

newsline



A newsletter published by Fuji Photo Film (Europe) GmbH, Düsseldorf,
for the print and media industry

special

Top Story

Computer-to-Plate:
Let there be light and heat

Case studies

Druckhaus Zanker:
HighTech in historical
surroundings

Schwäbisch Haller
Industrie-Druck:
Pragmatic CtP

FUJIFILM



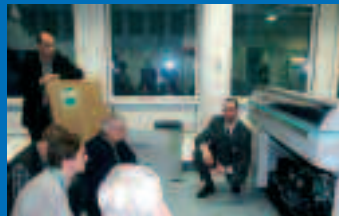

Dear Readers

Nobody simply decides to opt for a CtP system on the spur of the moment. There are too many options and the variety of factors having impact on this crucial decision – thermal versus violet technology, for instance – is too multifaceted. And on top of all that, Fujifilm doesn't make it any easier for customers: we offer both technologies!

external consultants and Fujifilm product specialists were on hand to explain in theory and practice the basics of CtP, elucidate the factors that have an impact on workflow and the choice of plates, and give an in-depth analysis of the different CtP systems on the market. We've compiled the most important facts, statements and results of the event in this special CtP issue of



"newsline" along with a wealth of essential information to give you a general (and impartial) overview of this fascinating topic. Also included are case studies from two leading businesses who have chosen to work with thermal and violet systems from Fujifilm.



I hope you enjoy reading our special issue.

To facilitate the decision-making process the German Fujifilm organisation invited customers and experts to attend an information event held in November 2004, entitled "CtP: A New Dimension". At the event, which took place at the Düsseldorf Fujifilm Technology Center,

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Class, not mass: print sales go up

Two very different trends dominate Fuji Photo Film (Europe) GmbH's current economic scenario. While consumer products have experienced a slight drop in sales, the Industrial Systems division is showing robust growth rates, despite a declining market. "Although we have, as the German subsidiary of the world's largest photo-imaging enterprise, adapted to the rapidly changing imaging industry, the sheer quantity of digital cameras flooding the market has left a noticeable dent in Fujifilm's German business," reported Helmut Rupsch, General Manager. Fuji Photo Film (Europe) GmbH is expecting to conclude the business year



ending 31 March with a single-digit drop in revenues, but the company will report a profit for the year. The development of the market for prints from digital cameras has been positive, with substantial growth achieved and considerable potential still to be exploited. In 2004 alone, two billion photos were printed from digital sources, an increase of 100% on the previous year. Fujifilm profits from this trend by supplying its Frontier series digital mini-labs, photo paper, photo data terminals and the



company's own digital laboratories. In Prepress, the demand for film and plates has been augmented by Computer-to-Plate (CtP) systems, Colour Management and On-Demand printing systems. Despite difficult overall conditions, this division reported an increase in revenues and made a positive contribution to the company's profit margin. In the printing sector, sales of the key category - CtP plates - increased by around 40% compared to the previous year. Positive growth was also reported for Electronic Imaging and Digital Proof. In future, Fujifilm aims to further drive growth by offering consultancy services, digital printing technologies and new alliances.

Fujifilm unveils a new website

In December 2004, the redesigned and completely revamped Fujifilm Europe website went live. The new site provides detailed information on all Fuji Photo Film (Europe) divisions, including sections covering Photo, Print and Media Industry, Medical Imaging and Lifescience; it provides a wealth of useful services, links to the company's call centre and gives contact details and suppliers. The site also features some new sections: Knowledge, Know-how and Enjoy your Photos. The new website focuses on photography and imaging. In addition to Fujifilm's range of cameras, accessories, storage media, film and paper, the site also offers a print service "How

to print out your digital data" which provides addresses and locations of all Fujifilm partners. Tips and tricks from Fujifilm users provide useful hands-on information, and individual photo galleries showcase the skills of famous photographers who have worked for Fujifilm at trade shows and events. The company's broad photo expertise is made available to all in the Knowledge and Colour Management sections. There's also a photo competition with superb prizes. Users can subscribe to a monthly newsletter, which provides details of Fujifilm's consumer and graphics industry offerings and activities. And naturally, you can order Fujifilm's "newsline" or download it as a PDF from the website.

Single Cassette Autoloader for Luxel V/Vx-9600 CTP

As the demand for printing industry services increase, so does the need for faster lead times and lower costs. These factors make choosing the right CtP system and the right supplier even more crucial than ever before. With a comprehensive range of products Fujifilm has the right system and range of cost-cutting consumables for all needs.

Fresh on the market is a Single Cassette Autoloader for the Luxel V/Vx-9600 CTP to provide uninterrupted throughput and greater flexibility at a low cost. With the Single Cassette Autoloader violet platesetters can output up to 43 maximum format (1,162 mm x 960 mm) plates an hour at 1,200 dpi. Existing configurations can be upgraded by adding the Autoloader; used in conjunction with an online plate processor, the Autoloader can transform a system into a competitively-priced fully automatic platesetter.


Newspaper plate LH-NN

The Fujifilm LH-NN thermal plate, developed exclusively for the newspaper industry, is being introduced gradually. The negative plate is suitable for use with a wide range of CtP engines with IR diodes and for medium to high print runs of high-quality colour jobs with superfine screen rulings.



CtP – let there be light and heat

Today, the million-dollar question is not so much whether printing companies will switch to Computer-to-Plate, but when. Or what system they will choose to upgrade to. CtP may be a fairly recent technology – with 10 or 12 years of practical application to its name – but already early-adopters are getting ready to re-invest.



The electromagnetic range relevant to the printing industry has been significantly extended with the development of thermal plates. Despite this, most laser light sources operate in the visible light range. Both heat and light are used to image printing plates.

CtP systems have long since proved their versatility and cost-effectiveness; they are easy to use, smoothing the transition from film-based plate production; they eliminate the stages film development, manual assembly and plate copy in copy frame, and, finally, they perceptibly enhance prepress and printing quality.

Statistics show that the majority of companies that have installed CtP system in the past few years have been medium-sized and large companies. However, over 80% of all printing and prepress companies are small businesses with fewer than 20 employees, and the large majority of these companies have yet to adopt CtP. For these businesses, the crucial issue is what equipment to invest in and which imaging technology to adopt. Before making any major investment, each company needs to examine its

position and ask which CtP technology suits the company's specific style of working.

A broad range of CtP systems

The choice of CtP systems on the market is wide, and most of these technologies are mature. Leaving the question as to whether to opt for violet or thermal imaging...

No, it's not quite that easy: in addition to these two imaging technologies there is also the option of imaging conventional UV-sensitive plates or using plates as an integrative component of a Digital Imaging system and putting image and text information on the plate in the press. And then there's always the option of imaging plates with an inkjet printer, as recently demonstrated at drupa. On top of all these options, there's also the question of whether the plates are to be produced with or without processing (processless or chemical-free plates).

