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Océ ColorWave 500

Complete information guide.

Discover the true advantages of Océ CrystalPoint Technology and how it compares to the competition.

Meet the Océ ColorWave 500

The ColorWave 500 is based on legendary Océ CrystalPoint technology which blends the best of LED toner and inkjet into a single process. This unit represents the next generation of color toner wide format systems in the Océ CrystalPoint product family. Though some common features are shared with the ColorWave 650, there are some fantastic improvements with the ColorWave 500.

New Single-Footprint Design

With the new system, the color scanner is mounted on top of the print engine and the controller PC is housed inside the chassis. This results in a complete multifunction system that lives in the space of a single printer. Unlike rival inkjet multifunction systems, The ColorWave 500 is capable of handling a much larger duty cycle supported by the fact that it can be configured with up to 4 media rolls.

Unlike inkjet plotters that depend on higher-quality media for enhanced results, the ColorWave 500's print quality is media independent. You can even print full color

maps on basic bond paper that look great!

The long-term print quality is also consistent thanks to the embedded ***PAINT technology*** (Piezo Acoustic Integrated Nozzle Technology). This new feature applies sophisticated diagnostics, maintenance, and error corrections to overcome nozzle issues that occur with conventional inkjet machines—even while printing. ***PAINT technology*** corrects for nozzle failure while printing and ensures drop size correction during the entire lifetime of the system.

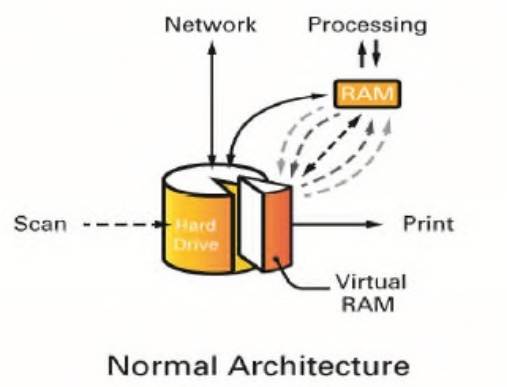
New Touch-Screen User Panel

The ***Océ ClearConnect*** multi-touch user panel is the same as that of the Océ PlotWave 500. It is the benchmark for ease of use. Connect to the cloud via the user panel to access your files, or just simply print from the integrated USB port. It also provides a live view when scanning or copying. There are other built in features that seem novel at first, but have a huge impact on the overall user experience. These include automatic paper roll width detection, media loading, roll selection and image positioning.

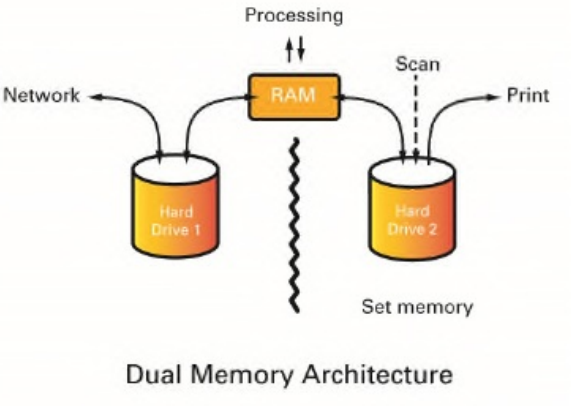
A More Powerful Brain

Complex technical documents or GIS files can take a long time to process. This delay is what usually makes up the wait time with conventional plotters. However, simply having a faster printer won't solve this issue—you need more processing power. The Océ system incorporates a new, unique ***Océ POWERsync*** controller with dual memory architecture to ensure maximum productivity regardless of the number of jobs sent and the size of the jobs.

How it works – System controllers are required to perform several tasks simultaneously.***POWERsync*** solves this problem by using two separate hard drives to separate the historical memory from spooling jobs. So, no matter the number of jobs submitted, the printer maintains its productivity. Secondly, the ***Océ POWERsync*** controller has large RAM memory, which is much faster than any hard drive. Competitive products generally utilize "Virtual RAM" on the hard disk to deal with a heavy workload, which constantly swaps data between RAM and the hard drive. Unfortunately, swapping data back and forth like this kills performance. This is where this exclusive Dual Memory Architecture gives the POWERsync controller the power to never slow down.

