Agfa Xcalibur 45

Agfa Xcalibur 45 is a next-generation, high-speed thermal platesetter designed to bring today's commercial offset, folding carton, and label printers the steady flow of high-quality digital plates they need to stay competitive. Xcalibur 45 builds on Agfa's computer-to-plate expertise and takes quality, convenience, and performance on press to new levels—all in a convenient 45" (1160 mm) format. With Xcalibur 45, Agfa introduces new HD-CTP™ (High-Definition Computer-to-Plate), a breakthrough technology that provides ultra-high image quality and unbeatable printability.

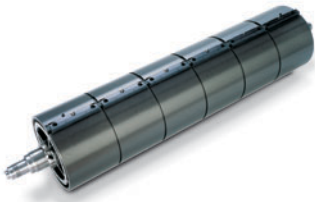### The right platesetter for today's printers

Xcalibur 45 brings you a reliable external drum design, throughput of up to 20 full-format plates an hour at 2400 dpi, and exceptional image quality—all in an extremely easy to use, small-footprint design. You choose the level of automation you need. You get the proven quality and convenience of Agfa Thermostar plates. Now you and your customers can benefit from the significant technological advancements of HD-CTP.

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Take a look at the future
of computer-to-plate imaging—HD-CTP

Agfa optimized all of the key elements of Xcalibur 45 to enable it to achieve the next-generation quality of HD-CTP—from the advanced external drum design to the innovative optical system to the unique imaging pattern. These innovative components and state-of-the-art technologies combine to create a system of unequaled quality, reliability, and ease of use. And more importantly, the high-quality Thermostar plates you create with Xcalibur 45 perform great on press—with greater latitude, unequaled accuracy, and fewer remakes. So Xcalibur 45 will get great reviews from your toughest customers—your pressroom staff.

Xcalibur 45's innovations begin with a unique approach to external drum platesetting. Its custom-designed external drum is manufactured via custom aluminum extrusion and machined to accommodate the drive shafts. Then the entire assembly is precision machined, ground to demanding tolerances, and hard-coat anodized—creating a smooth, unmarred finish capable of accepting hundreds of plates a day without scratching or wear. Xcalibur 45's direct-drive drum enables smooth, accurate motion, while a special high-resolution encoder ensures fast scan accuracy. The result? A rock-solid foundation for HD-CTP.

Tap the power of HD-CTP

• Unique, patented laser and optics

To achieve HD-CTP, Xcalibur 45 images plates in a new way—one that enables remarkable levels of accuracy. It all starts with Xcalibur 45's imaging system, which includes a wide range of technological breakthroughs. Agfa co-developed the imaging system with Silicon Light Machines, an industry leader in Micro-Electromechanical Systems (MEMS) technology and a pioneer in the emerging High-Definition Television (HD-TV) market. With HD-CTP, Agfa is the first to bring this technology to any market.

At the core of Xcalibur 45, you'll find a solid-state laser diode bar, chosen for its excellent uniformity. But the key component of the optical system is the Grating Light Valve (GLV), a patented component that enables precision control of laser energy. The laser diode bar, GLV and special micro-optics arrays are packaged in a compact Line Illumination Module (LIM). During imaging, the laser illuminates the GLV's micro-shutters, which modulate the laser light to produce individually addressable writing beams. The beams are automatically calibrated via on-board sensors to ensure optimal and uniform exposure. Plus, the imager includes automatic controls that magnify and focus the imaged spots.

• The smart way to image

Xcalibur 45 produces a multi-beam writing "swath"—or line—of carefully controlled, exceptionally consistent thermal energy on the imaging plane. This is a very different approach than other imaging solutions, which create individual spots. Xcalibur 45 can image contiguous, flawless shapes where single-spot engines can only create dots. This approach means that adjacent spots are never overlapped, nor are there any voids in the images that require over-exposure to hide, as required by some systems.