Is there a perfect technology chain?

Because each company has its own unique characteristics the first step in the decision-making chain must be to analyse the key criteria that a CtP system should fulfil. This means looking at format of the system, and also the way in which the plates are used (which inks are used for printing, are the plates suitable for use with UV inks etc.). It's not an easy decision – investing in imaging technology is a major step that determines which materials are needed and how the company will work in the future. Take plates, for instance: CtP doesn't just mean selecting a supplier; it means choosing a specific plate type and getting a matching suite of technology consisting of platesetter, processor and plate system.

CtP – just an interim solution?

It's only 20 years since the first laser imaging system was unveiled. Together with Adobe's PostScript page description language and the Apple-based Aldus PageMaker layout programme, these innovative systems heralded in the era of DTP systems and modern prepress. This revolution in printing triggered a fierce battle, with prepress equipment manufacturers flooding the market with RIP systems and imagesetters. Today, nobody is going to get excited about film-based workflows (although plenty of companies still use film to make plate copies). Film exposure, and with it imagesetting, has become virtually obsolete over the past ten years. This is largely because of the breathtaking progress made by computers, information technology, communication paths and speeds, imaging systems and materials, which have opened up a completely new dimension in printing. But that begs the question: does anyone really believe that we've reached the pinnacle? Is progress about to come to a standstill? Take these factors into consideration and it becomes obvious that CtP can only be a transition to even greater things. Processless (or low-process) and chemical-free plate imaging is no longer a vision. It seems almost superfluous to ask whether we'll still be using plates a few years down the line. Engineers in R&D labs are busy working on methods of on-press ima-

ging that do not require plates: a base material is coated with a colour-carrying emulsion – end of story. For the workflow this translates into: image, print, delete, image... Sounds familiar? It's the basic principle of digital and laser printing systems. So is CtP really just an interim solution? Definitely! But for the foreseeable future Computer-to-Plate is the only technology that can deliver the quality that the printing industry expects of plates and plate production. The key quality criteria are dot formation, process stability and high production reliability of plates. All of these factors remain knock-out criteria for alternative, processless methods.

It's all different with Computer-to-Plate

Now that Computer-to-Plate has established itself as the natural successor to film-based plate copies and plate production, users are being asked to choose one of the two CtP technologies. Once a decision has been made for thermal or violet there's no going back: switching over to the other technology involves a complete conversion of machines and materials, which is both time and cash-consuming. It pays off to give the matter careful thought before opting to invest in one of the systems. Businesses that continue to use conventional film-based imaging methods followed by analogue assembly and plate

copies can rely on tried-and-tested workflows and use materials and suppliers they are familiar with. Things are different with Computer-to-Plate: users not only have to come to terms with data handling, a digital workflow and large quantities of data, they also have to learn to use the appropriate imaging technology. The CtP system determines which plates are used, and vice versa. And although some CtP systems have different light sources, they still have to match the required plate. As a result, CtP systems must be viewed in conjunction with the spectral sensitivity of the plate. There are several main factors which influence the technology, and ultimately also the cost of Computer-to-Plate; all of these factors intermesh closely:

1. Platesetting technology
2. The platesetter's light/energy source
3. Plate sensitivity
4. How the plates are processed

None of these points can be viewed in isolation, as they are all mutually interdependent and influence each other to a large degree.

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Fujifilm offers both types of CtP systems: thermal and violet technology. Both technologies have their own specific advantages.

The new trend: all CtP technologies

What differentiates CtP from imagesetters is that the imaging technologies have evolved so rapidly in a very short period of time. From the beginning of the 1990s to around 1995, internal drum imagesetters with blue argon-ion lasers or red helium-neon lasers represented the leading technology, until they were superseded by green FD-YAG lasers at drupa 1995. Then came thermal external drum imagesetters with 830 diodes, which became state-of-the-art in commercial printing, pushing internal drum imagesetters off the market. Since it was first introduced, thermal technology has remained relatively stable. Before drupa 2000, some manufacturers forecast that CtP would definitely gyrate to thermal platesetting. This prognosis would have sounded the death knell for systems that used visible light lasers in the blue, red and green spectrum to image silver-halide based or photopolymer plates. But things turned out differently: at drupa 2000 internal drum platesetters made a

comeback with the new violet 405 nm diode. Additionally, another process, which images conventional plates with UV light, was also successfully established.

Each technology has its advantages

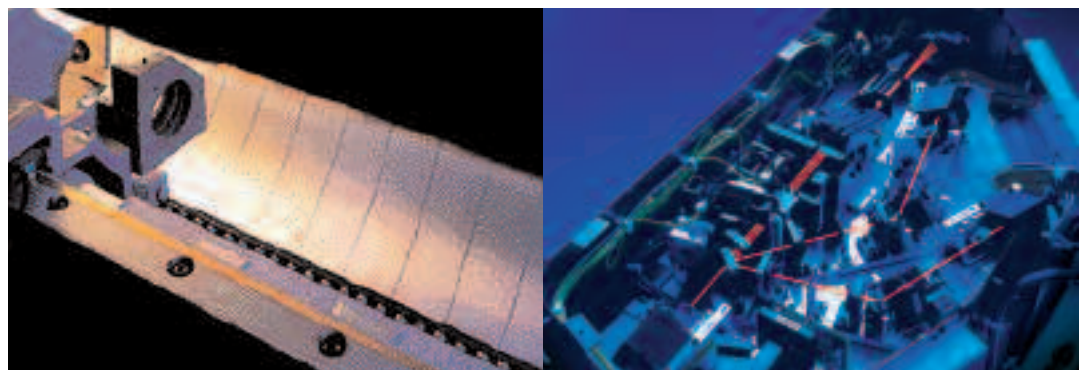
Each of the technologies presently used has its own distinctive advantages. While thermal offers stable, low-cost processes and a wide selection of platesetters and plates, the downside is the cost of the powerful lasers. In addition, it still remains to be seen whether processless thermal plates will be able to make a breakthrough, a crucial key for small-format thermal plate imaging. Platesetters with cheaper violet diodes are currently very attractive for smaller businesses and businesses just starting out with CtP who do not want complex solutions. The choice of plates is constantly improving and more violet plates are in the pipeline.

No technology dominates

In sum, no imaging technology dominates the current marketplace; no technology

can claim to be the number one choice, and this is not likely to change in the foreseeable future. CtP systems that use visible light (predominantly violet) and thermal systems have both carved out their place in commercial printing and they share the market equally. In newspaper printing, on the other hand, violet systems dominate with 80% of the market. In poster printing, thermal plates are predominantly used as only this technology delivers the large formats required. This also applies to packaging printing, where stringent quality requirements are typically combined with large-volume print runs, and where special requirements, such as glosses and special inks, are common. Here, thermal plates have captured the market, leaving all other types behind, largely due to 16+ page formats.

Fujifilm's violet platesetters use the internal drum principle, where a spinner images the plate with up to 40,000 rev/min. Fujifilm's platesetters become even faster if a dual laser "double beam" is installed; with this upgrade the Luxel V-9600 CTP can output 32 full-size B1 plates an hour at 2,400 dpi.



CtP™ with conventional plates is reasonably successful, but it remains to be seen whether this method will be able to capture a long-term share of the market. Other technologies, such as inkjet systems, are still very much in their infancy. But if there's one thing we've learned from the rapid evolution of CtP technology over the past 10 years, its never to close our eyes to new solutions.

Growing choice of systems

Until recently, CtP systems have been the domain of larger companies, and hence predominantly used for printing and imaging formats of 70 x 100 cm and above. The smaller printers tend to work with formats of up to 50 x 70 cm, and for these companies it has been difficult to get CtP to run economically. There's no way of telling which technology will dominate the mass CtP market of the future (and with it the market for small-format systems). However, one thing is clear: it will be systems that offer a low cost of ownership and operation. The supplier CtP market could be

on the verge of evolutionary change. The first signs of change can be detected in the broad palette of systems presently available: in order to cover as much of the market and as many customer requirements as possible, manufacturers have been designing one basic model and then modifying it to allow as many similar components as possible to be incorporated (thus ensuring large production runs and lowering the cost of each component and with it the overall cost).

For smaller companies this approach has the advantage of offering a flexible upgrade policy. The result is a vast spectrum of different systems with production alternatives.

CtP enables FM screening

Printing companies hoping to get a head start on the competition are increasingly tur-

Fujifilm's systems deliver complete reproducibility and accuracy due to perfect plate fit and smooth transport through the machine. Format changeover (shown on the right) is swift, avoiding any time loss. The Luxel V-9600 CTP can be loaded with up to five different plate formats simultaneously.

ning to frequency-modulated screening (FM). This technology offers exceptionally high reproduction quality, which businesses are hoping will attract and bind customers. In order to benefit from FM screening you need CtP. Until only recently FM screening was still a red rag for most printers; improved FM algorithms, stable CtP systems and plates have changed that by smoothing the path for FM screening.

But even now, to use FM screening successfully, pre-press businesses must ensure that the data are adapted to the smaller dot size; they must use colour management, have a consistent process control system in place and ensure that the ink/water balance in the press is completely stable. Once these production basics are in place, there's nothing to stop FM screening being used. Fujifilm recently launched the second generation of FM or hybrid screening (Taffeta, CoRes Screening).

What benefits must CtP believer?

Before considering CtP in general, it is important to realise that CtP applications are available for a variety of specialised uses: newspaper printing, packaging, poster, web offset and commercial offset printing.

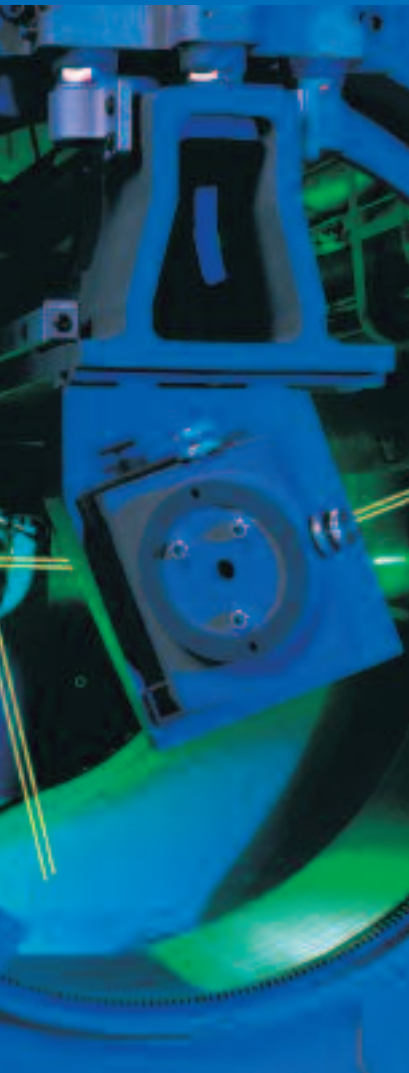
All of these applications come with their very own set of plate requirements; pre-press and printers also have their own specific needs for plates and processing. In principle, the transition to CtP should bring as little change as possible, making the key requirements as follows:

- Good image contrast on the plate
- Plates should clean up when printing starts
- Ink/water balance should be easily maintained
- Resistance to mechanical damage (scratches or fingerprints)
- High durability
- Fine resolution (min 20 µ for FM screening)
- Good shelf life

Plates should have a broad exposure latitude to ensure dependable results even if sensitivity and development vary slightly.

Developers should not sludge, they should require as little regenerator as possible, be non-corrosive and suitable for environmentally-friendly disposal in order to avoid high disposal expenses. CtP fulfils all of these requirements – regardless of which technology is used.





Thermal or violet?

With the maturity of today's CtP, for most users it's not a question of whether to opt for CtP, but which of the two technologies to use: thermal or violet. To help you identify the technology that suits the needs of your business's best we have compiled a brief list of strengths and weaknesses.

While there are manufacturers who offer only one of the two technologies, an increasing number of suppliers are offering both. Plate manufacturers, in particular, have realised that you can't simply ignore 50% of the market simply because you happen to prefer one technology to the other.

Fujifilm recently added violet technology to its range of CtP offerings and continues to actively support thermal technology, thus covering both imaging technologies with a full assortment of platesetters and plates, giving customers complete freedom of choice to select the system that best meets their needs.

Violet: great potential

Despite recognising the strengths of both technologies, Fujifilm's main focus is on marketing violet systems,

as we believe that this technology has the greatest future potential.

Violet systems offer the best combination of productivity, reliability and quality at a low operating cost. Violet systems give outstanding format and punch flexibility; additionally, they can be configured for easy handling and to comply with environmental aspects.

Thermal technology

Thermal platesetters have firmly established themselves over the past years and they deliver a highly stable CtP process. For many companies this stability and daylight handling are the key issues that triggered a decision in favour of thermal technology. The major drawback to thermal imaging is plate sensitivity. Thermal plates typically require at least 1000 times more energy to expose than visible light types, meaning that they are restricted to use with external drum platesetters. The external drum reduces the rotation speed, thus compromising productivity. This, in turn, is compensated for by using multiple laser arrays (up to 512) requiring bigger efforts in terms of calibration and maintenance.

Advantage violet laser diode

Offering greater productivity and simpler maintenance, platesetters that work with visible light – and especially violet laser diodes – have over the past few years gradually come to dominate the market.

Although plates that are exposed with visible light need to be handled in safe-light conditions (as a rule, only while the plates are being loaded into the cassette) this slight disadvantage is more than compensated for by the many benefits that violet light systems bring. Fujifilm's violet light platesetters use the highly productive internal drum technology which allows higher exposure speeds because only the spinner mirror moves, and not the entire drum.

Fujifilm's engineers developed a special technology for these platesetters: like other internal drum platesetters the laser is projected onto the plate by means of an optical system. The spinner positions the dots with unparalleled micrometer accuracy and rotates at the incredible speed of 40,000 rev/min at all resolutions.

An optional upgrade to a "dual beam" configuration is available, allowing users to almost double exposure speed.



Fujifilm's roster of thermal platesetters is equally impressive, including high-performance engines like the Luxel T-9800 CTP with innovative GLV imaging technology.

The Luxel violet CtP systems use semiconductor lasers with a wavelength of 405 nm. These lasers are designed to have a working life of around 5,000 hours, or 4 to 6 years, which is significantly higher than thermal lasers. However, Fujifilm engineers say that the working life can even be higher. Maintenance costs are low because violet CtP systems require only one or two laser diodes. Violet technology offers the unbeatable advantages of low operating costs and economic laser and maintenance costs.

Easy upgrades

In today's printing world print runs are getting smaller and more specialised, while customers are demanding ever shorter lead times. With the needs of customers in mind, Fujifilm has designed its platesetters to be modular, allowing them to be upgraded and configured to the specific requirements of prepress and printing businesses.

Existing systems can be easily upgraded to semi or fully automatic systems to boost productivity. Additionally, a second laser can be installed, transforming the platesetter into a multi-beam configuration and virtually doubling performance. These upgrade options enable customers to keep pace with rising order volumes without having to replace the existing platesetter or altering the workflow. Many businesses, and particularly those who are just starting out with CtP, do not need to run at full capacity from the word go and so may not initially need the dual beam system. By purchasing a single beam version they get outstanding performance from day one.



The fully automatic, top level version of the Luxel V-9600 CTP has a multi cassette autoloader, online developing and integrated plate storage.

Matching the plate to the technology

The energy sources used in CtP imaging for the graphics industry span virtually the entire visible light spectrum – including light and energy sources in the infrared and ultraviolet range. Accordingly, there is a comprehensive range of plates specifically developed for use with a specific energy source.

Laser diodes, for instance UV lasers, could conceivably be an alternative for plate imaging, as UV-sensitive plates are commonly used in conventional plate imaging and are widely available. However, this technology requires expensive, high power energy sources. Also, millions have been spent on developing CtP printing plates and the manufacturers are looking to recoup the cost of this extensive R&D work.

Months and months of development work, tests and approvals are required before a plate actually hits the market. Users expect a new plate to be easy to work with and produce reliable results. At Fujifilm, we do not believe in shifting the R&D lab into the pressroom. Only products that have matured under laboratory conditions are launched on the market. This has been Fujifilm's philosophy for many years, and our success shows that it is the right approach.

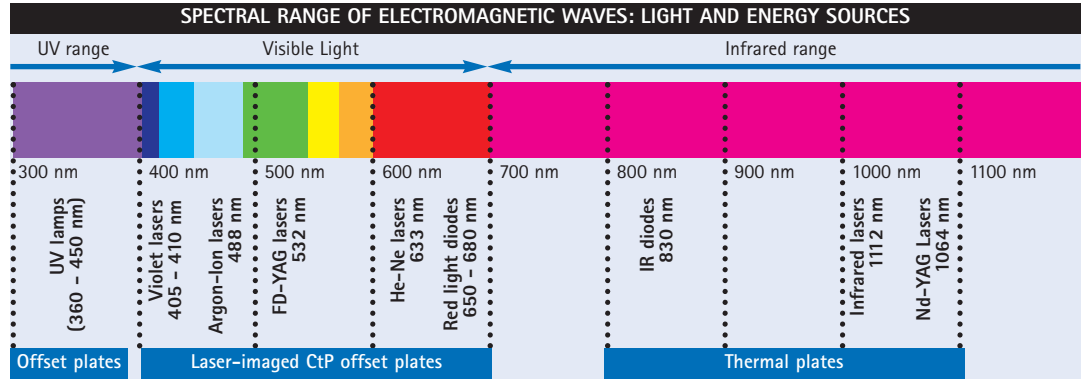
Progress towards processless

This philosophy is apparent in Fujifilm's development of processless or chemical-free plates, where the company is focusing on designing a processless technology that offers all the advantages and on-press characteristics of existing CtP plate systems. There are still a few snags that need to be ironed out before these plates can be marketed.

Today's processless plate technologies still present considerable limitations: low sensitivity leads to low productivity; low run stability limits the areas in which these plates can be used. Furthermore, the plates still have problems with press-room runnability, with ink/water characteristics and they have a tendency to scum. Chemical-free or no-process plates use the same general principle as thermal plates; as yet, there are no processless plates available for violet technology.

Thermal plates

Even thermal plates, which have been tried and tested in production environments for several years, are subject to a process of constant optimisation. These plates function at the other end of the wavelength scale conventionally used in the printing industry, above visible red light where there a number of process advantages. For instance, thermal plates can be handled in daylight because they are exposed (or rather, imaged) above a certain wavelength, but they also require a fairly long imaging time. In the early days of thermal CtP the plates still required special handling. Considerable progress has been made since. Fujifilm was one of the first companies to launch a positive thermal plate which did not require preheating.



The electromagnetic range relevant to the printing industry has been significantly extended with the development of thermal plates. Despite this, most laser light sources operate in the visible light range. Both heat and light are used to image printing plates.

Greater resistance to mechanical damage and improved runnability have been achieved. Latest-generation plates offer greatly improved resistance to mechanical and chemical damage, can be used with UV inks even without baking and are less prone to scum. Run lengths of up to 200,000 copies can be achieved under normal press conditions. The new plates also offer excel-

lent tone reproduction and can even be used with FM screening with 10 µm dots (equivalent to 0.5% screen dots). The plate resolution gives 1-99% screen dots at 200 lpi.

Photopolymer technology

Photopolymer plates, e.g. those used with violet systems, require yellow safelight handling. This disadvantage

compared to thermal plates is more than compensated for by the fact that photopolymer plates are highly light sensitive and require only very short exposure times. Photopolymer plates do not need silver-based emulsions and can be processed with environmentally-friendly chemicals. The plates have similar characteristics to conventional printing plates.

PRINTING PLATES			
Plate type	Spectral sensitivity Laser type used for imaging	Print run standard / baked	Comments, application
Conventional			
positive/negative	360 - 450 nm, UV light	250,000 / > 1 million	Film processing for commercial printing etc.
CtP plates			
CtcP plates			
negative	380 nm, special UV light source	Large runs	CtcP system required, commercial printing
Polyester film			
negative	633 nm, 670 nm, red light diode	20,000 / -	Silver emulsion, small print runs, small formats
Silver plates			
positive	405 nm, 488 nm, 532 nm, Violet diode, Argon-Ion, FD-YAG	300,000 / -	Sheet and web offset
Photopolymer			
negative	488 nm, 532 nm, Argon-Ion, FD-YAG, 410 nm violet diode	300,000 / > 1 million	Sheet and web offset
Thermal			
positive/negative	830 nm, infrared diodes	200,000 / > 1 million	Sheet and web offset
Chemical-free			
Thermal	830 nm, infrared diodes	up to 100,000	Wet offset or waterless offset
photopolymer	400 - 410 nm, violet diode		
Prozessless			
Thermal	830 nm, infrared diodes		commercial printing



Rainer Zanker is at the helm of the sixth-generation family-run company. The new CtP system is housed in a special room in the 350-year-old half-timbered building; the walls have been refurbished to expose the historic structure and details.

High-tech in historical surroundings

The Zanker printing company, based in Markdorf, in the vicinity of Lake Constance, was the first company in Europe to install Fujifilm's Luxel T-6000 CTP E system in the fully automated configuration with a multi autoloader.

Situated opposite the ancient bishop's palace in Markdorf, the Zanker building blends in with the medieval ambience of this idyllic south German town. The building where Zanker is based and produces is around 350 years old.

Rainer Zanker, the managing director of this sixth-generation family-run business, has successfully bridged the gap between tradition and high-tech.

This may sound very romantic and like an impossibly ideal world, but it is normal day-to-day business for a full service printing company.

"30,000 cars drive past here every day, and while this may have made our name slightly more familiar, it doesn't actually give us an advantage," explains Rainer Zanker. The company has no walk-in customers and, like other printing companies, has to work hard at attracting new customers and orders.

Nonetheless, the company has its roots here and is commit-

ted to the area and its traditions. And while the company prints tourist leaflets for this attractive region, this alone, according to Rainer Zanker, is not sufficient to keep a printing company going.

Scope of operations: international

The company is divided into three core areas: prepress and database services, printing

Since 1886 the Zanker printing company is based in the Gutenbergstraße in Markdorf in the vicinity of Lake Constance. The company is divided into three core areas: prepress and database services, printing and processing, and promotions. Operating with this constellation, the business serves a variety of big-name, international industrial clients.

For instance, BBS Kraftfahrzeug AG, a manufacturer of lightweight alloy wheels and rims, which has made a name for itself through the company's association with motor sports. Zanker handles all BBS's images and reproductions in a specially developed database. "We're the only company

Taking time to listen to the customer's needs

Zanker is a medium-sized company that aims to offer customers a comprehensive, broad range of services, from consultancy on all aspects of advertising, to layout, coordination and coordinating services, such as trade show

agency. He does, however, concede that they handle jobs and tasks that once would have been dealt with by an agency. "We are primarily a fully inclusive printing company, but I believe that the future would look a bit shaky if we were to rely on printing alone," says Rainer Zanker. "Through our day-to-day dealings, we know that what our clients want is a dependable partner with whom they can discuss advertising-related matters. And naturally, we always take time to listen to our customers' needs and provide relevant know-how. We know that we've got a firm grasp of all these aspects!"



and processing, and promotions. Operating with this constellation, the business serves a variety of big-name, international industrial clients. The company's scope of operations extends south, taking in the area around Lake Constance, Austria and Switzerland, and north, reaching up to the Black Forest and Ulm. "We don't see this as a natural border for the company, because most of our clients operate worldwide."

entrusted with creating repros for BBS and we administrate them in a database that is accessed from all around the world," explains Zanker. "In addition, we produce virtually all their printed materials and provide logistics and distribution services for their advertising items, including printed matter, watches, caps, sunglasses, shirts, jackets, bags and all the other accessories in the BBS collection."

plots or logistics for company collections.

"If the client wants, we'll even go shopping with them," jokes Rainer Zanker, referring to the company's commitment to providing "all singing, all dancing" service. "We design and produce high-quality advertising across the entire media bandwidth. Informative and highly distinctive."

Despite this impressive bandwidth, Rainer Zanker refuses to view his company as a printing business on the cusp of becoming a full service

The house of seven masters

Rainer Zanker, a master typographer, repro technician and marketing business administrator, has run the company since 1999. Zanker printing employs 21 staff (six in prepress, five in administrator and sales and 10 in printing and processing).

All Zanker employees are graphics industry specialists, and an astonishing seven of the 21 employees hold a master craftsman's diploma – which is very unusual for a business of this size. "Our complaints rate – and we'll not go into whether justified or not – is substantially lower than 5%. This proves that it pays to get experts in to do the job rather than having to print three times over", is the dynamic manager's unusual, but very reasonable opinion.



Rainer Zanker knows that the outstanding customer loyalty and close relationships his printing company enjoys are largely due to Zanker's reliability and production quality. On the last six years the business has notched up annual turnover increases of between 10% and 15% and has invested around € 2.5 million in new machines and equipment. "We've always been one of the most innovative printing companies in the Lake Constance area. Even though we're fairly average in terms of turnover and staff numbers, securing our technological leadership has been our core philosophy for decades", states Rainer Zanker.

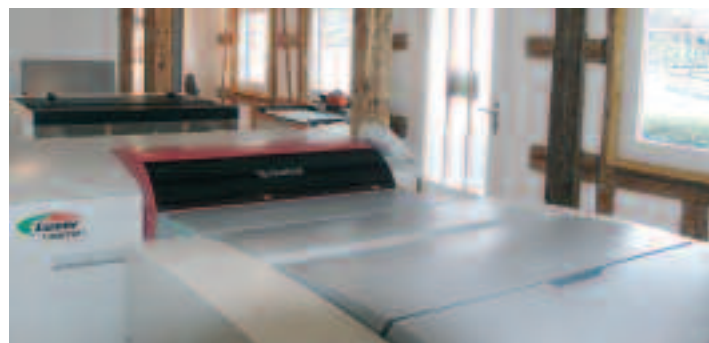
Belt and braces

"We've got two of each key item of equipment we use in house. Scanners, proofers, presses and cutters – we have to be able to keep going if a system or machine fails. For us, there's nothing worse than not being able to deliver," says Zanker. That's why the company produces with the CtP system installed last December and the older imagesetter. The latter is kept on stand-by as a back-up as well as being used regularly for producing screen printing films for special print runs. And although the company will always produce a small number of such jobs, Rainer Zanker reckons that in future "95% of all data will be imaged with CtP."

Luxel T-6000 CTP E instead of film

The Fujifilm CtP system Luxel T-6000 CTP E has been up and running since the beginning of December 2004. Just before Christmas, the company invested in a Multi Autoloader (MAL), making Zanker printing the very first

page film exposure and opt for CtP instead. "Suddenly, I was faced with the choice of whether to get in a replacement to do the films or to invest this money in a CtP system. I made the decision very fast: computer-to-plate, and fully automatic at that!" He explains that the key steps towards a digital workflow



company in Europe to have this variant of the medium-format thermal platesetter with a MAL. The B2+ external drum platesetter produces formats 324 mm x 370 mm up to 830 mm x 660 mm, and can image ten Fujifilm LH-PIE plates an hour at a resolution of 2,540 dpi.

"What initially started us down this path was the departure of a very good employee," explains Rainer Zanker, describing the factors that influenced them to leave the company's tried-and-tested workflow with full

were taken years ago, that the company had experience with computer-to-film and full sheet assembly and the "next step to CtP was only logical" because it made supreme sense. The decision to take a fully automatic configuration was equally logical, as the company was aiming to produce fully automatically and without additional staff.

Thermal instead of violet

Zanker has been working with Fujifilm consumables for a good five years. The "green" films are used in prepress, and the pressroom works with Fujifilm plates. "In all these years we've never once had a problem with materials," praises Rainer Zanker.



Zanker printing was the very first company in Europe to install the Fujifilm Luxel T-6000 CTP E CtP system as a fully automatic MAL configuration.

The CtP platesetter produces plates for 11 presses used by Zanker printing for small and medium mid-format production runs.

A business card for the senses: Zanker designed and produced this unusual hotel brochure which contains a CD with perfumed varnish, embossing and other details that speak to the senses.

This experience and the excellent business relationship with Fujifilm retail partner GRAPHIA were the main factors that drove the company's decision to choose a Fujifilm platesetter, "although it wasn't the cheapest one on the market," says Zanker. Originally, he had favoured buying a violet CtP system, which to his mind offered a number of advantages, including lower price. "But then I went for the thermal system because the difference in price was lower than I had initially assumed and because it may have a slight edge on violet in terms of quality." And delivering the best quality across the board is what his printing company aims to do.

Vast time savings

Although the company has only been working with the CtP system for a good month, Rainer Zanker is impressed: "We imaged around 600 plates in the first two-and-a-half weeks. Our printers are over the moon. The automatic plate changeover in the presses puts us in registration virtually from the very first sheet."

Naturally, what counts for the businessman in Rainer Zanker is that his printers are happy and, more importantly, that the company is able to produce better quality in far less time.

Quality is what dominates in Zanker's orders structure: the company specialises in small and medium mid-format print runs and, on average, has eight job changeovers a day on both of the multi-colour presses: the 5-colour Speedmaster and the 4-colour Speedmaster 52.

The two single-colour GTOs are fed with plates from the CtP system, and Rainer Zanker expects the Fujifilm CtP system to be averaging 500 plates a month in future.

Tradition vs. high-tech?

The company not only has an impressive modern array of machines spread out over the 3,500-sqm production facility; tucked away in a corner, but still running merrily, are an old Albert letterpress cylinder and an A4 and A5 platen press. Rainer Zanker is proud of the fact that his employees can "work magic" with these machines, even for state-of-the-art print productions.

The company developed and produced a CD for the Hotel Bischofschloss, which is located opposite the Zanker works. This CD addresses all five senses, starting with the cheerful sound of birdsong and the soothing murmur of a bubbling stream which can be heard when the CD is pushed into the drive.

These aren't the only senses awakened by the CD: sniff at the disc and you can smell the delectable scent of biscuits; touch the booklet and you can feel a knight, the hotel's mascot, embossed on one of the old machines.

Look closely and you will be able to make out a moor's head, decorated with a formula. Taste is the only sense where the designers cheated a little: to experience this sense you have to come to the hotel in Markdorf, which is just fine by the hotel's management and Rainer Zanker: "The CD is a business card that appeals to the senses," explains Rainer Zanker, adding "and there's never been anything like it on the market before."

Market niche

It's clever ideas like these that prove that there is still plenty of scope for small printing companies in the market, providing they can contribute innovative, creative ideas, media skills and expertise in the options offered by modern printing technology. And that's certainly all covered by Zanker's motto: "Solutions for your media".

www.druckhaus-zanker.de



Managing director Bernd Schaupp with plant manager Herbert Weidner in the pressroom. Schwäbisch Haller Industrie-Druck produces high-quality newspaper inserts.

Pragmatic Computer-to-Plate

Equipped with one of the first fully automatic Fujifilm Luxel V-6 CtP systems in Europe, printers Schwäbisch Haller Industrie-Druck have gained »a competitive edge in terms of quality« in addition to simplifying their prepress workflows. The four-page CtP system is used for web offset printing.

The company's motto is »Your partner for web offset ... and for great results«. Schwäbisch Haller Industrie-Druck Schaupp GmbH & Co. has around 30 employees and specialises in producing high-quality printed matter for mass distribution: high-run newspaper inserts for major customers, including Boss, Silit, Karstadt, TUI, IKEA and others, most with multiple branches. Print runs start at 100,000 copies and can go up to

»two, three or four million,« explains managing director Bernd Schaupp, »because we can print for individual branches with our imprinting units with 1/0-colour changes. This means that one branch gets, say, 10,000 copies then we change the imprint from Smith to Jones. The actual four-colour brochure remains the same.«

Generational change

The company's history started in 1889, when a book printing company opened in the town

centre of Schwäbisch Hall. In 1963, Franz Schaupp started expanding the company. Bernd Schaupp took over the medium-sized web offset printing company in 2001. He is particularly proud of the fact that many employees have been with the company for decades, a strong indication of the good working atmosphere here.

Herbert Weidner, the plant manager, is "an essential member of the team"; he did his apprenticeship as a typesetter here and will be celebrating 45 years with the company in April 2005. His energy and input are almost unbelievable: every year he runs at least four marathons and the 100-km race in Biel. Determination and staying power are definitely what are needed in the printing business.

The decision was made at drupa

For precalculation of customer quotations the offers the company received, Schaupp wrote a programme based on Access, the Microsoft database application. In prepress, data are received as PDF files with proof; proof plot is also sometimes used. Until autumn 2004, the company worked with an image-setter and front end to

Staff at Schwäbisch Haller Industrie-Druck confirm that, although fully automatic, the four-page platesetter Fujifilm Luxel V-6 CTP is very compact and easy to operate.

expose and develop impositioned films. In the pressroom there are two MAN Octoman for eight A4 pages plus imprinting units. The decision to opt for Fujifilm was made at drupa 2004. When Fujifilm visited the company in December 2004, Bernd Schaupp told us, "we've been producing with CtP since the end of September, beginning of October. We deliberately waited a bit until all the bugs and teething problems of CtP were out of the way. We used the time to familiarise ourselves with all aspects of CtP. Until recently, we produced only with film, then assembled the flats and imaged conventional plates. The great advantage of the new system is, of course, that we no longer get film cutting edge markings or undercutting."

It had to be fully automatic

Schaupp is now the first company in Europe equipped with a fully automatic Luxel V-6 CtP. With a single-beam unit (with a 60 mW violet laser) and a high-speed spinner that does 40,000 rev/min, the

Delighted with the results of the first months

You're one of the first companies in Europe to buy a fully automatic Luxel V-6 CtP and Taffeta FM screening...

... probably because we made our decision pretty fast. The device was presented at drupa 2004 in the fully automatic configuration. We simply fell for the compactness of it. The plates are put in the cassette, drawn in automatically and imaged and ready to use within two-and-a-half to three minutes. At 2,400 dpi that amounts to 20 plates an hour – which is indispensable with our requirements of between 80 and 100 plates a day.

How about Taffeta FM screening: have you started using it yet?

No, but the FM screening has been installed. We aim to use it to produce high-quality printed matter, for instance carpet brochures, where there is lots of very fine detail which FM can display much clearer than conventional screening. We also want to avoid moirés, which occur frequently with all the fashion images we print. If you've got a small shot of a patterned jacket then you invariably get moiré because the screen structure and the jacket pattern sit on top of each other. You don't get that problem with FM screening. Numerous customers have asked whether we can print with FM screening, but we'll probably have to go out and actively promote it.

So how do you rate the performance of your Fujifilm CtP system in the first two months?

After meticulous adjustments at the outset it's been running really well. This may sound like advertising, but even though the system is new on the market it struck us just how the manufacturer knew exactly what to do: in the installation phase we had between six and eight Fujifilm technicians working at our site. They got the machine set up and adjusted very professionally and took on board all our needs regarding lines in and out. We are very, very happy with the way the plates run on press. There's no need to expose or re-expose individual images with masks, which we occasionally had to do in the past. Operating the system during the nightshift is very easy. We've altered the name formats to enable every job to be identified, then the plate we need to be copied is simply mouse-clicked and three minutes later the finished plate automatically drops into the stacker. We're also very happy with the workflow and the user-friendliness of the Celebrant RIP. Just like the platesetter, the software is highly intuitive and icon-driven, making everything very easy to grasp. You can see everything that the platesetter is doing, step-by-step and any errors are clearly displayed. And that's not all: the system also tells you where the error occurred and what kind of error it is, thus helping you to rectify it as fast as possible. Not that we've had all that many errors so far.





Luxel V-6 can output twenty B2 plates an hour at 2,400 dpi. The machine's functional internal drum design is an improvement on the devices with conventional technology and it also delivers plates with exceptionally good thermal stability.

The Luxel V-6 CTP platesetter is fed with Fujifilm's Brillia LP-NV photopolymer plates and hooked up to a special plate processor. The processor status is constantly reported back to the PC-supported RIP engine and can be monitored on any computer in the network.

Fujifilm developed a light version of the Celebrant RIP to drive the four-page plate-setter; this special version offers full workflow functionality, right down to importing JDF jobtickets (which is not a feature that the company requires just now). Apart from being simple to use, Schaupp wanted to be able to use FM screening with Taffeta 20, as he hopes that this will eliminate moiré and rosettes and provide better ink coverage than older screening techniques.

The CtP system at Schwäbisch Haller Industrie-Druck is fully automatic, which is unusual for four-page systems, where every cent invested is counted twice. "It was absolutely essential for our productivity needs of 80 to 100 plates a day," explains Schaupp.

Proof output with an Epson 9600, fed with data by a Celebrant-Light RIP with Room.

Secure Room proofing

Usually, customers deliver their data as PDF files. Schaupp: "We still have a few customers who prefer to supply film, and naturally we will take and process their films. But we'll be changing this in the next six months and won't be accepting film anymore. We shall just have to persuade customers to send their data direct, because if you can have films made, then you also can send data."

The company's staff have got the workflow under control and the preflight with Enfocus Pitstop has matured so far that errors like RGB images or missing fonts are reliably shown. "That's a great help for us because it means that we don't have to expose twice."

The Celebrant Rip Room proofing (Rip once, output many) is firmly established; here, the proof is generated from the ripped, high-resolution data. Before the proof is output on a proofing device, an Epson 9600

inkjet printer, the data are descreened but not reinterpreted, which ensures virtually perfect correspondence with the CtP production data.

Corporate citizenship

No company is too small to practice corporate citizenship: the calendar "The Seasons in Hall", an idea which Schaupp's father brought with him from his native Munich and which started 16 years ago, remains a firm part of the company's philosophy. At their own expense, the Schaupp family produces the calendar, which contains lovingly sketched vignettes and gives the dates of all the main events in Hall; all proceeds and donations are passed on to the Hall Cancer Charity. Since the company first started making the calendar, around €170,000 have been raised and donated to the cancer charity.

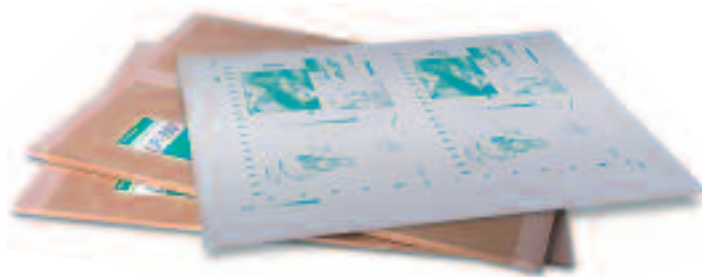
www.schaupp-rollenoffset.de



Fujifilm CtP plates

Outstanding quality and absolute reliability: these characteristics have made Fujifilm one of the world's leading manufacturers of printing plates. A range of exceptional products have been developed with Fujifilm's advanced MultiGrain technology.

Fujifilm thermal and photopolymer CTP plates use a complex grain structure, consisting of primary grain, honeycomb grain and micropores on an aluminium layer.



This 'multigrain' structure produces synergies that lead to outstanding printing efficiency, faithful tone reproduction, long process life and simple platemaking. Photopolymer plates are the ideal medium for medium print runs in multi-colour commercial printing up to

200 lpi. These plates require safelight handling but provide ultra-high productivity. Thermal plates can be handled in daylight, allow high screen rulings to be achieved and offer excellent batch-to-batch consistency.

