



Rho product portfolio roll to roll UV 2017

High end segment

Rho 512R Plus



Rho 312R Plus



Rho Plus Series

Rho 512/312R Plus

Why the Best in its class!

- **24/7 unattended operation**
High precision and robust construction
Unattended printing for single or multi roll
- **Less service and maintenance needed**
Low purge cycles needed
Industrial concept
Very efficient support time response
- **Low cost operation**
- **No speed reduction with Light Colors or PCA**
- **High quality, no banding at higher speed**
- **Easy to operate, easy media change**
Only 1 operator needed

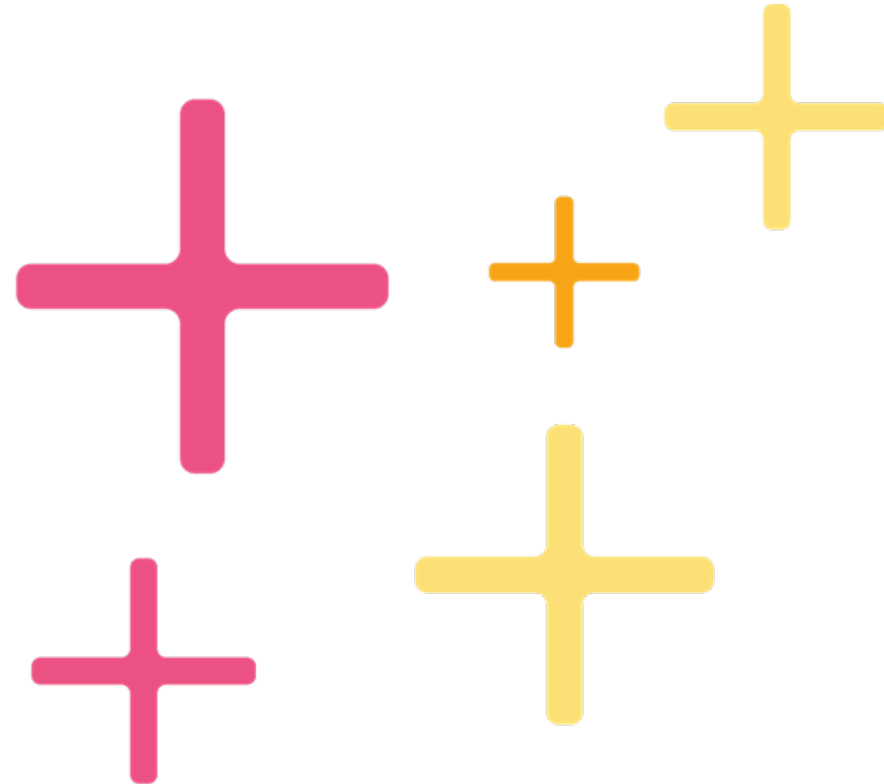


Rho Plus Series

Rho 512/312R Plus

New features

- + High Speed Printing Mode
- + Fine Art Printing Mode
- + V-Cut Plus System
- + New Colors Light Black, Red
- + Durst Ink Saver

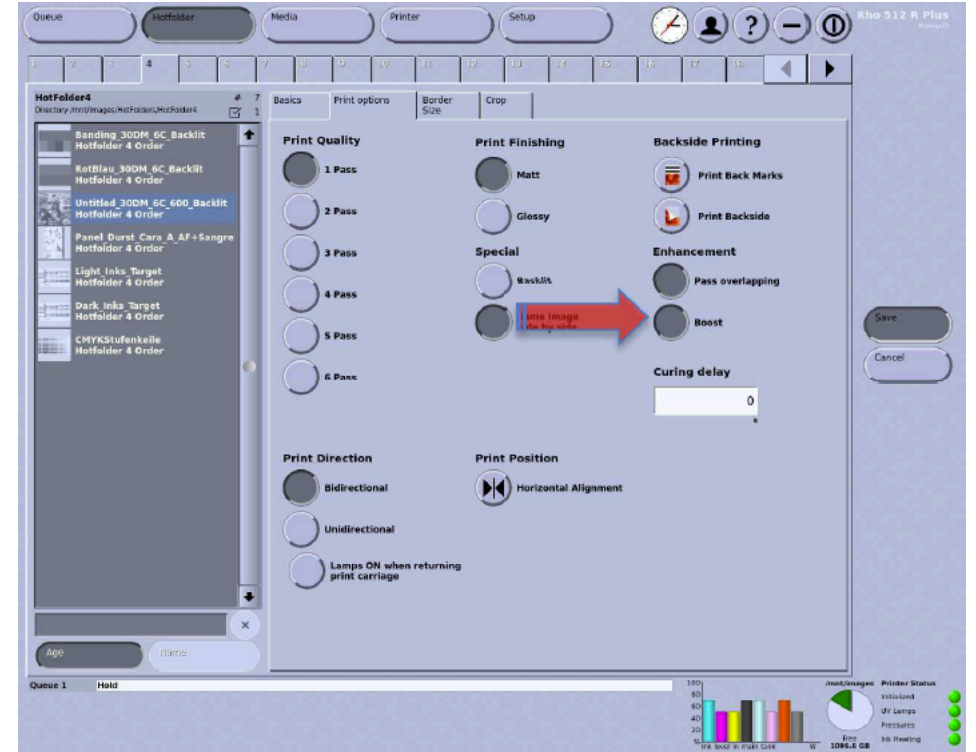


Rho Plus Series Rho 512/312R Plus

High Speed Printing Mode

This new developed printing mode allows the customer to increase the speed of the Rho 512 R Plus in 1 Pass mode by approximately 15% reaching a maximum printing speed of 386 sqm/h.

This has been accomplished by a faster media advance during the feed-step and changes applied to the driver electronics. This Ultra High Speed mode is intended for billboard applications and other applications with longer viewing distances.



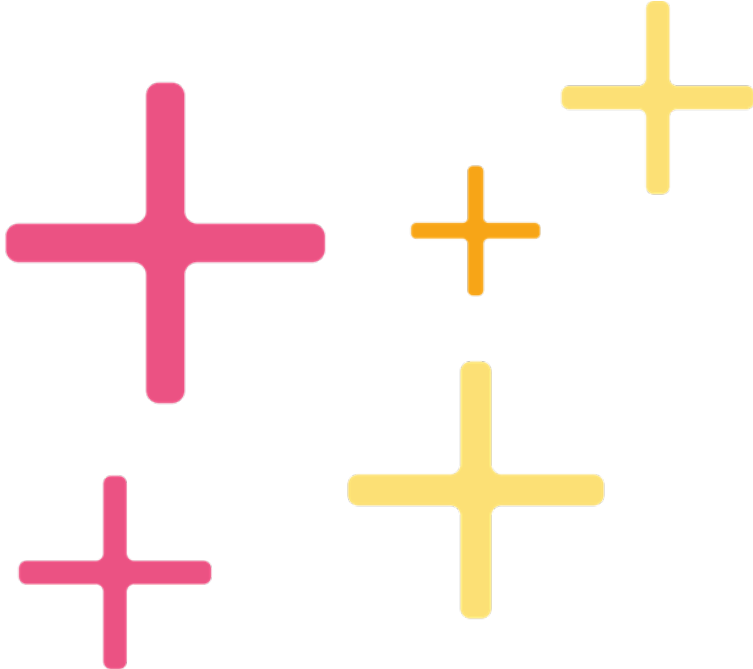
Rho Plus Series

Rho 512/312R Plus

Fine Art Printing Mode

The Fine Art Printing Mode at 1200 dpi for finer and smoother gradients and more sharpness especially also when using the new Light Black Ink (see below).

The Fine Art Mode achieves a higher image quality in skin tones and gradients for photo-realistic results.