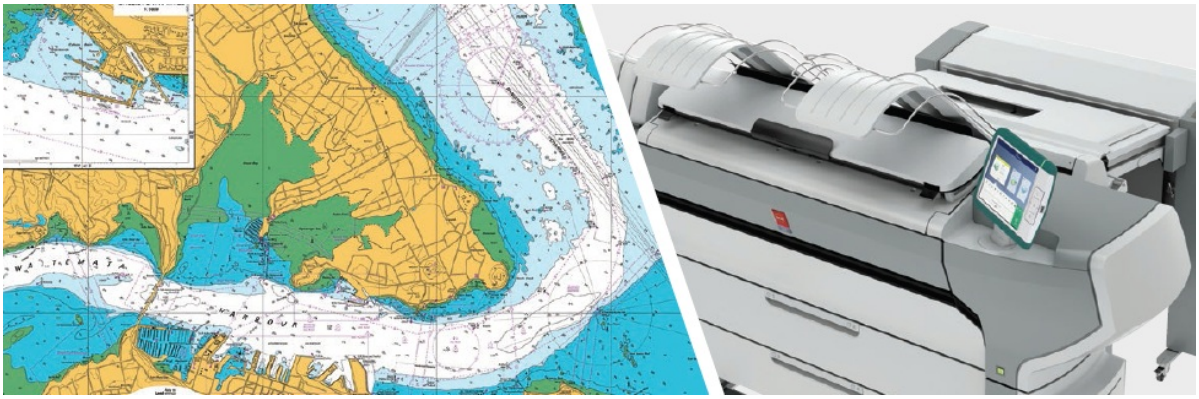


Normal Architecture



Dual Memory Architecture

The Radical Difference Between ColorWave Océ Plotters and Inkjets



Look around and you will see that architects and engineers are incorporating more color data into their designs these days. This is largely due to the flourishing influence of BIM applications such as **REVIT** and **Bentley**. Likewise, research has shown, time and again, that color details reduce mistakes and greatly increases communication as compared to the traditional black/white format. This new approach has demanded that these companies now print their plans in full-color. Most AEC companies already have a wide-format color plotter in place, but what happens when the work load exceeds the capabilities of that plotter? They could always get a second one, or a third. But, perhaps, it time for a complete paradigm shift. In that case, see how the ColorWave Océ wide format plotter is providing a radical shift from the old inkjet school of thought.

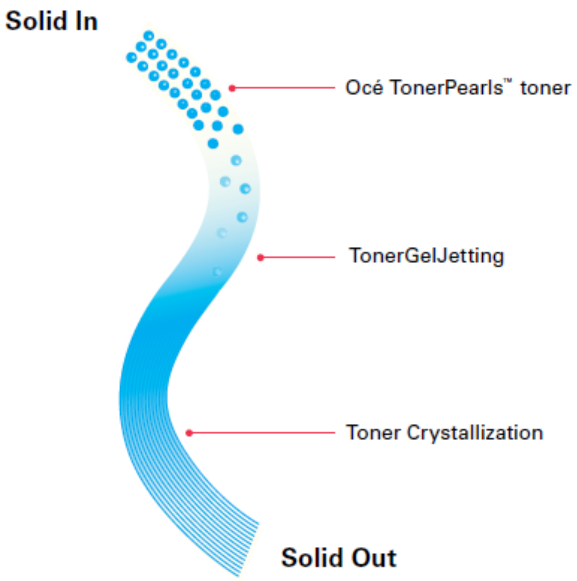
First, a quick word about inkjets

Before dissecting all the differences between inkjets and Océ ColorWave machines, it is only fair to give inkjet the proper love. When it comes to photo-quality and/or museum quality printing, traditional inkjet gives you fantastic results. Normally, high-end graphics are printed on a machine that uses 8 or 12 different color channels. The extra colors provide a much wider color-space which allows the machine to accurately replicate millions of colors. However, these are not typically the types of plotters that you find in the average architect or construction office. Conversely, the standard, general-purpose plotter uses a 4-color profile: CMYK (Cyan, Magenta, Yellow, and Black).

Of course, several variants of these CMYK-based printers exist. For example, Canon iPF printers use two different blacks, a dye and a pigment, while HP utilizes a dedicated Gray ink. However, CMYK color theory is the basic science behind both of these. Just don't expect 12-color results out of a 4-color machine.

