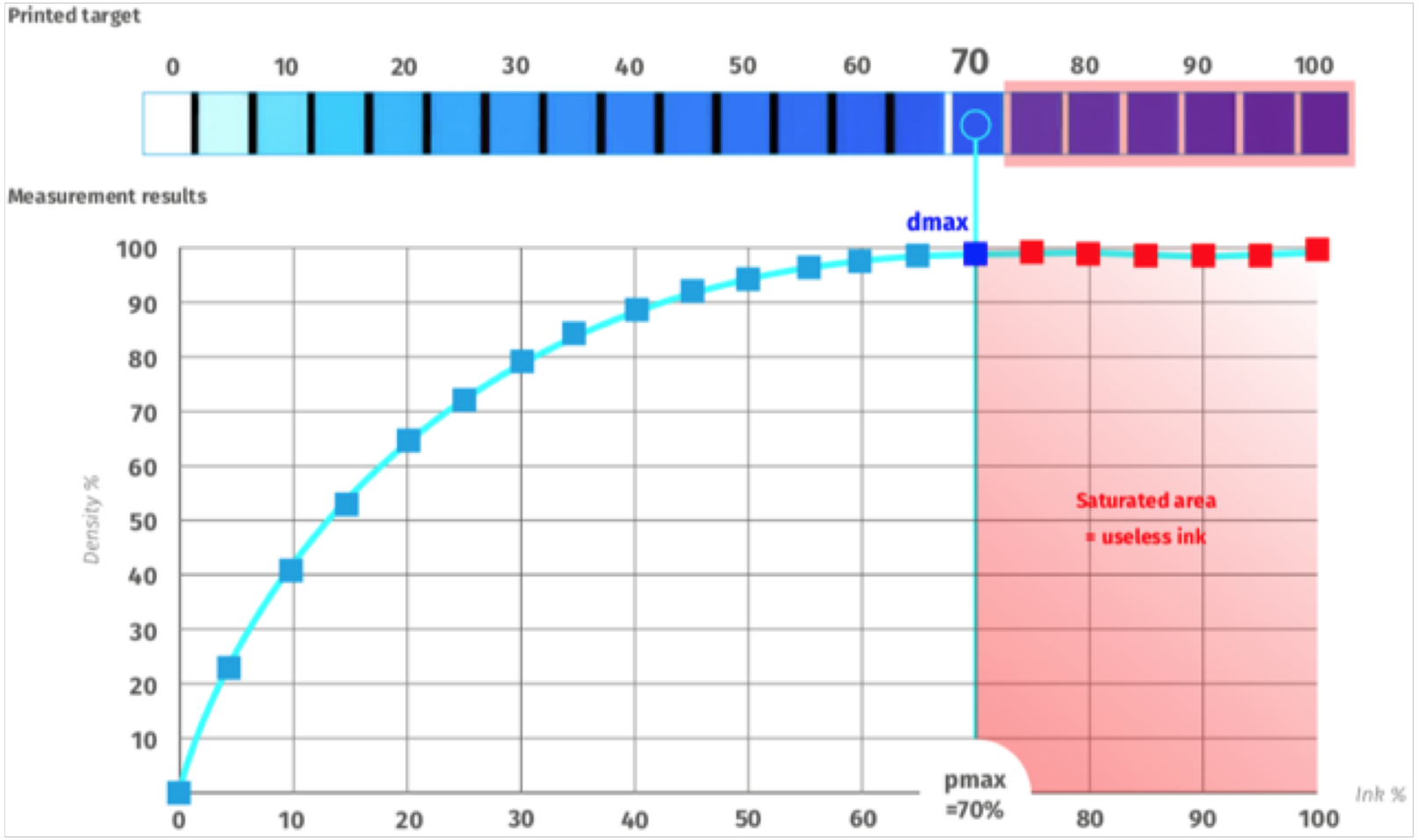
Ink Restrictions in EasyMedia



The **Pmax,** (or percentage) of an individual ink channel is dynamically set when the **Dmax** (or Density) has achieved 99%, thus setting the ink limit or **Ink Restriction** for that particular color.

In most cases using default values will yield in satisfactory results, however objectively modifying the values can result in an optimized calibration and ICC profile, often more stable and using less ink.

