Teckwin TS 5000HF
Color Gamut & Print Quality

Roll-to-Roll UV-curing printer
Heliozid Océ booth, SGI Dubai 2019

Nicholas Hellmuth and Jose Melgar
A few years ago, Teckwin made a jump from wide-format UV-curing printers to superwide-format UV-curing models.

We have witnessed how the company went from a modest entry-level hybrid UV-curing printer, to a sophisticated superwide roll-to-roll UV-curing printer and a sturdy and advanced dedicated flatbed printer.

At SGI Dubai 2019, we ran print tests on the Teckwin TS 5000HF, a 5-meter roll-to-roll UV-curing printer.

At SGI Dubai 2018, we had the opportunity to run print test on the Teckwin TS 5000r roll-to-roll UV-curing printer. The current TS 5000HF exhibited this year in Dubai is an improved model.

As mentioned in previous reports, the print tests you will see in the following pages have a greater purpose beyond inspecting a wide-format inkjet printers: our designs are educational, because we fly them back to Guatemala to donate them to schools in remote rural regions.

Why FLAAR Reports?
In the printing industry, there are hundreds of websites, online magazines, and blogs covering the ins and outs of new wide-format inkjet printers, inks, media, software, etc.

And while these media outlets have an important role in the industry, FLAAR Reports is different in that our publications are based on actually knowing the products we write about, AND know the people behind the products.

Also, we are different because our business model does not depend nor includes PR nor advertising. Rather, FLAAR Reports is interested in sponsored research projects that allow us to evaluate the wide-format inkjet printers our readers are interested in. With almost 20 years evaluating wide-format inkjet printers, inks, media, software, finishing equipment and other aspects of the printing industry, our reports and websites are read by thousands of people a year. In all of those years we have learned that dedicated reports is the most helpful type of publications for print shop owners, managers and printer operators.

We have visited factories literally around the world to write evaluations on wide-format printers and other related equipment, and these printer brands have received lots of exposure from our web traffic.

For a total evaluation, we prefer to visit the factory and do first-hand print tests as we have done with EFI, Dilli, Durst, HP, Teckwin and dozen other factories.

But since it takes time to schedule a visit, we normally start by writing a brief evaluation based on inspecting the printer at a sign tradeshow.

A key aspect of our evaluations is doing test prints, either at a tradeshow or in a more complete evaluation in the factory.

Printing our own files helps us determine the quality of a printer because we know what the original file looked like.

As mentioned earlier, besides being analysts in the print industry, FLAAR has an educational branch conformed by several researchers and designers that illustrate these materials.

We would like to thank the Teckwin staff for their collaboration with these print tests at SGI Dubai 2019, and we hope to see them at SGI Dubai 2020.
Teckwin TS 5000HF

As you probably already know, most Chinese printer manufacturers have two iterations of their wide-format printers: one for the “domestic” market (to be sold only in China), and a second version for the “international” market, which is usually exhibited outside China.

This second international version is generally built with higher standards, to meet the demand of European and North American markets.

Not that the Chinese version is necessarily a bad quality printer, but the components put in the version that is designed to be sold outside China are better in quality.

This is the case of the Teckwin TS5000HF, a high-end 5-meter roll-to-roll UV-curing printer that has been exhibited in Europe, and this time in SGI Dubai 2019.

This Teckwin model was exhibited in the booth of Heliozid Océ Emirates LLC, a printer distributor which is a joint venture between Océ Holding B. V. and Heliozid Océ Reprographic Lebanon SARL, according to Bloomberg.
The Teckwin TS 5000HF is part of a family of wide-format printers that also include the TS 3200HF, the 3-meter version of the TS 5000HF, and the TS3020HF, which is a dedicated flatbed printer.

This five-meter model comes with Dimatix StarFire SG 1024 printheads. The printer at SGI was using 12 printheads in a 2 row arrangement. Even when the printhead brand has a great performance, the nozzle voltage can be independently adjusted to adjust the ink drop precision.

