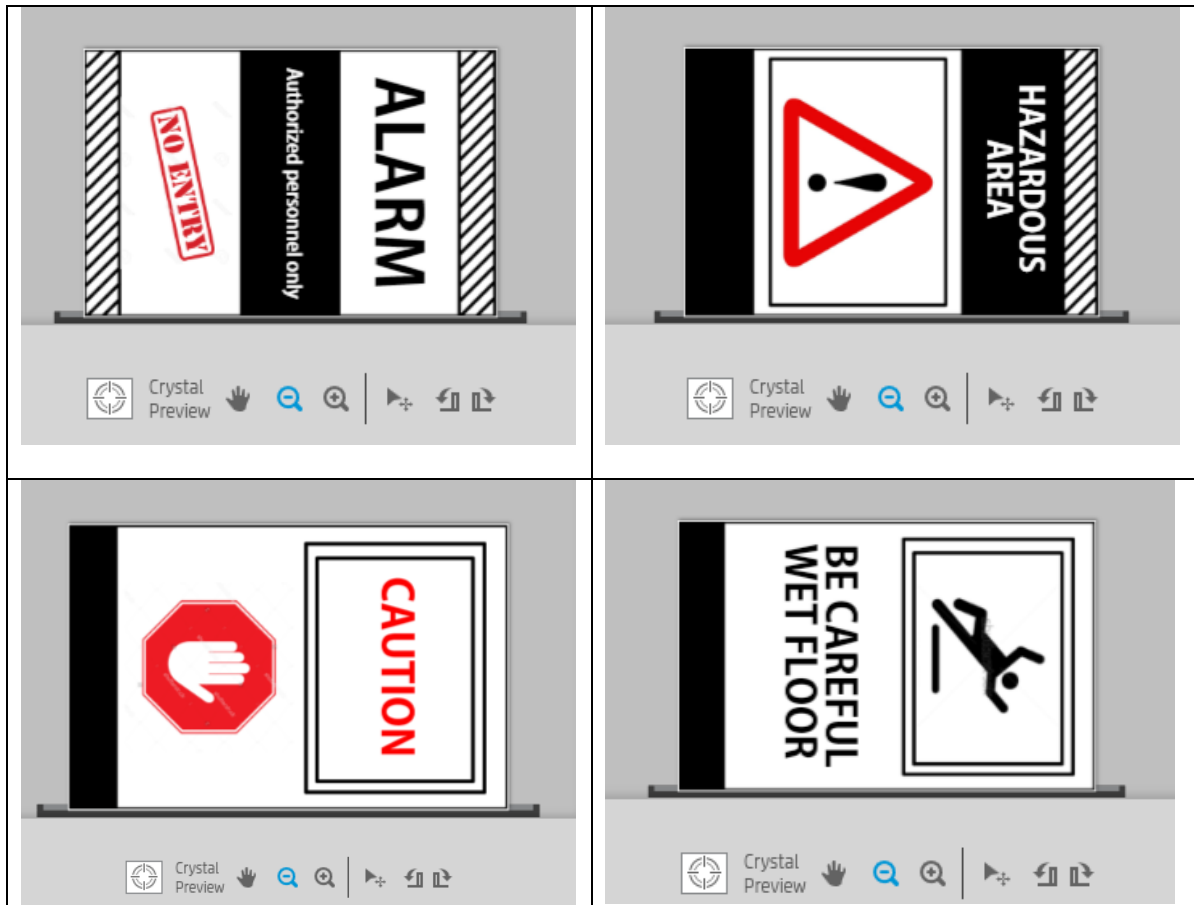
**2. Directional signage message:** Once the template is selected, the customer can add text or images to complement the directional signage.

- This content will be applied on the template thru the “Stamp” functionality. (see instructions in section 6.Printing Path)
- The size of the images can be adjusted during the printing process (see instructions in section 6.Printing Path). The message (whether image or text) can be enlarged as desired to fit on the area of the template
- Text examples: CAUTION, WARNING, ALARM
- Image examples: (They can be from any color). It is recommended not to use similar colors as the background when using color paper.



The result of these combinations will look like the following:

**All templates have been prepared in Black and White to be used on Color paper**



## 6. Printing path

The recommended print path for this application is using the HP Smartstream software and following these steps:

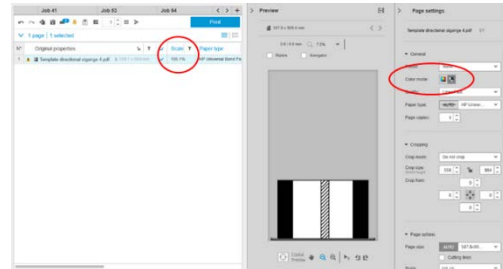
### Step 1:

Load the **template image**

- ensure the paper type is the right one
- ensure the size of the image is the right one (scale if necessary)

*Is mandatory to have the right size of the output ready before going to step 2.*

At the right menu, in “page settings” ensure the “Color mode” is “Print in color”



