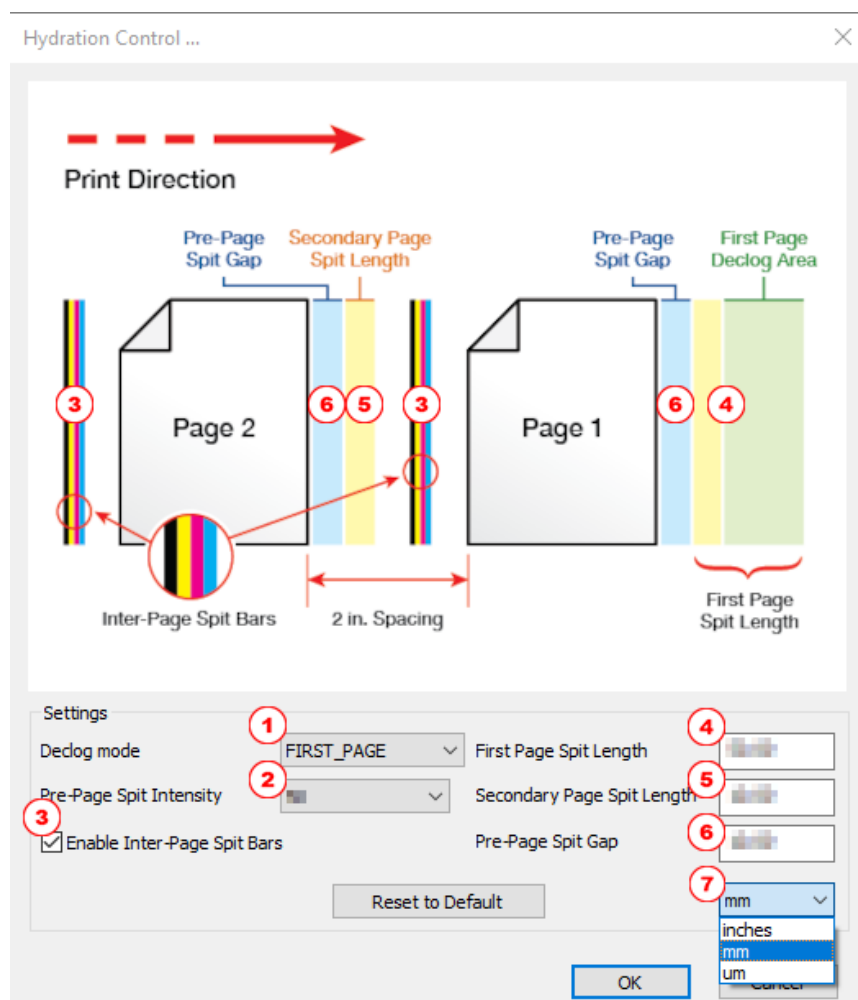# Hydration Control

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Hydration Control.
With the DuraFlex printer firmware version 5.2.1+ additional controls have been added to more precisely define how declog and spit settings are applied. If you are uncertain how these should be set, please reach out to your vendor to clarify what would be best based on your production needs. *The values set in this window will be pushed to all available print units in a given printer.*

To get to these controls, go to Server/Device Manager/<your device>. Click "Advanced". From there click the "**Hydration Control**" button.

Explanation of the diagram in this dialog box: This is meant to show 2 pages (Page 1 and Page 2) traveling from left to right. Page 1 is in front and will hit the printhead first. Page 2 is next.
I'll walk through the hydration controls, as they happen on a real printer, from right to left. Follow along in the diagram.

The 1st hydration control activity to occur in this print stream is **(4)** the first page declog spit.

The 2nd is **(6)** the gap between the first spit and the first page to print.
Then comes the first printed page, Page 1.
After that is **(3)** an inter-page spit bar.

Next comes the **(5)** secondary page spit. In this case "secondary" means "subsequent" as all pages after the first will use the secondary page spit length value.

Then comes **(6)** the gap between spit and printed page again.

After that comes Page 2.

Finally, the next **(3)** interpage spit bar.
Thus ends the diagram.

The sequence will begin again with another **(5)** secondary page spit and continue to the end of your print job from there.

What are these mysterious settings? Your vendor should have done this for you. In fact, if you are not a printer manufacturer you should begin to feel intense doubt and make a phone call right now. If you are a printer manufacturer, welcome! We appreciate you.

Now we'll walk through the number items in order and define them.
1. Declog mode: There are several options for the declog mode that you may wish to adjust based on the type of substrate you are running or based on your unique production needs. Modes available as follows:

Declog Descriptions:
NONE
No declog function will be performed. You can enable inter-page spit bars to get declogging performed between pages.

PRE_JOB
Declog is performed simultaneously on all printheads before the first page has started printing. The ejected ink is not synchronized to land on the first pre-page spit target area so this mode is unsuitable for use in printers that are unable to capture ink ejected in such a manner.
*Note that PRE_JOB declog is incompatible with the inter-page spit option being enabled.

FIRST_PAGE
Declog is performed onto the pre-page spit target area of only the first page in a job chain. Needs about 80mm or 9000um

ALL_PAGES
Declog is performed prior to printing every page in a job chain. Ink is ejected onto the pre-page spit target area of both the first page and secondary pages.

SACRIFICIAL_ONLY
Declog is only performed onto the first page of media arriving during a print session, in an area starting at the top of page and of length specified by the sacrificialPageLength setting within the hwparamstore.json file. The first page of the job chain is printed on the second page of media. No declog is performed in the pre-page spit target area of any page.

SACRIFICIAL_ALL
Declog is performed onto the first page of media arriving during a print session, in an area starting at the top of page and of length specified by the sacrificialPageLength setting within the hwparamstore.json file. No declog is performed onto that page's pre-page spit target area.   The first page of the job chain is printed on the second page of media. That and all subsequent pages are treated as secondary pages, and regular declog is performed onto their pre-page spit target areas.

SYSTEM DEFAULT
returns the system to using the declog settings manually configured in the hwparamstore.json file on the printer.

2. Pre-Page Spit Intensity: Density. The entries in this pulldown are based on 0-100%. The intensity will depend on your needs based on the substrate you are running, environmental considerations, etc.

3. Enable Inter-Page Spit Bars: This was the previous KWS (Keep Wet Spit) behavior. Enabling this will eject a spit bar between pages/prints if room allows. Enabling and disabling this will depend on your unique needs.

4. First Page Spit Length: This is the length of the KWS ejection prior to running the first page of each print job. Needs 80mm or 80000um. So perhaps a setting of 90mm/90000um will give a little buffer area.
5. Secondary Page Spit Length: All subsequent pages. This setting defines the length of the KWS ejection before the printing of each subsequent page after the first page of the job. It may be necessary for the first page KWS to be much

larger than the secondary KWS length if adequate amounts of ink are being plaid down based on the content of the job and/or other factors. Minimum setting = 1800um

6. Pre-Page Spit Gap: This defines the space between the end of the KWS ejection and the top of each page that is printed after the first page has completed.

7. Units. This pulldown has different options for the units that you wish to enter the values for in this window.