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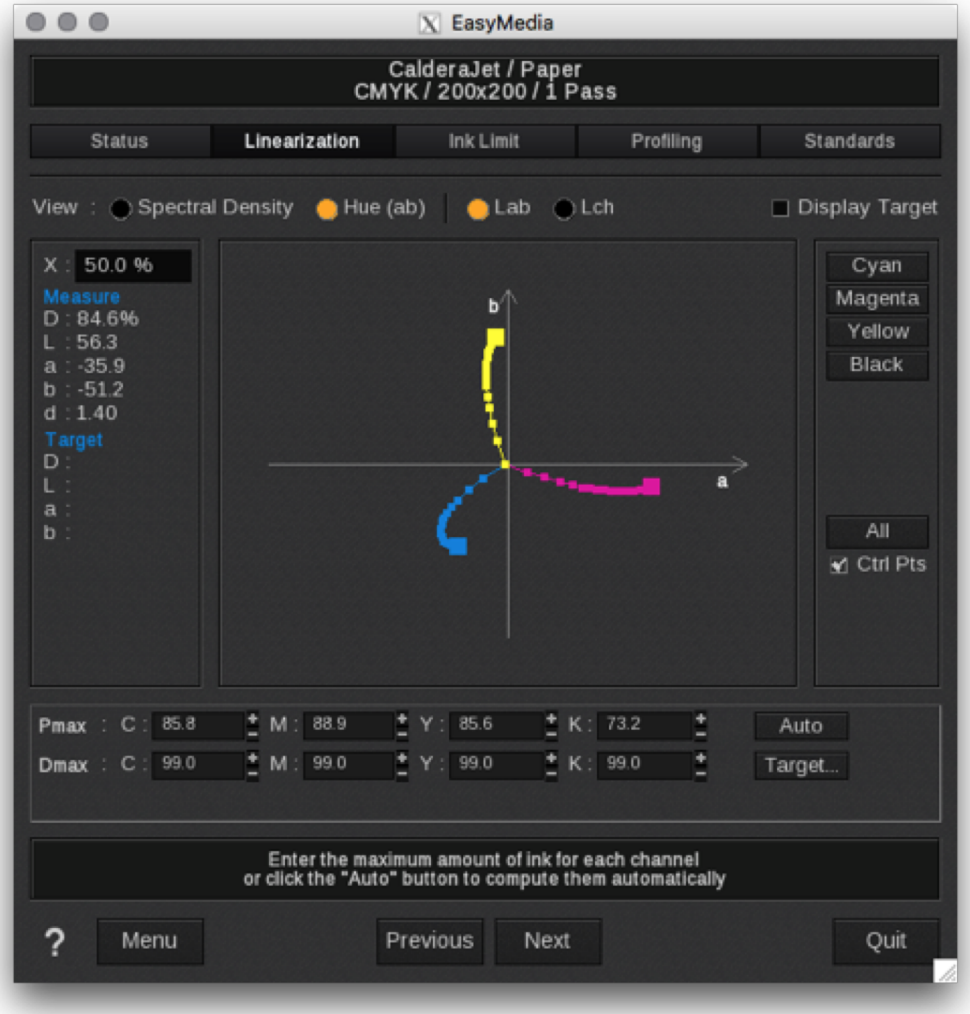
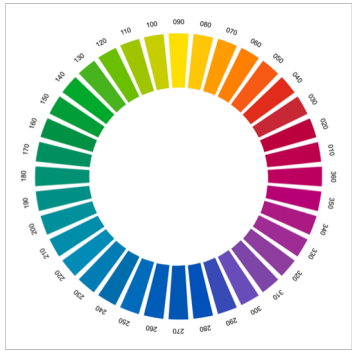
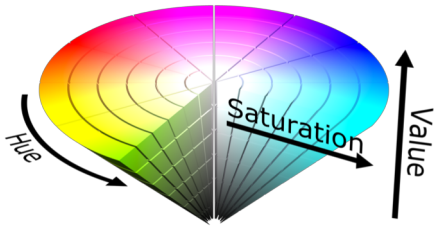
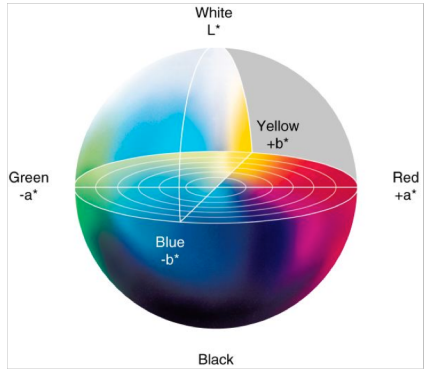