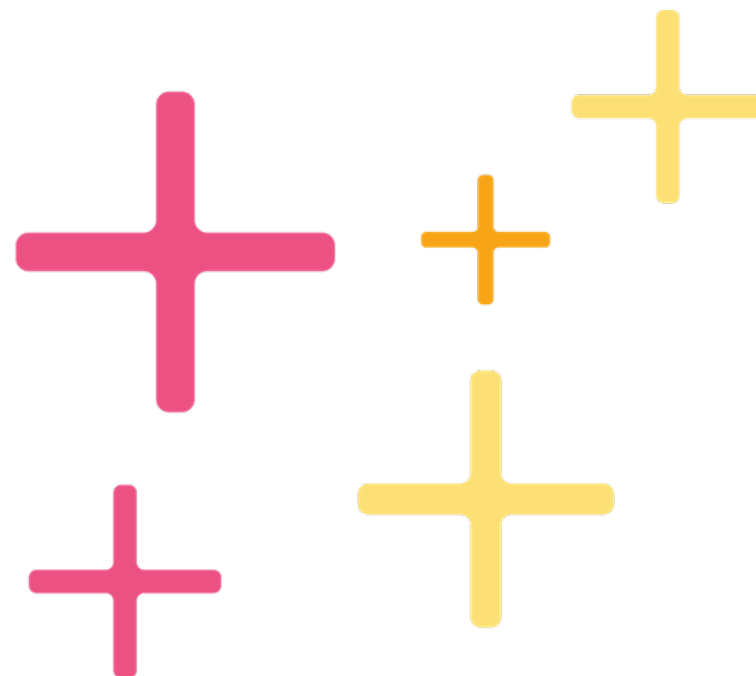
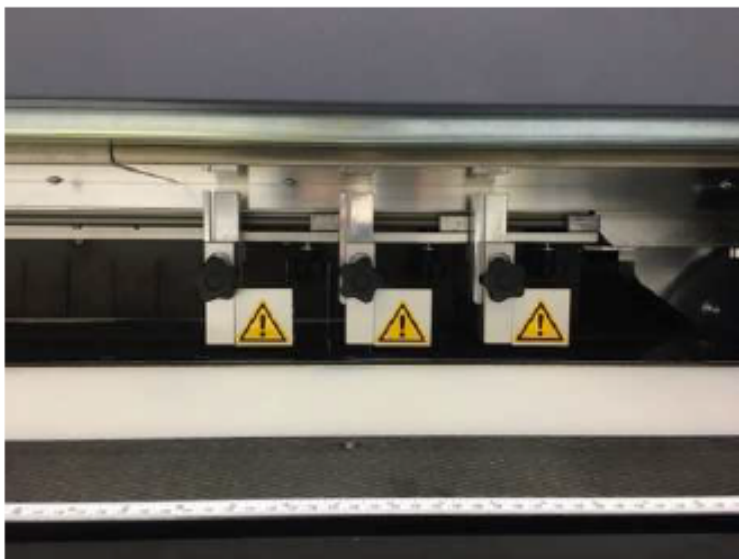


Rho Plus Series

Rho 512/312R Plus

V-Cut Plus System

The new vertical-cut system incorporates motor driven blade units, which, when activated are moving downward during printing (1 mm/h). The new V-cut system increases the lifetime of the blades by up to 20 times.

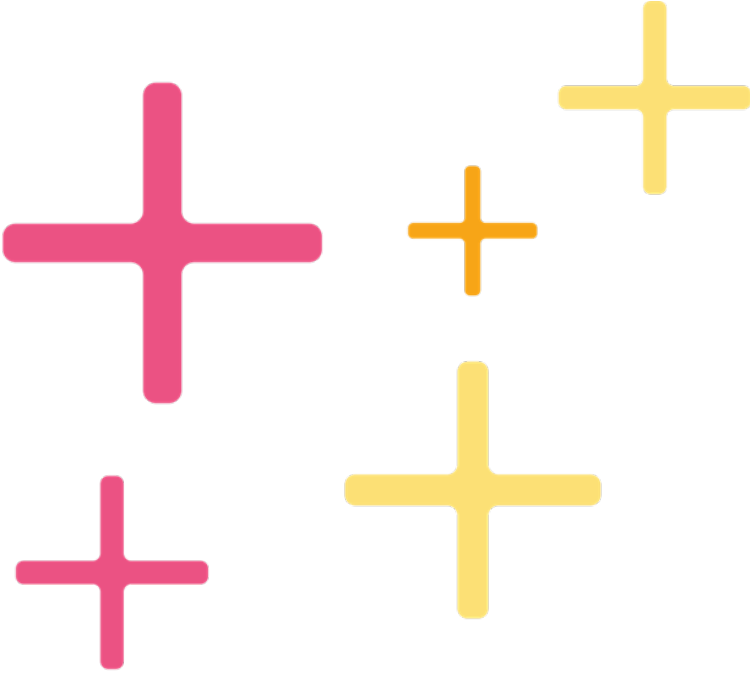


Rho Plus Series

Rho 512/312R Plus

Rho Roll 30 DM/FLT Light Black

Using the new Light Black ink results in smoother and finer color gradients for both color and black & white prints in standard or fine art printing mode.