Revolutionary CrystalPoint Technology

Instead of using liquid ink, the ColorWave 500 and 700 models use a patented process called ***CrystalPoint Technology***. This is where color ***TonerPearls*** (small toner spheres) are melted via an imaging device and then jetted onto the print media. In contrast to inkjet machines, the only time a liquid is present in the ColorWave is when the TonerPearls are in temporary melted state.



The inkjet process, on the other hand, begins and end with liquid. As you may have experienced, **liquid ink can present some common problems and challenges:**

- Inkjet inactivity can result in expensive print head failures or ink can seep into other parts of the machine. With inkjet plotters, the best practice is to print “something” at least every few days. Otherwise, ink can dry in the nozzles and/or clog in the plumbing lines.
- The output quality of inkjet technology is completely dependent on the media that is used for printing. For example, if a full-color map needs to be printed, then a heavy-weight bond or photo paper should be used. Otherwise, the ink will oversaturate the paper and the final product will not look very good at all.
- Inkjets also require many more supplies. All inkjet plotters, regardless of manufacturer, will need ink, print heads, paper, and a maintenance cassette (tray or cleaner) in order to function. If you have to manage a fleet of wide-format printers, this can be a logistical nightmare.

The ColorWave Difference

Although the ColorWave toner originates as a pellet rather than a powder, the final product has similar properties to the more traditional powder process. Toner will not streak or bleed in the case of getting wet. Most users can immediately identify with this if they are in the habit of highlighting information on a construction plan printed on an inkjet plotter.

Another beneficial aspect of toner is evident when users print a black/white image. Regarding the ColorWave system, only black TonerPearls are consumed. Nearly all ink-type printers will consume some color ink when printing black/white files. For example, HP Designjets traditionally render all grayscale with a green tint.

Unlike inkjets, the media type used in the ColorWave does not determine the final print quality. This is because CystalPoint technology enables the toner to instantly crystallize on the surface of the print media. Comparatively, Inkjet plotters require the ink to be absorbed into the media. This is why full-color inkjet prints look horrible on lower grade papers. A heavier weight substrate is needed to fully accept the extra ink needed for maps and posters. Conversely, ColorWave Océ plotters are capable of printing full-color posters on regular, 20-pound engineering bond without sacrificing any print quality.

Failure is Not an Option

Anyone experienced with inkjet plotters knows the frustration of a print head failure, which results in wasted time and a wasted print. Most inkjet machines will only alert you when there is a complete print head failure. In other words, when the plotter can no longer function.

Alternately, the Océ ColorWave plotters are equipped with ***PAINT Technology*** *(Piezo Acoustic Integrated Nozzle Technology)*. This is a unique Océ technology that monitors the consistency and quality of the printed output. It incorporates a very sophisticated blend of internal diagnostics, maintenance, and error corrections to overcome common nozzle issues that occur with standard inkjet technologies. Oh, and PAINT is deployed in real-time, even while printing.

More Paper Options = More Printing Options

All-in-One 4 Rolls	Printer 4 Rolls
	
All-in-One 2 Rolls	**Printer 2 Rolls**
	

The availability of more paper rolls is incredibly beneficial to those who need to print various sizes interchangeably, such as 24”x36” and 30”x42” prints. Regarding a single roll plotter, the paper has to be manually changed before each new job requiring a different size. Obviously, plotter manufacturers have responded to this demand with more 2-roll printer options on the market. Canon and HP alike, both have various models to pick from. But, what happens when 2 rolls is still not enough. What if you need more?

The ColorWave 500 comes standard as a 2-roll version, but can be upgraded to a 4-roll roll capacity. And if you really need to kick it up a notch, the ColorWave 700 can hold an incredible 6 media rolls. More rolls gives you more choices, regarding both size and type. This comes in handy for installations where various sizes of Tyvek, film, or another exotic media is needed in addition to the normal paper selections.

Create Magic with an Océ ColorWave 500

Without a doubt, the Océ ColorWave 500, by Canon, stands out as one of the most unique and innovative large format systems on the market today. The driving force behind its uniqueness is the one-of-a-kind printing technology used by the ColorWave – **Océ CrystalPoint Technology**.

There are many advantages to discuss regarding the wide range of wide format plotter paper available for the system. Why? Because the Océ ColorWave 500 hosts the largest available selection of media options for a printer of its class. You simply have more choices with this machine.

Paper for Engineering Applications

At its core, the ColorWave 500 is a color CAD printer. However, it is dynamic enough and robust enough to function equally well as both a full-color system as it is a black/white CAD plotter. Likewise, for many companies, monochrome CAD and color lines remain the primary function. For this reason, Canon offers a variety of engineering bond media:

- 20 lb Engineering Bond Paper (45111)
- 20 lb Recycled Bond Paper (45111R)
- 20 lb Tinted Recycled Bond (Pink/Green/Blue/Yellow) (45111XR)
- 18 lb Translucent Bond (450018)
- 20 lb Vellum (459000)

Engineering Film

Although the need for transparencies is a bit uncommon today, there are still instances when a film original is still needed. This can often be the case regarding final submittals to municipal agencies. These entities usually require film construction plans for extra durability and dimensional stability. In that case, the ColorWave 500 easily handles these film types:

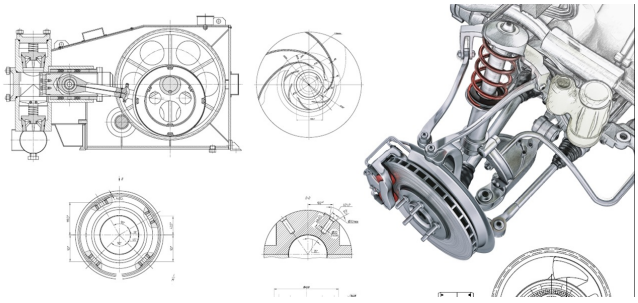
- 5 mil Double Matte Film (44632)
- 4 mil Double Matte Film (44542)
- 4 mil White Opaque Film (44543)

Océ Media for Color Specialty Applications

One of the most exciting aspect of the Océ ColorWave 500 system has been its ability to produce professional graphics quality prints on just about any print media. Although it is certainly capable of producing top-notch results on standard bond paper, sometimes a special media is beneficial to the project. Some great examples of this include maps, banner, POP, POS, retractable displays, outdoor short-term posters and signage.

- 24 lb Premier Bond (6024)
- 28 lb Premier Bond (6028)
- 32 lb Premier Bond (6032)
- 40 lb Premier Poster Paper (6040)
- 7 mil Satin Photo Paper (PHPR7)
- 24 lb Adhesive Back Bond (ABBND)
- 5 mil Tyvek Banner (6007)
- 8 mil Polypropylene (6008)
- 7 mil Wet Strength Paper (WS7)
- 7 mil Satin Fabric (SAFAB)
- 4 mil C1 Satin Paper (4C1S)
- 6 mil C1 Glossy Paper (6C1G)
- 5 mil C1 Semi-Gloss Paper (5C1SG)
- PhotoTex Repositionable Fabric (PHTX)

With all of these media choices, it is amazing to see how architects, engineers, and construction companies are expanding their horizons to print in all new ways. In fact, many companies who own an Océ ColorWave 500 system now print their own marketing materials in addition to their CAD and BIM projects. Therefore, they no longer need to outsource this work and the result is faster-turnaround and better quality control.



The Océ ColorWave 500 Versus the Competitive Field

In the following pages, see how the Océ ColorWave 500 stacks up against some of the biggest competitive rivals:

Kip 800 Series Color Toner Systems

Océ ColorWave 500 System

KIP 800 Series

HP Designjet T3500 eMFP

See How the Océ ColorWave 500 Out Shines Kip 800

Today's CAD environments are a new breed. New, powerful software applications and large, complicated files are the norm and they can literally choke the life out of an old, outdated plotter. These challenges tend to grind an architecture or construction company's workflow to a halt. In order for these companies to compete and be successful in a heated marketplace, high-stakes deadlines need to be met. To do so, more powerful and sophisticated equipment is needed to meet these challenge head on. One of the new tools that these companies are turning to is a powerful plotter/scanner systems that utilize toner instead of ink jet technology to gain a whole new level of dynamics to their wide-format printing.

In this new space of color-toner wide format machines, there are two primary players, the Kip 800 Series and the Océ ColorWave 500/700. On the surface it seems like a pretty even match, but once you peel back some layers, the Océ simply brings more to the table.

Océ ColorWave 500 System

KIP 800 Series

Productivity

Stating the obvious, the new Kip 800 is fast—really fast. It is rated for a print speed of 8 D-size sheets per minute. Sure, that is impressive! However, if you dig a little deeper, you will see that, on average, a typical company prints less than 5,000 square feet per month. Break that down, that is only 42 sheets per day. Under that type of average workload, the Kip is only printing slightly more than five minutes per day! So, unless you need to print all 5,000 feet at once, the speed increase is both marginal and negligible.