- Data displayed in a spider graph Hue (ab) will display the hue of the primary colors such as CMY or additional colors such as Orange, Green, Violet, etc… Note, light inks such as Light Cyan or Light Magenta are part of the Cyan or Magenta channels respectively.
- Evaluating Spectral Density, Chroma & Hue values are an effective method to select Pmax, as such establishing **Ink Restrictions**.
- Use L* in Lab to find optimal Pmax for Black or K (generally the lowest value L*)
- Visually inspect the printed linearization chart to verify selected Pmax agrees with the printed output.







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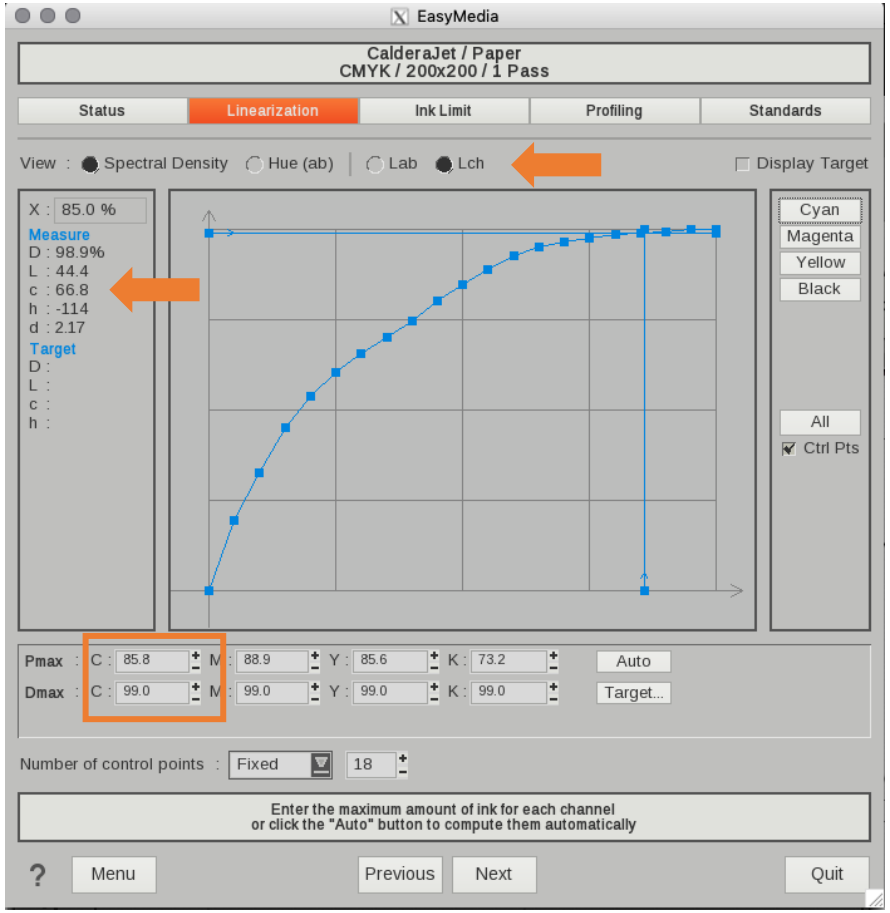