Rho Plus Series

Rho 512/312R Plus

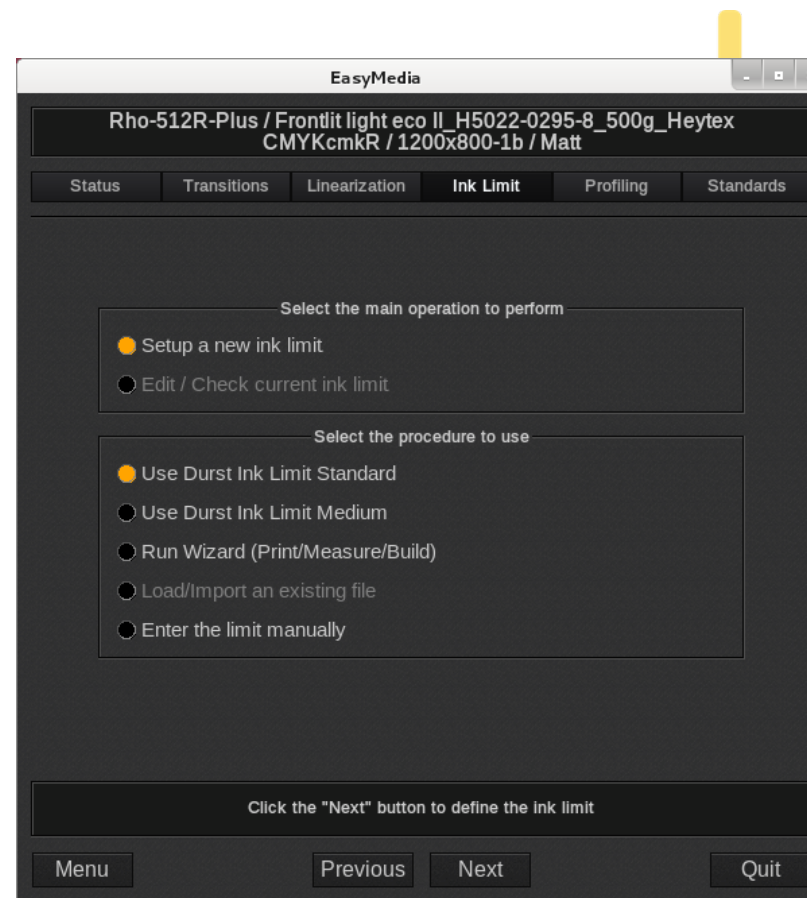
Ink saver

This feature supports to create standardized profiles and to save ink.

When customers use the Easy Media Module, they will have the choice between the settings “Standard”, “Medium” and “Custom”.

Depending on the print mode, “Standard” or “Medium” will be shown as the default setting automatically. If customers prefer to use their own settings, they can continue to profile by choosing “Custom”.

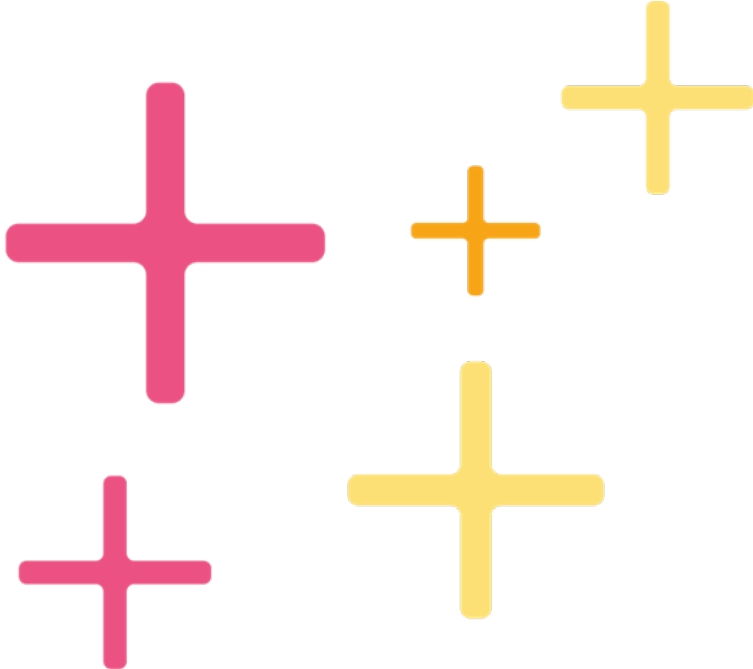
The potential of saving inks depends on the currently used settings at customers’ side.