In short, Xcalibur 45 creates extremely accurate, uniform images without any placement or positioning errors. You can see this accuracy at the microscopic level—and on press, with exceptional printability and greater process latitude.
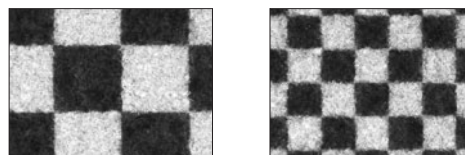
• IntelliSpot: Better results on press

The writing swath consists of a carefully controlled, variable-width line of spots that is less than 10 microns high. But these are not ordinary spots.
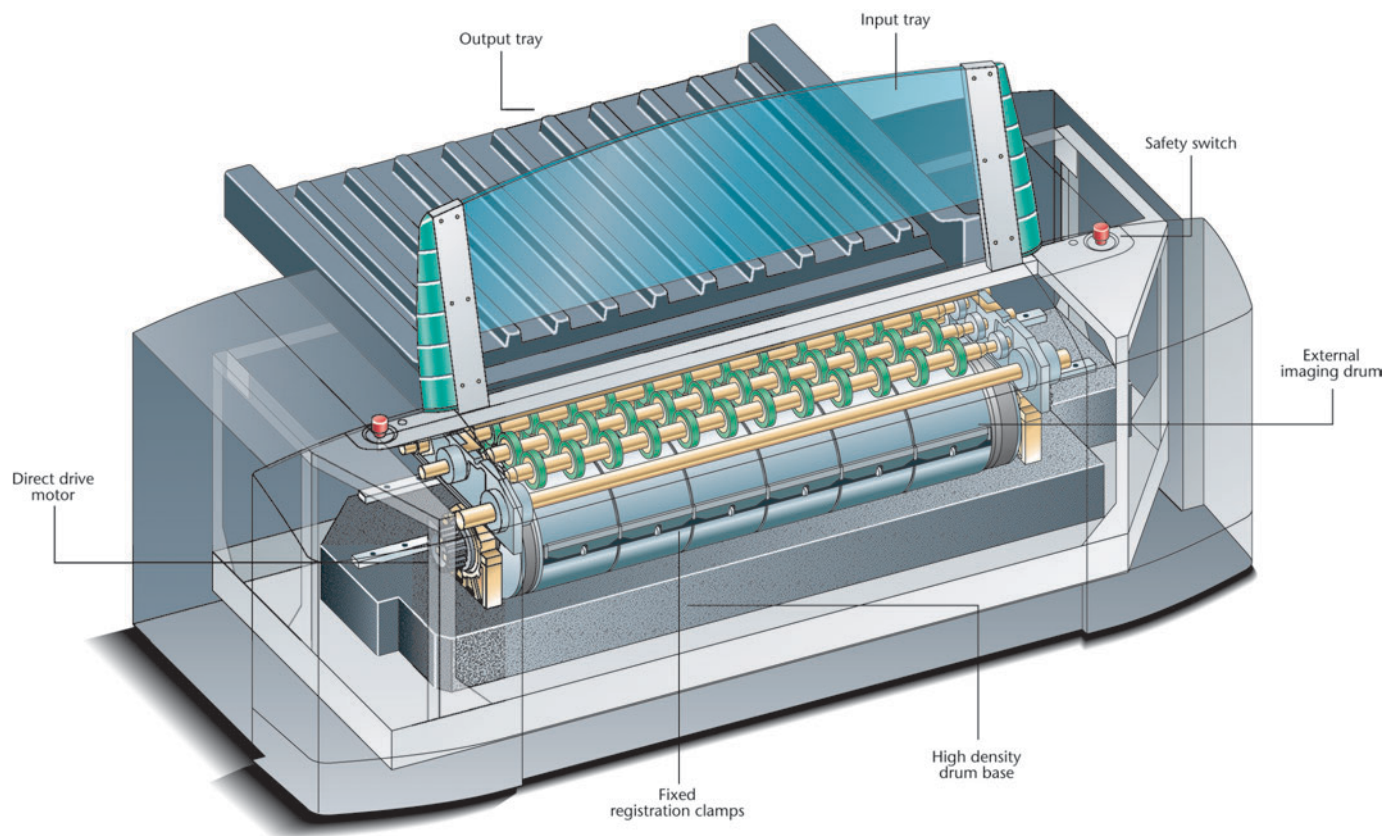
Agfa's new IntelliSpot™ technology combines the best elements of the Gaussian and traditional spots, creating a new hybrid spot designed for

The innovative spot shape of IntelliSpot allows the system to achieve accurate imaging of contiguous shapes, requiring no artificial adjustment to bring imaging areas together. Xcalibur 45 provides a single, continuous line of carefully controlled IntelliSpots.