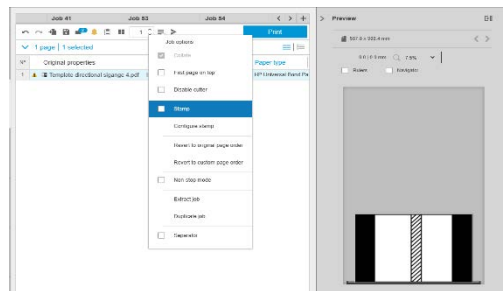
### Step 2:

Click on “job options” and “customize stamp” in order to **add the Customer text/Image**

*If you have an existing Stamp template, click in “import” Stamp to use them to facilitate the process.*

#### Option 1: Input text

- Write text
- Click in Text options and determine the font type, size and color

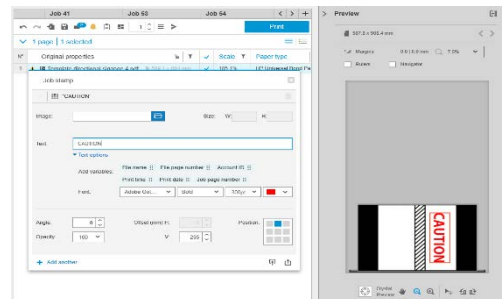


#### Option 2: load an image

- Load the image from your folder
- Determine the size according to the template

*In case the stamp does not fit correctly in the space where it should, you can move left and right to position with the Offset option*

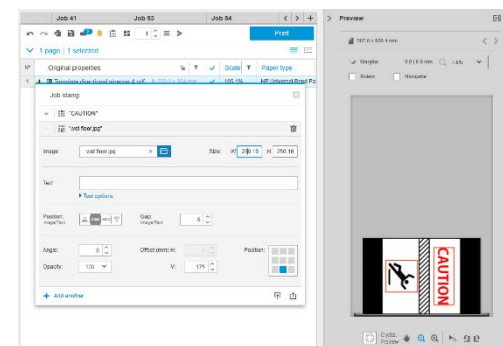
Use the preview panel to guide the stamp to have a preview of the solution



### 3. Add multiple stamps

To add more stamps in the image (maximum 5 stamps per image)

If this is the 1<sup>st</sup> time using the stamps on this template: Click on “export as a template” to save them. Saving your settings ensures the stamp will be ready to use in the future, and avoids lost time in having to re-create it.



## 7. Finishing

HP Pagewide XL printers, by default, are roll to sheet equipment. The standard recommended output for most of the customer requirements is the HP High Capacity Stacker, which can stack up to 500 pages (less than 90 gsm) or 150 pages (more than 90 gsm).

An application like Directional Signage is optimized for a Roll To sheet solution, even with 3mm borders, which is not a problem for the purpose of this application. In case the customer requires specific finishing options, please find below some examples:

### Roll To roll option.

If additional manipulation is required for the customer (such as lamination), a roll to roll solution is available from 3<sup>rd</sup> party vendors. SDD has developed a take up reel that has been adapted to the speed of the large format printer and can dock to the output section of both the PageWide 8000 and 5000 models.

### Inline Vertical XY cutter.

For customers requiring borderless printing, Fotoba offers an inline vertical XY cutter solution.

Comments:

- The vertical XY cutter can only be managed thru Caldera RIP at this time.
- The vertical XY cutter only works with the UNIFORM AREAS print mode.
- The vertical XY cutter is compatible with the Pagewide XL 8000 model

The maintenance of the XY cutter must be performed by a reseller who has been certified by the 3<sup>rd</sup> party XY cutter vendor. HP does NOT warrant this service.

### Offline trimmer

Another option is to use an offline cutter in the event borderless are required.

Option: GeraCut 220

Cut width 40"

Productivity 100×70: 720/h

Waste capacity: 500 liters.

If the customer requires printing length beyond 40", the only option would be the inline XY cutter.

## 8. Tips and tricks

- If a template gets scaled to a certain size, the imported stamps will not scale in alignment with the image. So the linkage between template and stamps has to be done once the final size of poster is determined. Otherwise, if a user scales the image after setting up the Stamps, these ones will not size accordingly.
- For productivity reasons, when printing all the width of the paper using the same area fill color, the productivity of the machine slows down. This happens because when all nozzles of all printheads use exactly the same color, there is a limitation of the power supply of that color. A trick to avoid this, as much as possible, is to print in landscape instead of portrait.
- The Stamps templates can be created to increase the speed of creating the application. The functionality of “import/export” template can be used for this. The functionality, however, will not secure the “size” of the stamps, but only the position in the image.
- The size of the images in the stamps will always be proportional to the original source file. HP SmartStream “stamp feature” cannot modify the aspect ratio of the customer image. That is why HP recommends to always use square template images (same width and length) and also square customer images to put on top. Doing so, it will always be easier to maintain proportions.
- Using a color paper instead of white paper will help to create/manipulate all templates because they will not require any background color and will save costs by not requiring to print the area colored.

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