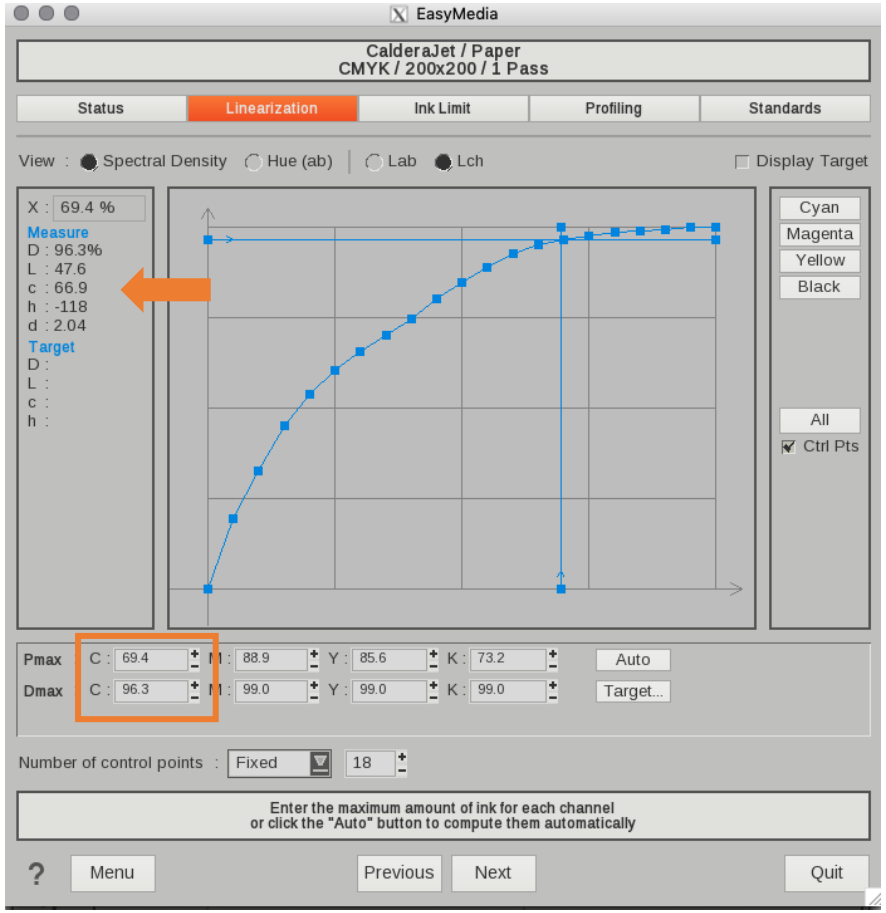

In this example, Chroma is used to select optimal Ink Restrictions, or Pmax.

Select Lch from EasyMedia, then observe measured values for c on the left side of the interface as you hover the mouse over the measurement data. EasyMedia pre-determines a Pmax value based on a calculated Dmax at 99%. With this pre-determined value Chroma is at 66.8 with a Pmax of 85.8%, however peak Chroma is 66.9 at a Pmax of 69.4%. By reducing the Ink Restriction less ink will be consumed without losing color, or Chroma.

Also note the Spectral Density value values (the small d under Measure on the left side of EasyMedia), ensure there is not a significant loss of density based on the selected Ink Restrictions.

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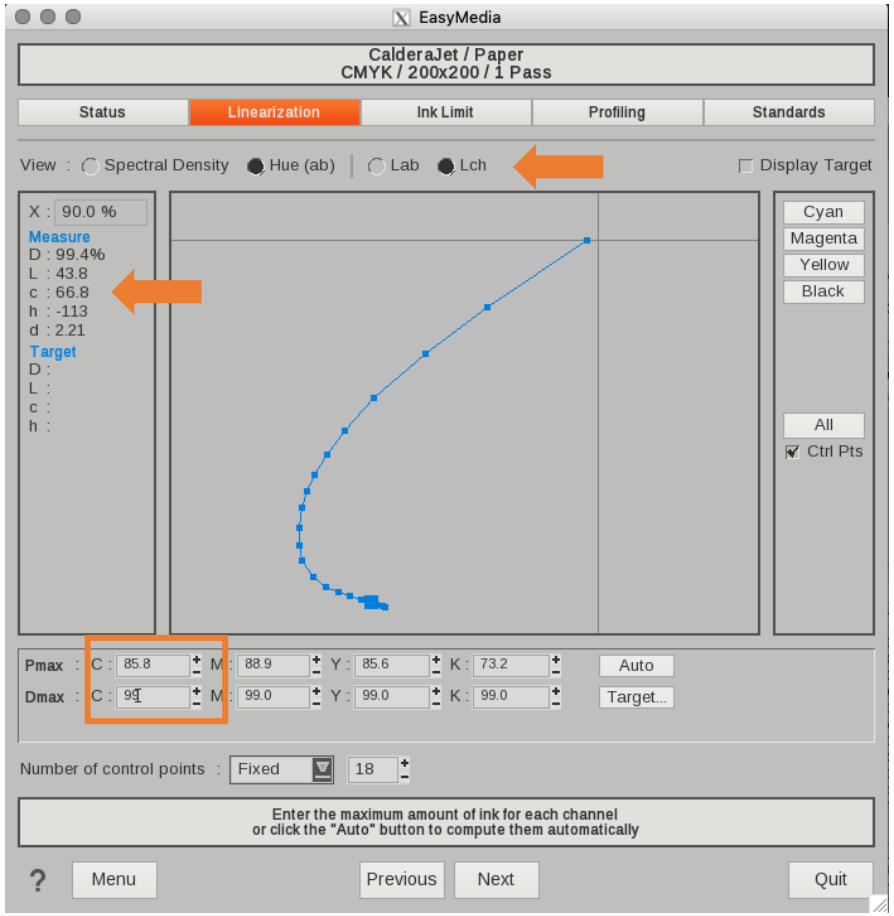

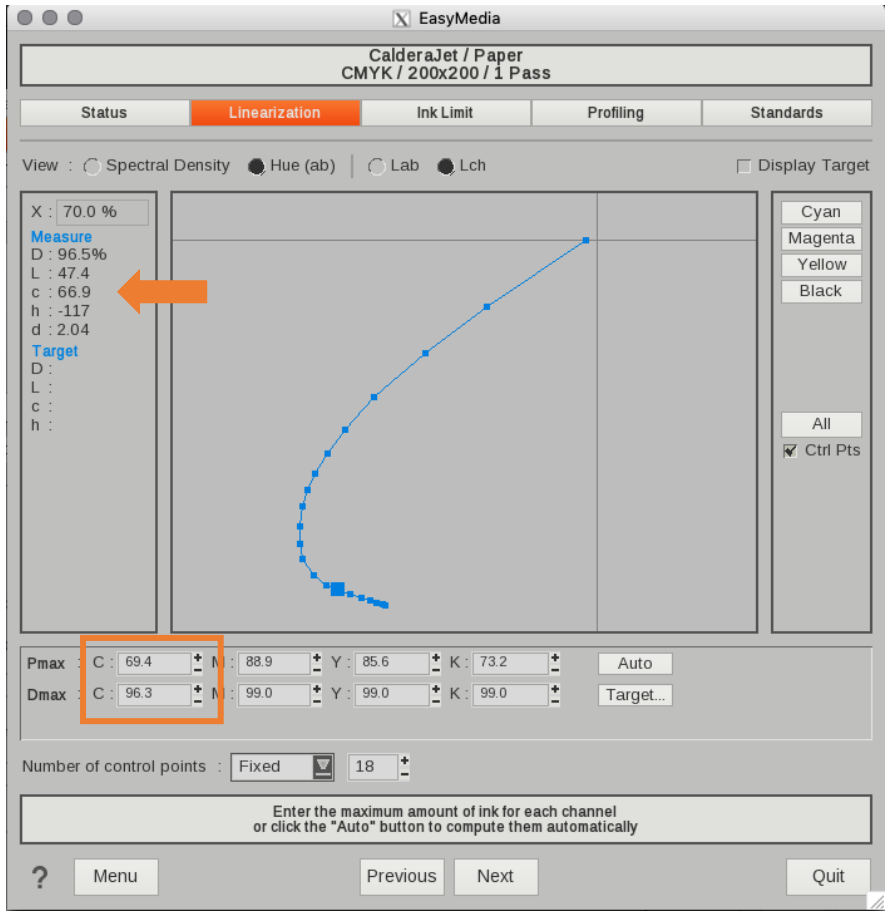

Using the same example as the prior page, notice the effect of the Ink Restrictions on the Hue angle for the color Cyan.

Note both the swing in hue from cyan to blue and how close the data points are together beyond 69.4% Pmax.

Restricting inks based on Hue, *in addition to Chroma* can result in a more accurate ICC profile. In the example of Cyan, as this color tends to show a more pronounced effect that other colors a 100% Cyan will print with a blue hue when ICC charts are printed and thus measured. This then results in color mapping that is not optimal since the color management thinks Cyan has a blue Hue to it.