Versatility

The ability to quickly print color documents has been gaining popularity among AEC companies. There are many reasons for this, including better overall communication across the entire project team—the better information is presented, the fewer mistakes are made, the less money is spent on waste. Another surprising benefit of having a toner-type color plotter is the ability to print much more than just basic CAD drawings. Many construction companies are finding an extra value to print 3D Revit renderings, aerial images, maps, and other marketing materials.

This is where the Océ ColorWave 500 shines. First of all, the ColorWave is a 42-inch printer while the Kip printer is limited to a 36-inch width output. To some, this doesn't seem like a big deal since most construction plans are either 36-inches or 30-inches wide. But, once the Marketing Department finds uses for the plotter, the 36-inch width of the Kip can be extremely limiting.

Another thing to keep in mind when printing marketing materials, maps, posters, etc. is the need for specialty media. Since the Kip 800 series still relies on traditional pressure-fusion technology, the printer's media selection is somewhat sparse. This is due to immense heat needed to fuse the powdered Kip toner. Think about your basic office color-laser printer, it's basically the same design.

Conversely, the Océ ColorWave 500 CrystalPoint printing method allows for a much wider range of print media options, including Tyvek banner, Polypropylene, satin photo paper, satin fabric, and many more.

Earth Friendly

In keeping with the Océ (Canon) standards on environmental consciousness, the Océ ColorWave is designed from the ground up as a sustainable machine. It is important Canon to produce a durable machine that runs clean and promotes a healthy working environment for their client users.

Alternately, this is where Kip runs into more issues. Even though the Kip 800 Series is an **ENERGYSTAR** certified system, the **ENERGYSTAR** rating is a bit outdated and most electronics today strive for an **EPEAT** certification. Guess what, Océ ColorWave 500 is **EPEAT** certified!

Size Matters

Admittedly, it is easy to get lost in the " ***wow factors***" of both machines, but at the end of the day, each need to be easy to install and simple to use within your office environment.

The Kip 860 and Kip 890 are both massive machines. They weigh anywhere between 1,070 and 1,170 pounds, depending on the configuration. Because of this tremendous weight, they need to be installed on a reinforced concrete floor. On the other hand, Océ ColorWave 500 weighs in at 556 pounds—almost half of the lightest Kip option.

So, if you have small doorways, narrow halls, or tight turns, the Kip could be problematic. For the Kip 800 Series to fit through a door, at least 43-inches of width are required. That could be a real issue since the most common size of business doors are 36-inches.

5 False Kip Printer Myths about the Océ ColorWave 500 System

You know that competition is getting fierce when the inflammatory statements start flying. Here are 5 myths that KIP is attempting to spread about the Océ ColorWave and the actual truth behind them.

Monochrome Print Speed

Kip Myth – The Océ ColorWave 500 prints at a slower speed of 3.5 D-size sheets per minute as compared to the 8 D-size per minute of the Kip 800 Series.

Océ Truth – The CW500 is rated for a speed of 4 D-size sheets per minute. Although half the speed, the fact is that the average user of these types of machines only prints 35 sheets per day. Is it really that vital to get those daily prints out in half the time? Probably not. Also, Kip had to give up print quality for speed. So, it really comes down to what you want - lesser quality prints faster or waiting a bit longer for amazing prints.

Color Print Speed

Kip Myth – The Océ prints between 1-3 D-size sheets per minute depending on coverage. Variable print speed substantially slows down with high coverage on page.

Océ Truth – "High coverage" is associated with graphics printing. The output of the KIP is not suited for graphics applications. This is because the overall color image quality of the KIP is not breathtaking. The colors tend to look flat and over saturated. Also, because the KIP 800 Series runs at a hot temperature, there are not nearly as media options with the KIP as there are with the Océ. Admittedly, the KIP is a faster printer, but the Océ is much more dynamic. What the ColorWave lacks in speed, it more than makes up for with extra productivity.

Operating Costs

Kip Myth – The Océ CW500 is extremely expensive to operate. Like inkjets, the "wax coated consumables" are costly.

Océ Truth – The entire basis of the ColorWave's CrystalPoint Technology is so that a user can use standard, inexpensive, and uncoated media and still get top-notch results. This format of primarily using standard media will greatly reduce your overall print costs. Plus, the ColorWave is capable of printing on a wide range of premium medias that are just not possible on the KIP, such as Tyvek and Polypropylene.

Sadly, the KIP is limited to ONLY uncoated media. This severely limits your options.

Kip Myth – Océ uses a "wax-based" melted ink technology.

Océ Truth – The TonerPearls are NOT wax-based. Think of them as solid toner spheres made of a specially-formulated polymer with a crystallization agent that transforms into gel once heated to the appropriate temperature. Secondly, the Océ employs Imaging Devices, NOT traditional print heads.

Unlike inkjet printers, the ColorWave's Imaging Devices are not reliant on any type of liquids or plumbing. The technology is based on solid-in, solid-out process. This means that you can turn the unit off for long periods of time and not worry about the Imaging Devices and other consumables drying out.

On the other hand, the KIP 800 utilizes a very dated xerographic process including a drum and hot-fusers. Although fast, this process necessitates the need to run extremely hot. This can result in quite an unpleasant machine environment in the summertime if there is not sufficient cooling available.

Ability of TonerPearls to Handle High Heat

Kip Myth – The Océ ColorWave 500's wax-base toner limits the ability to high-heat situations without melting.

Océ Truth – The ColorWave TonerPearls melt at approximately 250°F. If you print is exposed to temperature higher than that, you probably have bigger problems to worry about.

Conclusion

When it comes to the competitive Kip talk track, don't believe the spin. The truth is, the Kip is faster, but the Océ is much more dynamic and diverse. So, the CW500 is not anemic as Kip would like you to believe. In contrast, the Océ, powered by an innovative and patented CrystalPoint technology, is capable of things that make the Kip green with envy – **Océ Green**!

Top Reasons Why the Oce ColorWave 500 Crushes the HP T3500

The Océ ColorWave 500 also competes directly with the HP Designjet T3500 eMFP when it comes to single-footprint systems . But, don't think these models are evenly matched. See why.

Specification	ColorWave 500	HP T3500	ColorWave 500 Benefit
Internal Hard Drive	2 x 500 GB Hard Drives	500 GB Hard Drive	Dual memory architecture eliminates long processing times and protects against missing information.
Max Print Speed	225 D's/hour 3.5 D's/minute	120 D's/hour 2 D's/minute	Meet critical, high demand deadlines though faster printing speeds and greater throughput.
Scan Speed	B/W: 14.6 inches/second Color: 4.8 inches/second	B/W: 7.5 inches/second Color: 2.5 inches/second	Copy, scan, and archive twice as fast on the Océ ColorWave 500.

Ink/Toner Tank Size	Cyan, Magena, Yellow, Black 500 grams of TonerPearls in each container	Cyan, Magenta, Yellow, Matte Black, Photo Black, Gray 300ml of ink per each ink tank	The HP T3500 uses more color channels so overall more ink will be consumed over time. The ColorWave 500 uses larger containers of toner which results in longer periods of uninterrupted printing.
Printing Workflow Software	Océ Publisher Select, Océ Web Express Tools, Océ Print Direct	HP DesignJet SmartStream, HP Embedded Server, email printing	Océ software options are robust, simple to use and are supported across the entire Océ and Canon product portfolio including all other Canon iPF printers.
Sub-Ink/Toner System	Yes	N/A	The ColorWave 500 sub-toner system allows you to change the toner while the machine is still printing. This maximizes productivity during high-volume printing situations.
Media Rolls/ Capacity	4 rolls 650 feet rolls	2 rolls 650 feet rolls	The Océ has twice the paper capacity of the HP T3500. This allows you to print over 2,600 square feet without having to change the paper. Extra media rolls also offer much more flexibility regarding media sizes/types.
Large touch-screen interface	Yes	No	The Océ ClearConnect touchscreen interface is very intuitive and easy to use. Scan, copy, print, and preview right from the control panel. Conversely, the HP T3500 interface is small and harder to see and use.

Although both systems are comparable in some respects, the Océ ColorWave 500 crushes the T3500 regarding overall productivity. With 4 media rolls, instant dry prints, ease of operation, and robust finishing options, the Océ rises to top as the clear winner.

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Is the ColorWave 500 Right for You?

Reach out to one of our Océ ColorWave 500 Specialists and we will help you configure the right solution for you.

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