As for the ink configuration, it has several options, from basic CMYK for a more volume-oriented environments, up to CMYK, LC, LM + 2W, for smoother color transitions and photographic quality. In total you can have up to 16 printheads.

Teckwin's HF family have some features in common. The printhead brand is the same, and all three can have the same ink configuration. At SGI Dubai, the print speed of the Teckwin TS 5000HF was measured by the Heliozid Oce team, and showed this performance results in square meters per hour:

- **Test:** 272.80 sqm/h
- **Draft:** 206.96 sqm/h
- **Normal:** 135.20 sqm/h
- **Enhanced:** 102.40 sqm/h

Although this printer has a print width of 5 meters, it takes material up to 5.15 m.
This is the rear view of the Teckwin TS 5000HF roll-to-roll UV-curing printer. One of the advantages of having a 5-meter roll-to-roll printer is that the productivity is considerably increased. Several of our files were printed in a matter of minutes.

This printer comes with Caldera, one of the most renowned RIP software brands. Static is one of the most common issues for UV-curing printers. This is why the TS 5000HF an anti-static system to avoid print issues such as dot satellites edge splatter and other common print defects.

One of the most relevant characteristics of the TS 5000HF is the flexibility of its print settings. Earlier, we mentioned that the nozzle voltage can be adjusted. Another aspect that can be modified is the ink supply vacuum system.

In spite of its industrial size, the TS 5000HF comes with LED UV-curing lamps. The advantage of LED technology is its cold curing capability. In other words, LED lamps do not emit heat as do the traditional mercury arc UV-curing lamps. In this model, the LED lamp circuitry is cooled to extend the lifetime of the LED lamps beyond the rated 20,000 hours. Besides, the entire platform is cooled in order to avoid any distortion of media being printed, due to heat and tension.

In future evaluations, we will investigate whether this model is capable of printing two rolls of media simultaneously, although judging by the advanced technology we witnessed at SGI Dubai 2019, it is highly possible that this model does handle more than one roll of media at a time.

The tension of the roll-to-roll system can be adjusted for different types of materials.
These photographs were taken by the Mayan Toons team, FLAAR’s educational branch. These are some of the birds you can find in Guatemala’s fauna. As you can see below, this printer renders good natural tones.

Most print samples used at tradeshows are stock images. But we at FLAAR Reports have a process to determine the quality of a print sample that starts with the use of our own photographs and our own designs. This is why we know whether a color looks natural or odd. We know how the original photograph, and the original print file looked like.

The test prints show the Great White Egret flying over the south shore of Lake Yaxha, Parque Nacional Yaxha Nakum Naranjo, Peten, Guatemala.

These photographs by Nicholas Hellmuth are with Nikon D5 and Nikon D810, with 400mm, 600mm, and 800mm prime Nikkor Nikon telephoto lenses. Other photos are by FLAAR photographer Erick Flores with Canon EOS 1DX Mark II and 300mm prime telephoto lens.

We fly these test prints back to Guatemala and have donated them to the park administrators for them to donate to the local schools in rural areas around the park.
These impressive photographs were taken by one of the staff members of Mayan Toons, FLAAR's educational division. The advantage of using our own images is that we know how the original image looked like, and thus we can determine whether a printer is capable of accurately “translating” the information contained within a digital file into a print job.

In the photo below, Dr. Hellmuth examining the color output of one of the print samples. The natural tones produced by the TS 5000HF are accurate and vibrant. Magenta tones were also good. Inks are heated at a constant temperature to maintain consistent colours and the same gamut across the lifetime of the printer.
These illustrations show some of the fauna found in Yaxhá-Nakum-Naranjo, a National Park located in Peten, one of the most important prehispanic cities of the Maya culture.

FLAAR Mesoamerica has an educational branch called Mayan Toons, that produce hundreds of illustrations based on the Maya culture. As mentioned earlier, these materials are not sold. Instead, they are donated to public schools and institutions engaged in research in remote regions in the rain forest areas of Guatemala.