Rho Plus Series Rho 512/312R Plus

Rho Roll 30 DM/FLT Red PCA

Work in progress...



Rho RtR UV competition analysis

| Focus on strengths | Weaknesses | Strengths Rho |
|----------------------------------|------------|---------------|
| + Productivity and image quality | | |
| + Versatility | | |
| + Profitability | | |

+Integration + Innovation + Investment Security + Reliability + Sustainability + Independence

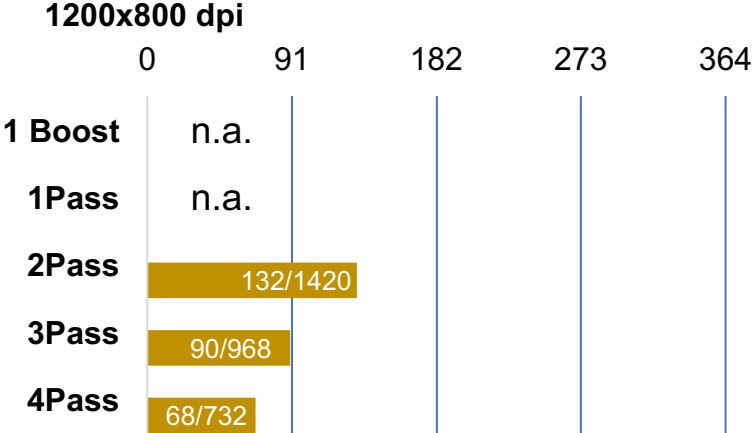
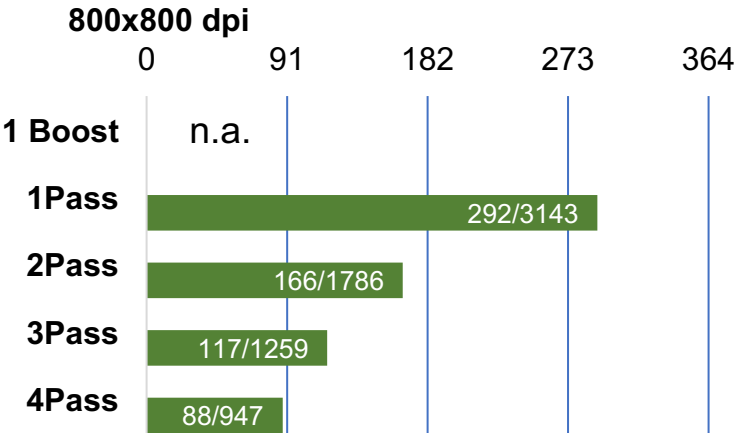
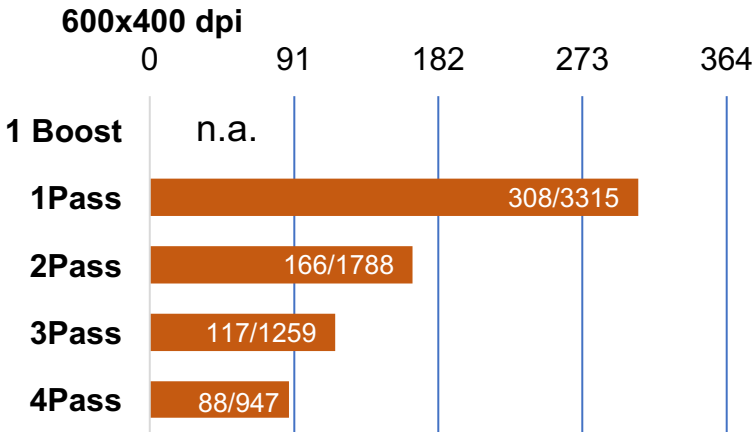
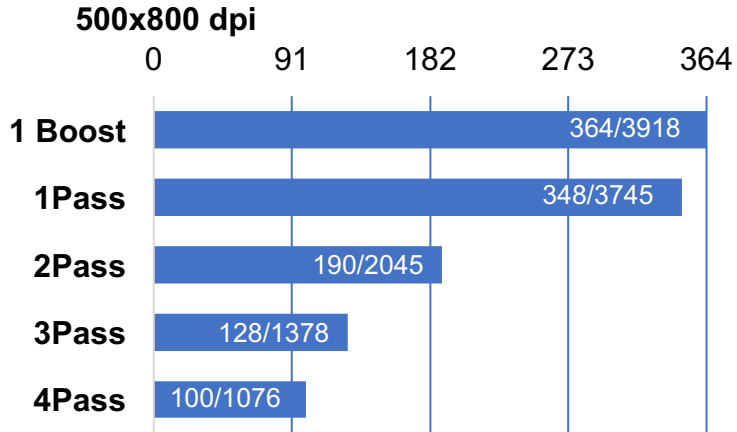
+ Investment Security + Reliability + Sustainability + Independence + Customer Integration + Innovation

Rho roll to roll product overview

| Segment | High end | |
|-------------------------|------------------------|------------------|
| | Rho 512 R Plus | Rho 312 R Plus |
| Product | Rho 512 R Plus | Rho 312 R Plus |
| Resolution max. | 1.200 dpi | 1.200 dpi |
| Drop size min. | 12 pcl | 12 pcl |
| Ink technology | UV pigment ink | UV pigment ink |
| Productivity max. | 364 sqm/h | 302 sqm/h |
| Production mode: | 150 sqm/h | 120 sqm/h |
| Substrates | Rolls | Rolls |
| Media width max. | 500 cm | 320 cm |
| Big Roll Option | -- | yes |
| Triple/Dual Roll Option | Triple and Dual option | Dual option |
| Standard process colors | CMYK | CMYK |
| Optional process colors | cmk W, O, G, (R) | cmk W, O,G,V (R) |



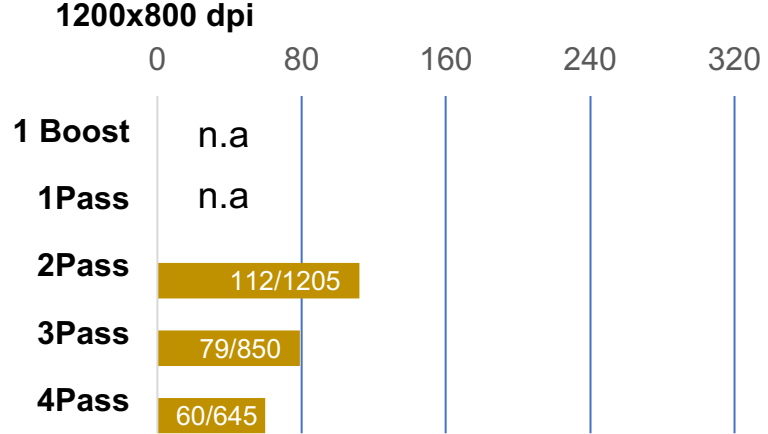
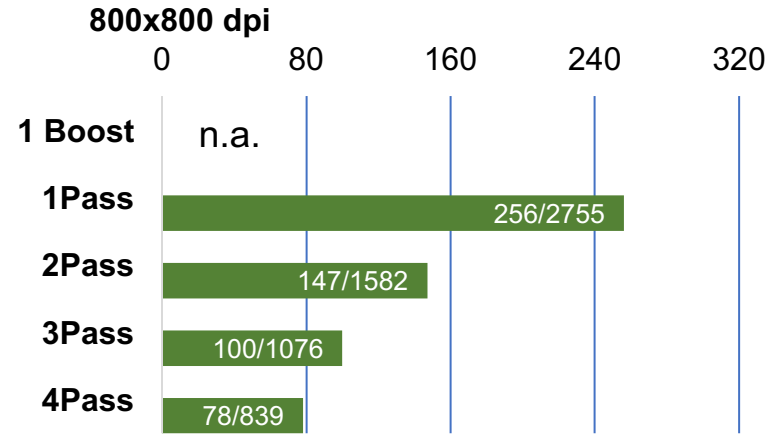
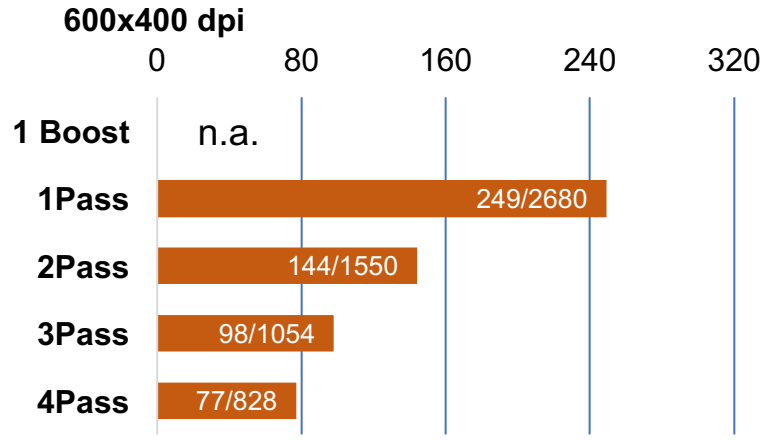
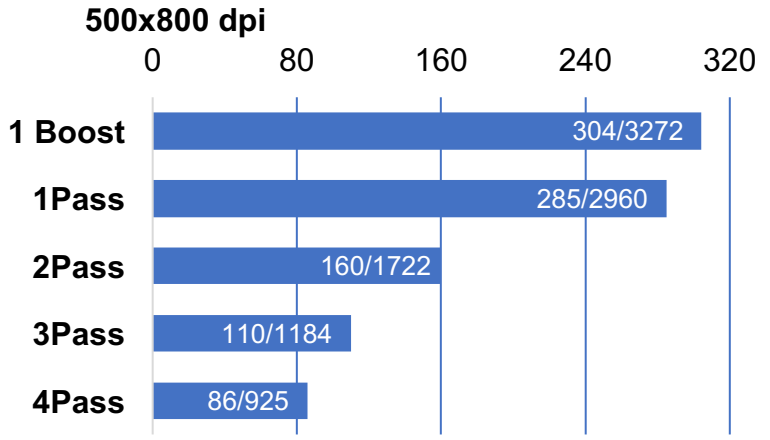
Rho 512 R Plus productivity (sqm / sq.ft.)



n.a. = not available

- No speed reduction when printing with Light Colors
- No speed reduction when printing in backlit-mode
- Backlit mode is selectable in 4, 5 and 6 pass mode
- 33% Speed reduction when printing single White (under- or overprint)
- approx. 20 to 25 % speed reduction with Pass Overlapping on

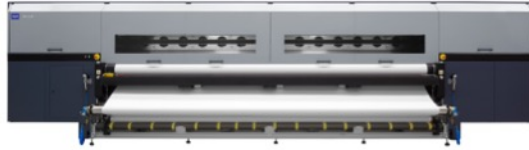
Rho 312 R Plus productivity (sqm / sq.ft.)



n.a. = not available

- No speed reduction when printing with Light Colors
- No speed reduction when printing in backlit-mode
- Backlit mode is selectable in 4, 5 and 6 pass mode
- 33% Speed reduction when printing single White (under- or overprint)
- approx. 20 to 25 % speed reduction with Pass Overlapping on

Focus on Rho 512/312 Plus strenght



+ Productivity

+ Profitability

+ Versatility

Advantages

- No speed reduction with light colors or PCA
- Unattended 24/7 production
- Low ink consumption
- Less purge/higher uptime/less ink consumption
- Media handling by one operator
- New ink system for enhanced color gamut and fine gradients

Rho 512R Plus - Positioning

Advantages

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TCO/ROI Rho 512/312 R Plus

| Segment | High End | High End |
|----------------------------------|--------------------------|--------------------------|
| Product | Rho 512R Plus | Rho 312R Plus |
| Productivity max. | 386 sqm/h | 302 m ² /h |
| Average output ¹ | 105 m ² /h | 86 m ² /h |
| Investment | 550 kEUR | 450 kEUR |
| Financing period ² | 3 years | 3 years |
| Maintenance cost | 27 kEUR | 23 kEUR |
| Average ink cost/m ² | 0,50 EUR/m ² | 0,50 EUR/m ² |
| Average media cost/ ² | 2,38 EUR/m ² | 2,38 EUR/m ² |
| Print costs ⁴ | 3,43 EUR/m ² | 3,46 EUR/m ² |
| TCO ⁵ | 4.961 kEUR | 3.959 kEUR |
| Average print sales price | 11,20 EUR/m ² | 11,20 EUR/m ² |
| ROI | 3 months | 3 months |

¹ standard images printed in typical production modes
(1 Pass PO, 2 Pass PO, 3 Pass, 4 Pass PO, 75 % machine utilization, 6 colors)

² 20 % down payment, 2 % interest rate

³ standard images incl. 2 % ink waste

⁴ fixed and variable costs (investment, interest rate, maintenance, labor, floor space, energy, ink, media)

⁵ 8 h/shift, 2 shifts/day, 276 days/year, 75 % machine utilization