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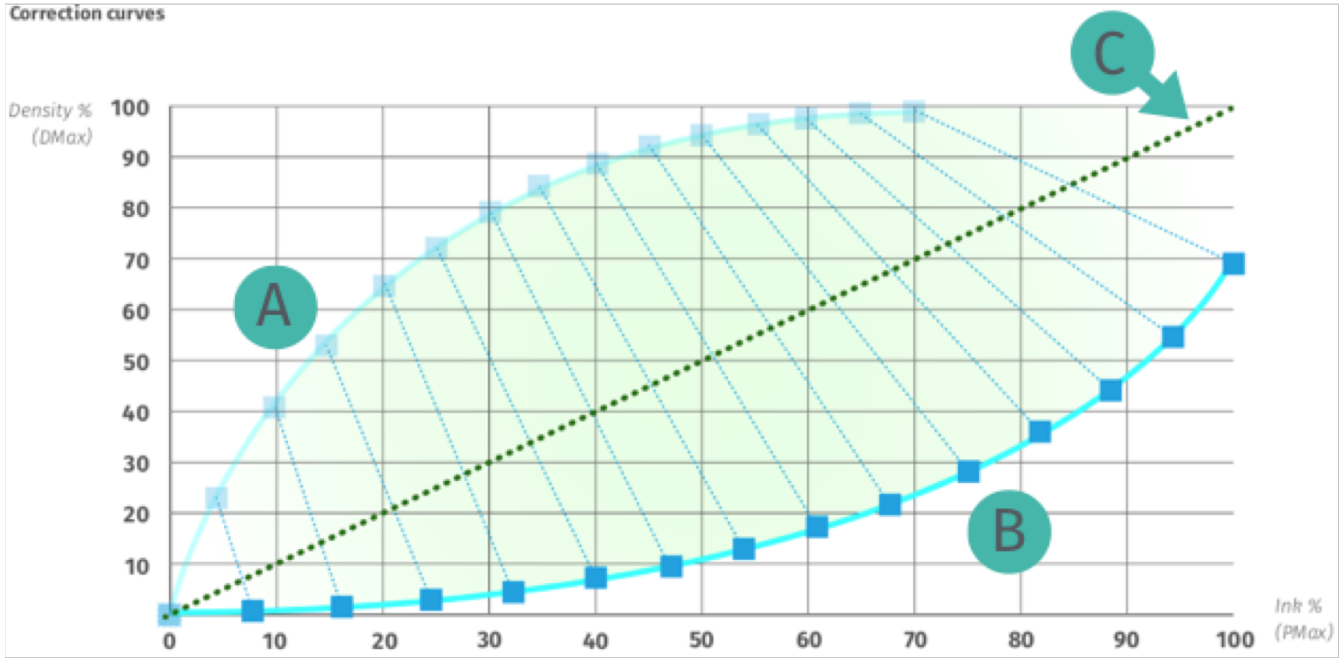

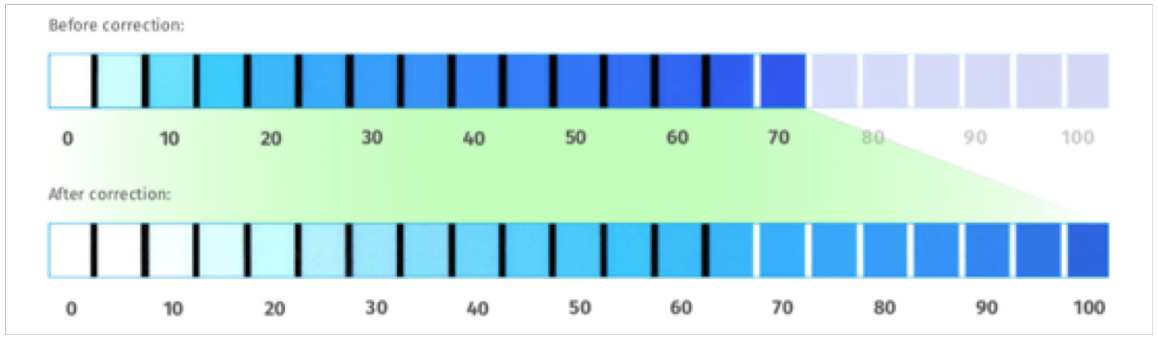

The correction curves result in linear output for a given color thus changing the behavior of the printer when the correction is applied. In the illustration to the left the results of the linearization target (A) are mapped to the corresponding correction curve (B) in order to achieve linear behavior of the device (C).

Represented in the illustration above and to the left is the **Pmax** now becomes the maximum, or 100% Ink Restriction for a given color.