The following abbreviations have been used in the table:

- A For high-volume work
- B For rich tone reproduction
- C Suitable for high screen rulings and FM screening
- D For printing large quantities of text
- E For efficient, cost-effective text and line reproduction
- F For printing super-sharp text and images

FUJIFILM PHOTOPOLYMER PLATES

Product name	Application	Features	Run length
LP-N3	Commercial printing, high-quality colour jobs (A, B, D, E, F)	High-quality photopolymer plate for commercial printing. Suitable for use with the majority of CtP engines with FD-YAG lasers. Enhanced dot quality and low susceptibility to spread exposure. MultiGrain technology for optimum results.	Medium to high
LP-NV	Commercial printing, high-quality colour jobs (A, B, D, E, F)	High-quality photopolymer plate for commercial printing. Suitable for use with the majority of CtP engines with violet laser diodes (min. 30 mW). Does not require baking for use with UV inks. MultiGrain technology for optimum results.	Medium to high
LP-NN2	Newspapers, high-quality colour jobs (A, D, E)	High-quality photopolymer plate for newspaper printing. Suitable for use with the majority of CtP engines with FD-YAG lasers. Good tone reproduction and low dot gain. MultiGrain technology for optimum results.	High
LP-NNV	Newspapers, high-quality colour jobs (A, D, E)	High-quality photopolymer plate for newspaper printing. Suitable for use with the majority of CtP engines with violet diodes. Good tone reproduction and low dot gain. MultiGrain technology for optimum results.	High

FUJIFILM THERMAL PLATES

Product name	Application	Features	Run length
LH-NN	Newspapers, high-quality colour jobs (A, B, C, D, E, F)	High-quality negative thermal plate for newspaper printing. Suitable for use with the majority of CtP engines with IR diodes. MultiGrain technology for optimum results.	Medium to high
LH-PCE	Commercial printing, high-quality colour jobs (A, B, C, D, E, F)	High-quality negative thermal plate for commercial printing; can be baked. Suitable for use with the majority of CtP engines with IR diodes. Compatible with KPG Goldstar DC developer. MultiGrain technology for optimum results.	Medium, with baking high
LH-PIE	Commercial printing, high-quality colour jobs (A, B, C, D, E, F)	High-quality positive thermal plate for commercial printing. Suitable for use with the majority of CtP engines with IR diodes. Can print UV inks without baking. Suitable for FM screening (10 µ). MultiGrain technology for optimum results.	Medium

Fujifilm's CtP platesetters

Fujifilm provides a full range of CtP platesetters for all needs in the printing and graphics industry

For those just starting out with CtP there's the MAKO range of platesetters, a simple yet effective flatbed system for two or four pages.

Fujifilm's violet platesetters come in four and eight page formats and offer a high level of automation.

Fujifilm's thermal platesetters start at four page format and go up to 16 and 32 page machines.

Product name	MAKO 2 CTP / MAKO 4 CTP	Luxel T-6000 CTP E	Luxel T-6000 CTP MK III	Luxel T-9000 CTP E
Design	Capstan	External drum	External drum	External drum
Number of lasers, laser type	Violet laser 405 nm, 30/60 mW	16 Laser diodes 830 nm	32 Laser diodes 830 nm	16 Laser diodes 830 nm
Resolution	1.200 - 3.556 dpi (7 levels)	2.400, 2438, 2.540 dpi	1.200 - 4.000 dpi	1.200 - 4.000 dpi
Smallest imaging dot	10 µ	6,3 µm	6,3 µm	6,3 µm
Imaging speed	1 plate 400 x 510 mm in 59,3 sec. at 1.270 dpi	10 B2 plates per hour at 2.400 dpi	17 / 20 B2 plates per hour at 2.400 dpi	8 B1 plates per hour at 2.400 dpi
Min. plate format	254 x 254 mm / 254 x 381 mm	324 x 394 mm	324 x 394 mm	450 x 370 mm
Max. plate format	560 x 670 mm / 645 x 927 mm	830 x 645 mm	830 x 645 mm	940 x 1.160 mm
Plate material	Fuji Brillia LP-NV	Fuji Brillia LH-PIE, LH-PCE	Fuji Brillia LH-PIE, LH-PCE	Fuji Brillia LH-PIE, LH-PCE
Inline punching	no	yes	yes	yes
Price	on request	on request	on request	on request

Product name	Luxel T-9000 CTP II / HS	Luxel T-9800 CTP	Ultima 16000	Ultima 32000
Design	External drum	External drum	External drum	External drum
Number of lasers, laser type	32 / 64 Laser diodes 830 nm	512-channel Laser diodes 808 nm	512-channel Laser diodes 808 nm	512-channel Laser diodes 808 nm
Resolution	1.200 - 4.000 dpi	1.200, 2.400, 2.438, 2.540 dpi	1.200, 2.400, 2.438, 2.540 dpi	1.200, 2.400, 2.438, 2.540 dpi
Smallest imaging dot	6,3 µm	N/A	N/A	N/A
Imaging speed	13 / 20 B1 plates per hour at 2.400 dpi	30 B1 plates per hour at 2.400 dpi	23 plates per hour with 16 pages each at 2.400 dpi	12 plates per hour with 32 pages each at 2.400 dpi
Min. plate format	450 x 370 mm	450 x 370 mm		
Max. plate format	940 x 1.160 mm	940 x 1.160 mm	1.470 x 1.165 mm	1.276 x 2.382 mm
Plate material	Fuji Brillia LH-PIE, LH-PCE	Fuji Brillia LH-PIE, LH-PCE	Fuji Brillia LH-PIE, LH-PCE	Fuji Brillia LH-PIE, LH-PCE
Inline punching	yes	yes	yes	yes
Price	on request	on request	on request	on request

Product name	Luxel V-6 CTP	Luxel Vx-6000 CTP	Luxel Vx-9600 CTP	Luxel V-9600 CTP
Design	Internal drum	Internal drum	Internal drum	Internal drum
Number of lasers, laser type	Violet laser diode 450 nm	1 - 2 Violet laser diodes 450 nm	1 - 2 Violet laser diodes 450 nm	1 - 2 Violet laser diodes 450 nm
Resolution	1.200 - 3.657 dpi (8 levels)	1.200 - 3.657 dpi (8 levels)	1.200 - 3.657 dpi (8 levels)	1.200 - 3.657 dpi (8 levels)
Smallest imaging dot	13 µm	13 µm	13 µm	13 µm
Imaging speed	Up to 20 B2 plates per hour at 2.400 dpi	Up to 37 B2 plates per hour at 2.400 dpi with dual beam	Up to 32 B1 plates per hour at 2.400 dpi with dual beam	Up to 32 B1 plates per hour at 2.400 dpi with dual beam
Min. plate format	320 x 290 mm	340 x 317 mm	500 x 400 mm	500 x 400 mm
Max. plate format	765 x 682 mm	762 x 675 mm	1.160 x 960 mm	1.160 x 960 mm
Plate material	Fuji Brillia LP-NV	Fuji Brillia LP-NV	Fuji Brillia LP-NV	Fuji Brillia LP-NV
Inline punching	optional	no	yes / no	yes
Price	on request	on request	on request	on request *
Comments		Can be upgraded to dual beam on site		* Incl. autoloader with 1 cassette and punch; can be upgraded with second laser