IntelliSpot

Contiguous IntelliSpot

Placement of IntelliSpot
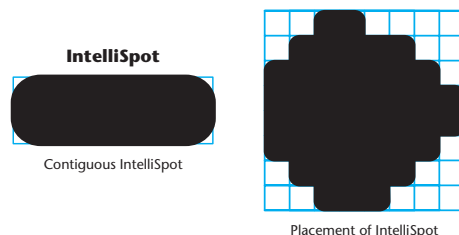
The quality of Xcalibur 45 is even more apparent under the microscope, where you can see the accurate, sharp imaging provided by our patented imaging system.

Output tray   Input tray

Safety switch

External imaging drum

Direct drive motor

High density drum base

Fixed registration clamps

exceptional accuracy. Xcalibur 45 images a single, continuous line of carefully controlled IntelliSpots. The result? Improved printability and greater process latitude on press—qualities that today's fast-paced printing operations demand from their plates.

• *Helical imaging enables seamless imaging*
Xcalibur 45 features a patented writing method designed to bring a new level of accuracy to imaging. Its swath of beams moves in a helical pattern around the drum and across the plate. Helical imaging enables the Xcalibur 45 to continuously image a plate without the "step and settle" motion of the imager carriage used by some other systems. Other solutions may require overexposure to fill gaps, or stitching between imaging areas. Not Xcalibur 45. It eliminates gaps or overlaps of the writing beams.

• *More beams, more control*
By writing to the plate with a multi-beam swath, Xcalibur 45 can provide exceptionally fast writing speeds at a relatively low (190 rpm) drum rotational speed—simplifying operation and ensuring long-term reliability.
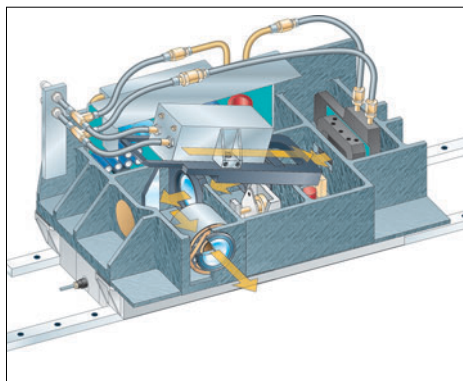
The optical system includes Agfa's innovative IntelliTrack linear slide mechanism, which moves the optical assembly along precision rails next to the drum, ensuring smooth motion and accurate imaging. This proven, patented technology enables the highest-quality results.
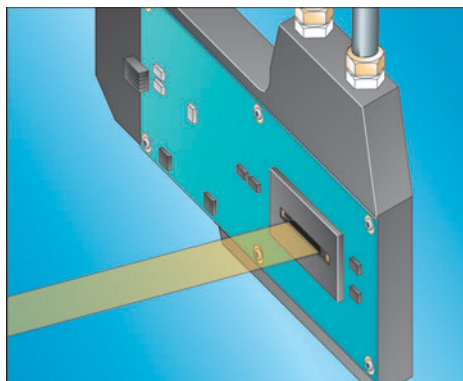
Xcalibur 45 includes total system calibration technology that ensures consistent exposure, eliminating density variations and banding artifacts. A sensor samples and monitors the beams, adjusting them for optimal (and equal) output if necessary. The system automatically adjusts for temperature fluctuations that can affect imaging accuracy. This approach keeps exposure and image geometry controlled and consistent throughout the life of the system.

Stay more productive than ever

• *Precise plate registration*

You know how important plate registration is to overall quality. Xcalibur 45 automatically keeps plates in register with two registration pins located along the axis of the drum according to your specifications. A laser and detector serve as a third point for positioning the plate accurately. Mechanical clamps at both the lead and trailing edges hold the plate tightly to the drum.

• *Easy loading and unloading*

Xcalibur 45's drum design enables you to easily load and unload the system. The load/unload height is ergonomically correct, making operation convenient, comfortable and safe. The input transport mechanism includes a patented de-skewing feature that automatically pre-aligns the plate as it feeds into the drum—ensuring accurate loading and registration of every plate. And the output area features an optional exit conveyor that leads directly to an on-line processor.

• *Efficient plate pre-staging*

For maximum throughput, Xcalibur 45 allows users to pre-stage a second plate in the input tray so that it will be automatically loaded when the first plate is imaged and ejected. With Xcalibur 45, operators will never have to wait for the first plate to exit the drum before loading another plate. This approach reduces plate handling overhead and makes the overall system more efficient—so you can make more plates with less operator effort. In short, Xcalibur 45 keeps throughput high and raises your overall productivity.

• *Get the automation you need*

With Xcalibur 45, you can choose the level of automation that matches your throughput requirements—manual, semi-automatic, or two fully automatic configurations. Manual loading taps the system's ability to pre-stage plates, providing an advantage over other systems, which require users to wait until one plate is complete before loading another. The semi-automatic approach configures manual input with an on-line Agfa Autolith TP processor, reducing plate handling.

A fully-automated system includes a choice of automation levels that let you keep from 50 to 400 plates online and ready for imaging. And Xcalibur 45 lets you upgrade your level of automation when you need higher throughput.

• *Easy, safe operation—every job*

Despite its innovative technology, Xcalibur 45 is extremely easy to use. The operator control console provides an intuitive interface with the system, enabling operators of all levels to perform key operations. Graphics lead operators through the platemaking process. And every element of Xcalibur 45 is designed for maximum safety and ease of use for all operators.

• *Integrated processing*

Xcalibur 45 can be configured with efficient, high-quality thermal processors—including the Autolith TP85 and TP105. These processors can be configured off-line, or in two different on-line placements—directly in-line or through an L-bridge. This flexibility helps you use your existing space to its fullest advantage by establishing a space-efficient, convenient platesetting operation.

Get great performance on press

• *Wider process latitude*

The end result of Xcalibur 45's innovative features and patented technology becomes clear with every plate you make. With Xcalibur 45, you have more process latitude, enabling you to create exceptional plates under a wider range of conditions. Think of HD-CTP as advanced computer-to-plate technology for the real world—where a certain amount of process variance is inevitable.

• *Better printability*

Your press operators will find that Thermostar plates created with Xcalibur 45 show remarkable printability—making it easier to achieve great results on press. When you take a closer look at Thermostar plates created with Xcalibur 45 you'll like what you see. Accurate imaging. Correct registration. And exceptional quality across the entire plate.

During manual operation, Xcalibur 45's external drum design lets you pre-stage a second plate in the input tray. Once the first plate is imaged and ejected, the system automatically loads and aligns the next plate—providing greater automation.

In an era when you need to achieve maximum productivity to stay profitable, Xcalibur 45 comes through with a wide range of productivity-enhancing features that speed your entire workflow.

Agfa Thermostar: the right digital plate for HD-CTP

In the end, the plates you make with Xcalibur 45 are the best proof of the system's quality. Agfa is the world's leading manufacturer of digital plates, offering the widest range of plate types and technologies in the world. Our engineering team collaborates on all aspects of our platesetters and plates, ensuring maximum integration. When you choose Xcalibur 45, you benefit from this synergy, which results in higher quality, greater reliability, and the best possible performance on press.

The ideal plate for Xcalibur 45

The right plate for the Xcalibur 45 is Thermostar P970—a positive-acting plate based on an innovative thermal technology developed and patented by Agfa. Thermostar P970 provides the long runs and extreme accuracy that are the hallmarks of Agfa's thermal computer-to-plate solutions. With Agfa Thermostar every job benefits from a high resolution thermal plate that makes it easy to achieve great results.

Designed for long runs

Thermostar P970 is sensitized to 830 nm and is based on an innovative coating technology, offering fast imaging, convenient handling, and excellent press performance. Thermostar P970 is designed for commercial printing applications of medium run lengths, and can achieve up to 150,000 impressions without post-baking.* Optional post-baking after processing enables press runs of more than one million impressions.

* Depending on press conditions and consumables
Baking required in North America

Convenient plate handling

Thermostar plates can be handled easily and conveniently in daylight conditions. And they are as easy to develop, wash, and gum as they are to image, since Thermostar uses conventional processing chemistry. For medium runs, Thermostar does not require post-baking, which remains an option for long runs and UV inks. Thermostar uses Agfa's proven aluminum plate substrate technology—ensuring consistent press performance.
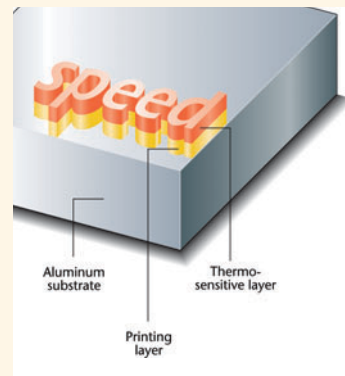
Thermostar P970 consists of an aluminum substrate and a unique two-layer coating.

The top layer, the thermosensitive layer, is less than a micron thick—or 100 times thinner than a human hair—and highly sensitive to infrared light. The high IR sensitivity of this layer makes extremely fast thermal imaging speeds possible, since it takes less laser exposure time to expose the plate. During exposure, the high-power laser causes a heat-induced conversion to take place in the top layer—hence the name thermal imaging.

The first coating layer—the printing layer—is a hydrophobic polymer that is insensitive to light of any wavelength. It provides the basis for Thermostar's lithographic behavior, and ability to be developed using standard aqueous alkaline developer for conventional positive plates.

Thermostar's state-of-the-art aluminum substrate provides excellent rigidity and has a proven record of excellent lithographic performance in the industry. This substrate is made of electrochemically grained and anodized aluminum manufactured to exacting tolerances.
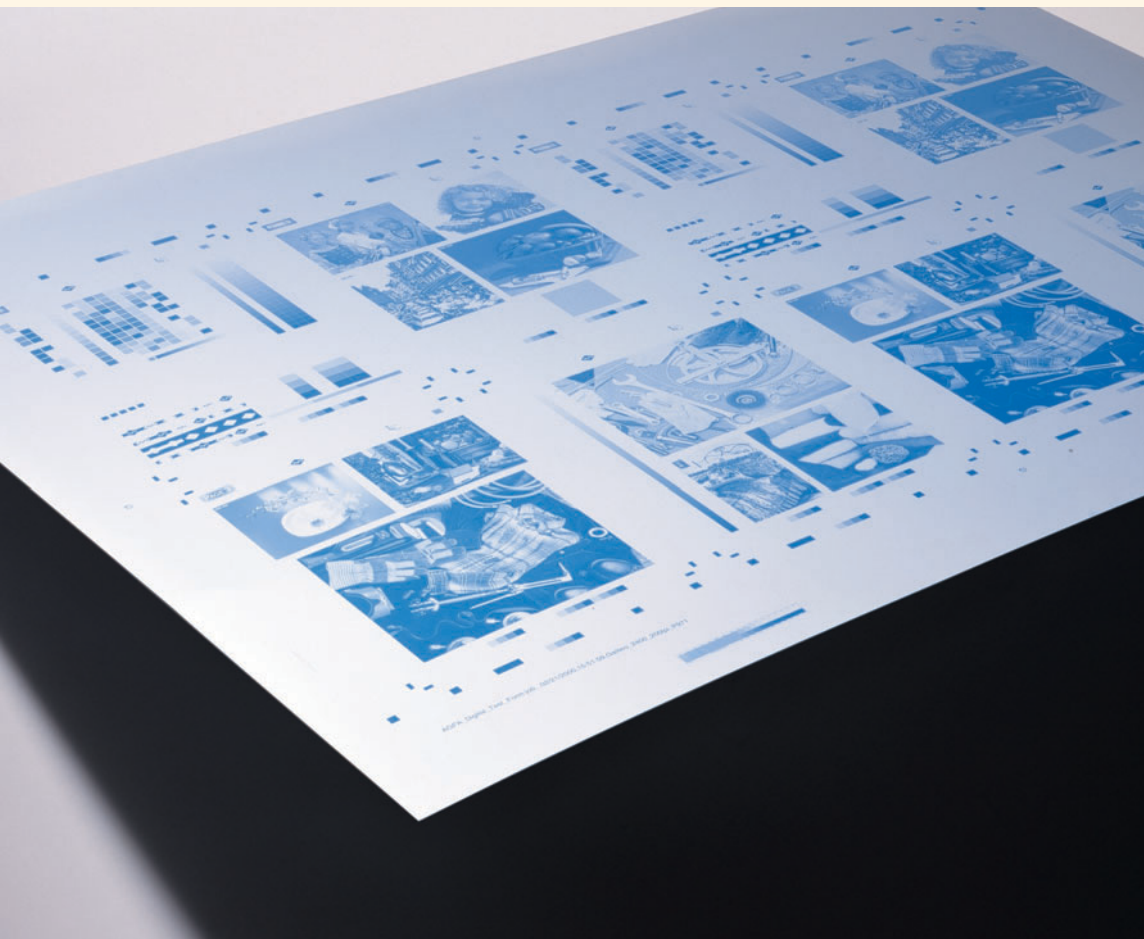
Choose Xcalibur 45: the HD-CTP pioneer

Xcalibur 45 brings fast throughput, exceptional accuracy, and extreme reliability to platesetting, raising the efficiency of your printing operation. Agfa's thermal-imaging leadership ensures that your plate, platesetter, and processor are all integrated for great results—every plate, every shift, and year after year. Agfa's workflow expertise complements Xcalibur 45's efficient throughput, enabling your entire workflow to move more quickly and with greater automation.

	Xcalibur 45
Imaging system	• 830 nm infrared thermal with Grating Light Valve (GLV)
Image quality	• 1–99 percent at 200 lpi
Screening technology	• Agfa Balanced Screening • Adobe Accurate Screening
Plate types	• Thermostar P970 • Other qualified 830 nm plates
Maximum plate size	• 1160 x 820 mm (45.66 x 32.29") processor dependent
Minimum plate size	• 450 x 250 mm (17.72 x 9.84") processor dependent
Plate thickness	• 0.15 – 0.40 mm (0.006 – 0.016")
Configurations	• Manual: Manual input with off-line processor • Semi-automatic: Manual input with on-line processor • Fully automatic: Automated plate handling with on-line processor
Automated handling	• Job level—up to 50 plates in cassette • PlateManager—up to 400 plates, 4 cassettes/up to 100 plates each
Processor	• Autolith TP85 off line or on-line with Universal Plate Conveyor (UPC) • Autolith TP105 off line, or direct on-line
Resolutions	• 1200 dpi • 2400 dpi
Maximum imaging rate	• 598 square inches per minute (3857 cm^2) at 2400 dpi
Imaging time	• 2.1 minute (1030 x 800 mm/40.5 x 31.5")
Plates per hour at 2400 dpi	• 20 (1030 x 800 mm/40.5 x 31.5") depending on plate type

With Xcalibur 45, you can leverage the full power and convenience of high-speed thermal platesetting. To find out more about Xcalibur 45—as well as our full line of violet-laser imaging solutions—visit **www.agfa.com** or contact your local Agfa representative.

Complete computer-to-plate solutions

Xcalibur 45 is the latest proof of Agfa's leadership in computer-to-plate systems and plates. Our platesetter portfolio includes our industry-leading Galileo family of violet-laser solutions, our Xcalibur VLF very large format platesetter, our Palladio 4-up flatbed platesetter, and our Polaris family of plate-setters for newspaper production. Agfa's range of computer-to-plate solutions is unequaled—including internal and external drum systems, high-speed flatbed systems, visible-light and thermal imaging technologies, and more. This wide range enables us to match your through-put demands with the right platesetter, format, imaging technology, and level of automation.

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