You can learn more about our educational programs with primary schools by visiting [www.MayanToons.org](http://www.MayanToons.org) or find MayanToons on Facebook.

After we print the samples and certify the color accuracy, we fly them back to Guatemala. Here, Dr. Nicholas Hellmuth and Mayan Toons staff members sorting the several samples printed on with the Teckwin TS 5000r roll-to-roll UV-curing printer.

In the following days after these photographs were taken, a number of Mayan Toons staffers drove more than a thousand kilometers round trip to donate this material. It requires a 4-wheel drive pickup truck to get even near the villages. Then we cross the rivers on a swinging hammock bridge, and hike into the mountains to reach the schools of the Mayan children.

One of the challenges in the learning process for kids in early grades is the fact that most books and materials are designed for an audience that does not reflect the context of the children. In other words, for a child is difficult to relate to objects and drawings he doesn't know in real life.

This is why the Mayan Toons team prepared these illustrations with local plants and animals the kids can identify as part of their context.
This ABC print sample was designed to include illustrations of animals, insects or plants for each of the letters of the alphabet. The colors produced in this print sample were accurate. Green and Magenta tones were especially good.

We thank Philippe Husni, Managing Director at Heliozid Océ (fourth from left to right), and the capable staff for their help at SGI Dubai 2019.
Here, some of the FLAAR Reports staff members at our office’s entrance. Some of them are the photographers, designers and illustrators that worked in these files weeks before Dr. Hellmuth and other member of the FLAAR Reports team flew to SGI Dubai 2019, where these and other samples were printed.
These photographs outside the FLAAR Reports office in Guatemala were taken minutes before the team set out on a field trip to one of the remote villages in Guatemala to donate these materials.

In the 1970’s Nicholas Hellmuth spent five multi-month field seasons in the remote rain forest Mayan ruins of Yaxha, mapping this ancient city. During these five years he also worked to get the process started to preserve this area as a national park. In April 2018 the park administration asked for us to come back to Yaxha to help them prepare educational material on the plants and animals of the park. So two days after we return from SGI 2019 in Dubai, Dr Nicholas will be back in the rain forests of Guatemala doing high-resolution photographs of the remarkable flora and fauna of these fascinating eco-systems.

You can see the photos on:
www.maya-ethnobotany.org
www.maya-ethnozoology.org
www.maya-archaeology.org
www.digital-photography.org
Here we are in the camp at the park, donating the photographs to Lorena Lobos, the biologist working on educational programs at Parque Nacional Yaxha Nakum Naranjo, Peten, Guatemala. This park is deep in the Neotropical rain forests of Central America, a 1000 kilometer round trip drive from Guatemala City.
Check Out Our Latest Videos

- FESPA Berlin 2018 Interviews
- FESPA Global Print Expo 2018 in Berlin (European experience)
- Printing test by COLORJET at APPPEXPO 2018
- Printing test by OKI at ISA 2018
- FLAAR Reports at APPPEXPO 2018 (Shanghai, China)
- FLAAR Reports at ISA 2018 (Orlando, Florida)
- FLAAR Reports at SGI Dubai 2018
- Issues of inkjet printers, interview with Nicholas Hellmuth
- UV Printer by Structure Infographic
Since a good quality print, in addition to a well made printer, good quality ink, appropriate printable material, knowledgeable color management, also needs a high quality original photograph, we at FLAAR also cover digital photography, especially what equipment and what techniques produce the kind of image that will make your printer, your ink, your media look even better: [www.digital-photography.org](http://www.digital-photography.org)

You can obtain FLAAR Reports straight from our websites, however TRENDS level reports are by Subscription. To learn the subscription cost, please contact FrontDesk@FLAAR.org

[www.FLAAR-Reports.org](http://www.FLAAR-Reports.org) | [www.large-format-printers.org](http://www.large-format-printers.org) | [www.wide-format-printers.net](http://www.wide-format-printers.net)

© Copyright 2019

Follow us: