

SIEMENS



Cios Alpha

See the power with Full View FD

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Advanced surgical care: with high power and a large field of view

The healthcare market is always moving, with new surgical trends and procedures continuously emerging. But even in this highly dynamic world, one thing remains constant: The more clearly surgeons can see, the more confidently they are able to perform – whether in complex cases, such as endovascular aneurysm repair (EVAR), or in advanced spine or pelvic surgeries on obese patients. In order to maintain their competitiveness, clinical institutions need high-end imaging to keep pace with therapeutic developments and improving standards of care.

Foster innovative concepts of care by linking a large field of view with intelligent power management – with Cios Alpha. Thanks to its Full View FD technology, Retina Imaging Chain with IDEAL (Intelligent Dose Efficiency Algorithm) dose management, and intelligent power management features, you always get outstandingly detailed image quality at very low dose, regardless of clinical application, patient size, and length of surgery.

The innovative mobile C-arm is perfect for advanced surgical procedures. Especially in vascular surgery, the Live Graphical Overlay** helps position stent grafts more efficiently and accurately. The mobile C-arm can also be controlled directly from the sterile field using the remote user interface (UI)** – allowing surgeons to position the C-arm themselves quickly, effortlessly, and precisely.

Designed to support you in your work, Cios Alpha is your true partner in performance.

Up to 25% more coverage* even during image rotation – with Full View FD

See and do more – with a powerful 25 kW** mobile C-arm

Effortless operability – full table-side control and single-touch positioning**

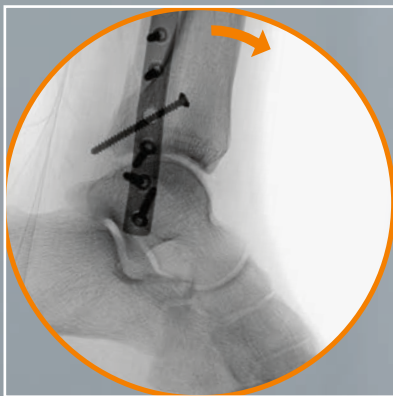
Broad application spectrum – with versatile imaging technology

* Compared to today's conventional 33 cm / 13 inch image intensifier

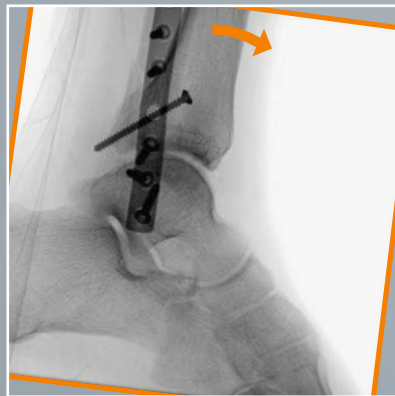
** Option



Standard FD image



Field of view with conventional FD systems once the image has been rotated even by as little as 1°



Cios Alpha's field of view provides up to 25% more coverage*, even when rotated



Up to 25% more coverage* even during image rotation – with Full View FD

Older imaging technology is often limited in terms of image quality, which can increase the risk of misinterpretation or result in longer interventions – and therefore to being cut off from innovative surgical fields.

Cios Alpha's Full View FD technology provides 25% more anatomical coverage* in outstanding quality. It is an ideal device for handling complex and demanding surgical cases, improving your standards of care.

See the full picture ...

Cios Alpha's smart collimation system enables the collimators to synchronize with the image rotation, providing optimal visibility with up to 25% more anatomical coverage* and better orientation at any time during and after image rotation. So whatever you're viewing, you always get the full view.

... clearly and precisely

With its 30 cm x 30 cm (12" x 12")** flat detector, Cios Alpha delivers a larger field of view with exceptionally high levels of spatial resolution and dynamic range to help you clearly differentiate tissue and surrounding structures. And because they are distortion free, images are geometrically optimized for accurate measurement and ultra-precise positioning.

Brilliant images, optimized dose

The Retina Imaging Chain with IDEAL (Intelligent Dose Efficiency Algorithm) dose management transforms X-rays the detector receives into brilliant images – while simultaneously applying IDEAL dose management. The result is an always optimized balance of image quality and dose, in all relevant clinical applications and for patients of nearly every size.

* Compared to today's conventional 33 cm / 13 inch image intensifier

** Option



See and do more – with a powerful 25 kW* mobile C-arm

Due to the low performance of conventional C-arms, complex but less-frequent procedures must often be performed with fixed C-arms in a hybrid OR – at a high cost per procedure.

With features such as high image resolution and an active cooling system, Cios Alpha is a reasonable investment that results in lower costs per procedure, making it ideally suitable even for complex vascular and cardiac cases.

The power to work longer...

With its active cooling system*, Cios Alpha allows you to work uninterruptedly and with no image quality degradation significantly longer than with conventional C-arms. When the tube heats up, the active cooling system* coupled with the intelligent power management system automatically manages heat dissipation so it stays within the thermal limits. So you can perform a wide range of long-lasting procedures, even on obese patients, without worrying about overheating.

...when it's needed

Cios Alpha's energy storage unit (ESU)* buffers energy, tripling the mean power that can be applied. The ESU makes the maximum power available for significantly higher penetration capability in series acquisition when it's needed.

...so you can do more

With its combination of higher penetration power, uninterrupted operation, and IDEAL dose management, Cios Alpha opens up new opportunities in surgical imaging. It lets you perform a wide variety of procedures, from standard to high-end hybrid OR applications, that were once only possible with fixed C-arms: think complex endovascular procedures.

* Option

“ We could certainly perform fenestrated stent grafts with Cios Alpha.

Not just because of its image quality, but even more due to its tube performance and active cooling system. One of the first AAAs we performed with it was on an obese patient and lasted well over three hours. Even at the end of that operation, the tube was not getting hot at all. A conventional C-arm would have overheated long before. ”

Werner Lang, MD
Head of the Department of Vascular Surgery,
University Hospital Erlangen, Germany





Color-coded axes and brake controls keep training requirements low

Effortless operability – full table-side control and single-touch positioning*

Surgeons need to instruct staff during surgery and must rely on correct execution – but human communication is prone to misunderstandings.

Cios Alpha offers full table-side control to surgeons, which helps save valuable time and improve efficiency in your clinical workflow.

Direct table-side control

To give you complete flexibility, Cios Alpha can be controlled from the monitor cart, the C-arm or directly from the sterile field using the remote touch user interface (UI)*. So wherever you work, you get a consistent, intuitive interface. In addition, touch-sensitive brake controls mounted directly on the detector housing allow surgeons to position and control the C-arm themselves – with speed, convenience, and maximal precision.

A large preview image enables improved control. Moreover, with the multifunctional footswitch*, the X-ray release, image capture, and access to all operating modes can be performed hands-free.

Time-saving positioning and operation

With its motorization package* for effortless positioning, and its color-coded brakes and scales for simple, intuitive operation, you can save precious time during your procedures.

A system that remembers where it was

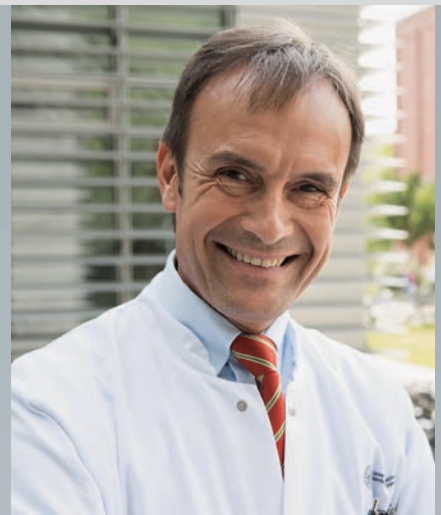
With Cios Alpha's single-touch positioning function*, you can record up to two specific projections and recall them later – all at the touch of a button. Orbital and angular positions are stored together with the collimator setting and rotation setting, allowing exact reproduction of relevant projections.

* Option

“ One of the major benefits of the C-arm is its easy handling.

The possibility for surgeons to actually perform every movement by themselves by using the brake control buttons on the detector is just great. The problem for us surgeons is that our staff cannot always read our minds. So it is very important to have the full control of the C-arm during interventions. Allowing this is, in my eyes, one of the major advances of Cios Alpha. ”

Sebastian Debus, MD
Head of the Clinic and Polyclinic for Vascular Medicine
University Heart Center Hamburg-Eppendorf, Germany



Broad application spectrum – with versatile imaging technology

In endovascular surgery, the exact positioning of stent grafts is essential to avoiding complications. This could also have an impact on OR time and cost. Surgeons need a clear indication of the location of relevant and critical arteries as otherwise correct stent graft placement is at risk.

Live Graphical Overlay* enables precise and efficient marking of anatomical structures. Revision surgery due to intraoperative stent misplacement can be avoided and thus patient outcomes improved.

Live Graphical Overlay*

Cios Alpha's unique Live Graphical Overlay makes drawing on monitors a thing of the past. With this tool, you can mark anatomical structures that are visible in subtracted images, such as arteries. This graphical overlay remains in subsequent fluoro scenes, providing you better orientation while placing stent grafts.

Metal correction and removable grid

Optimized metal correction allows for improved contrast and brightness of surrounding tissue – in the case of large metal implants for instance. Thanks to the removable anti-scatter grid, Cios Alpha also meets the needs of pediatric interventions.

Stenosis quantification*

Stenosis quantification software calculates the degree of stenosis. The vessel is automatically analyzed and the minimum value in relation to a reference value is evaluated. The geometric and densitometric parameters of the stenosed vessels are then displayed for simple and effective intraoperative control.

Injection trigger*

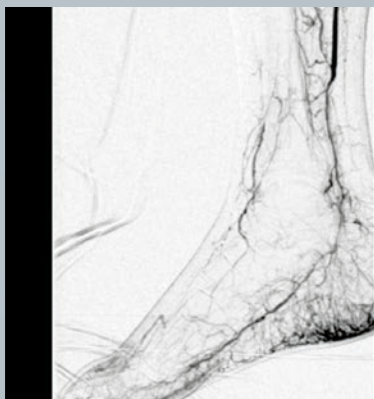
Cios Alpha features an interface to connect injectors, allowing for better synchronization of the contrast medium during subtractions for even greater flexibility and integration.

Up to 100% landmarking*

Surgeons can add surrounding anatomical structures like bones to a subtracted image for better orientation. The ability to recalculate and reuse peak opacified images helps save time and contrast medium while reducing dose.

* Option

Vascular surgery



Subtracted angiography foot



Angiography iliofemoral arteries



Subtracted angiography abdominal aorta

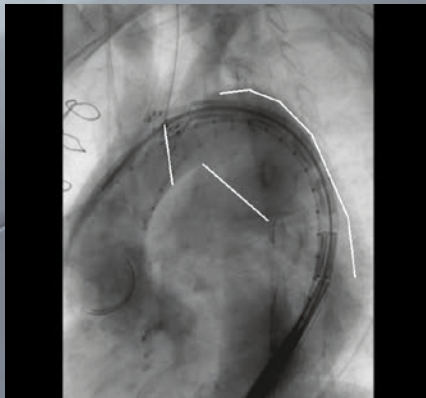




Live Graphical Overlay



Live graphical overlay in subtracted image



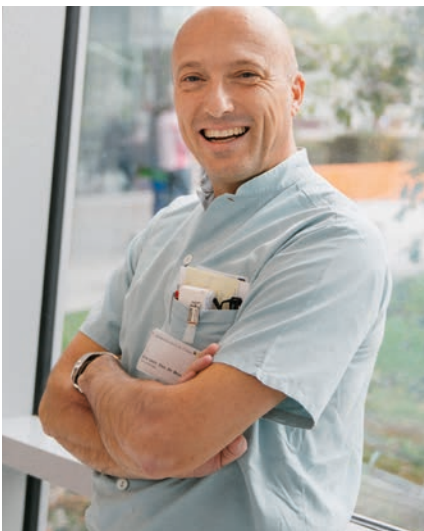
Live graphical overlay in fluoroscopic image

Clinical applications: specially for your specialty

Cios Alpha's versatile features extend its flexibility beyond vascular surgery to meet the needs of the most relevant clinical disciplines – from cardiac surgery, electrophysiology and gastroenterology to orthopedic, trauma and spine surgery, pain management and urology. The 30 cm x 30 cm (12" x 12")* and 20 cm x 20 cm (8" x 8") flat detector options coupled with a 25 kW* or 12 kW generator let you tailor Cios Alpha to your exact surgical needs.

Cardiac

Large 25 kW* power reserves and a rotating anode deliver excellent performance, while the 20 cm x 20 cm (8" x 8") flat detector provides optimal focus and fluoro imaging rates of 30 pulses per second, bringing you incredibly sharp images for the finest catheter placement.

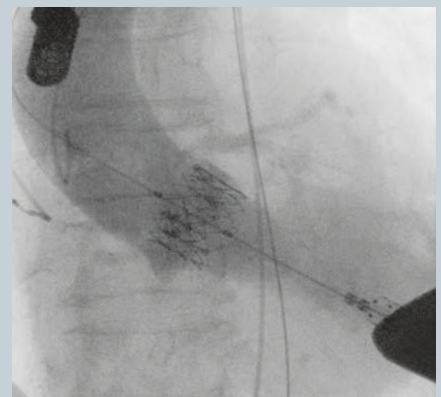
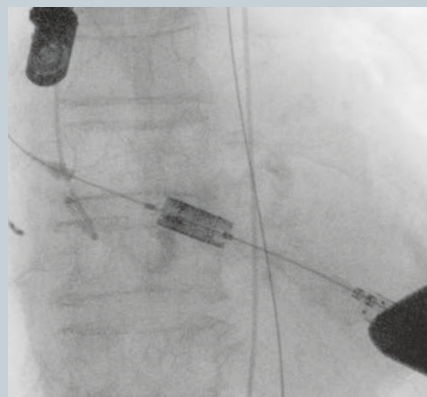
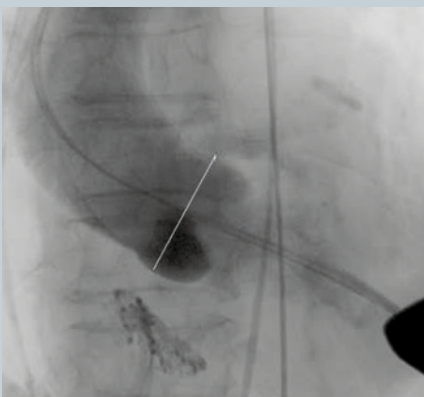


“ I think one of the most important things with Cios Alpha is the image quality.

It is so high that you can even interfere when you have complications. During a TAVI procedure, for example, your valve could cover one of the coronary artery ostia, which would produce a huge infarct requiring immediate intervention. You can either do it in a hybrid OR or with Cios Alpha because the image quality is that good. ”

Bruno K. Podesser, MD
Attending Surgeon at the Department of Cardiac Surgery
Landeskrankenhaus St. Poelten, Austria

Cardiac surgery



Transcatheter aortic valve implantation (TAVI)

Gastroenterology and urology

With its large field of view, Cios Alpha's 30 cm x 30 cm (12" x 12")* flat detector provides decidedly more anatomical information and excellent images for working with fine structures and instruments. SmartView*, the integrated HD VideoManager, allows you to connect external video sources and display endoscopic or ultrasound images side-by-side with X-ray images. In addition, all of these images can be stored in one patient file.

Ortho, trauma, and spine surgery

Equally suited to both complex ortho and trauma cases and to complex spine surgery, Cios Alpha's excellent HD images enable fine detail visualization. Tube currents of up to 250 mA* enable superior image quality for single images. The compact FD design provides extended free space for excellent patient accessibility.

“ In my opinion, Cios Alpha can be used for any type of trauma and orthopedic surgery.

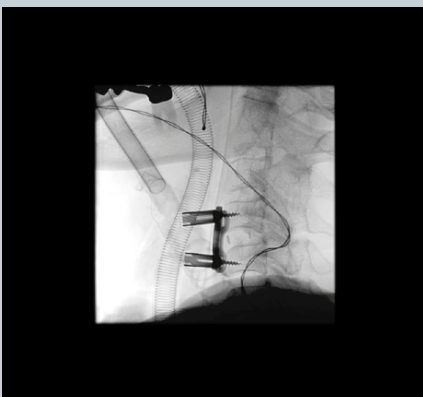
Because of its features like better image quality, larger field of view, asymmetric and rotatable collimators, motorization, and position storage.”

Florian Gebhard, MD
Head of the Department of Orthopedics and Trauma Surgery
University Hospital Ulm, Germany



* Option

Ortho, trauma, and spine surgery



Cervical spine



Proximal tibia



Distal tibia

The right power – whenever and wherever you need it

In the OR, a mobile C-arm must respond to a range of power needs: static imaging for documentation, dynamic imaging for acquiring an image series – for example, moving objects – and lengthy procedures even with obese patients.

Each of these applications involves different challenges. It takes the right combination of a range of factors to ensure reliable, high-quality, never-tiring support. Cios Alpha supports your work with intelligent power management

built in – always setting the right parameters according to the organ program selected. For static imaging, Cios Alpha utilizes its maximum peak power of up to 25 kW for crisp images. To avoid motion blur in fast, dynamic images, it combines high frame rates with a low minimum pulse width. And if you need long-lasting power, Cios Alpha prevents overheating with its active water cooling* – to give just one example.

Whatever your requirement – Cios Alpha is your true partner in performance.

* Option



Static imaging –
for imaging static objects
and documenting surgical
results



Dynamic imaging –
exceptional high maximum tube
current in pulsed fluoroscopy
mode results in high peak
output power



Long-lasting imaging –
high maximum average power
for prolonged pulsed fluoroscopy
and effective heat management

“ *Cios Alpha is a very innovative product with many features which bring us far forward. It allows us to perform vascular procedures that were not possible with conventional mobile C-arms in the pre-Cios Alpha era.* ”

Sebastian Debus, MD
Head of the Clinic and Polyclinic for Vascular Medicine
University Heart Center Hamburg-Eppendorf, Germany



Cios Alpha – an image gallery



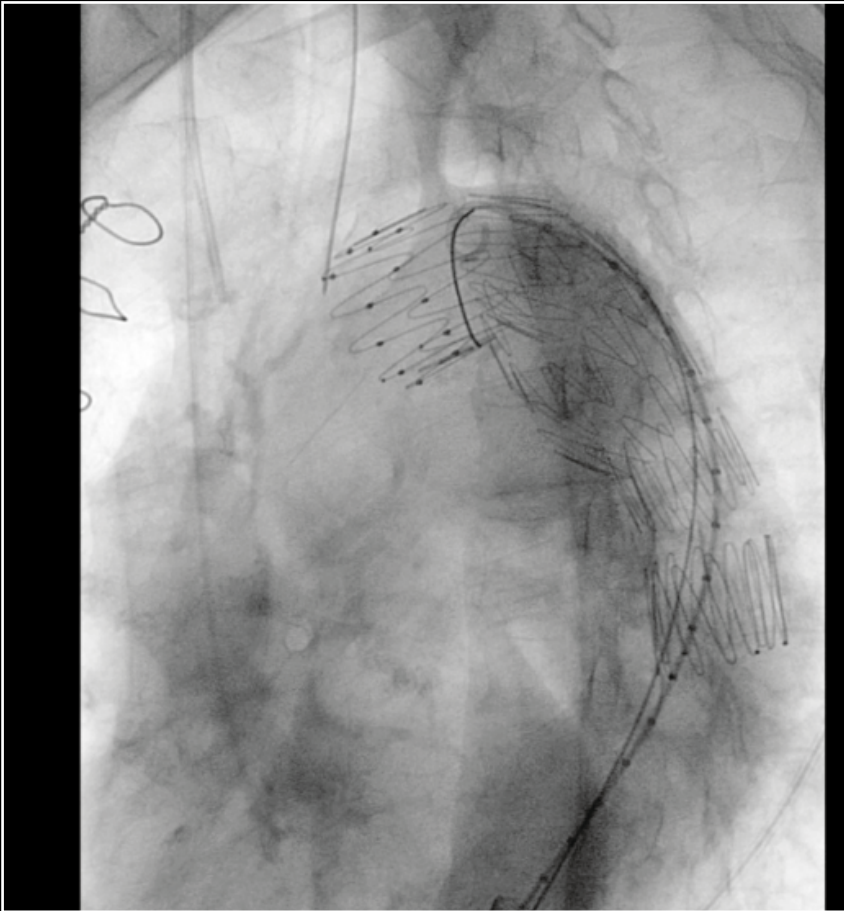
Gall bladder



Ureter



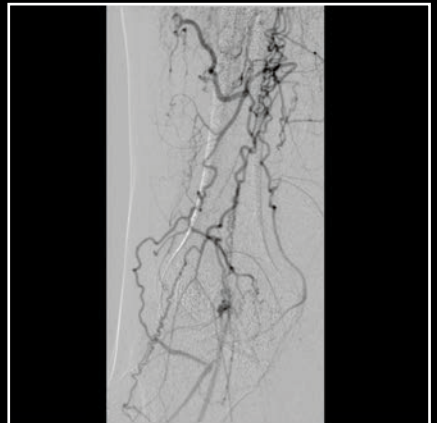
Radius distal



Thoracic aorta



Femoral artery



Femoral artery

Cios Alpha

See the power with Full View FD

Full View FD

Outstanding image quality and up to 25% more coverage**, even during image rotation

Retina Imaging Chain with IDEAL (Intelligent Dose Efficiency Algorithm) dose management

High-quality images at very low dose

Power

Powerful 25 kW* mobile C-arm with integrated energy storage unit (ESU)* – to see and do more

Active cooling system*

Protection against overheating during long and complex procedures



* Option

** Compared to today's conventional 33 cm / 13 inch image intensifier

Ease of use

Full table-side control and effortless operability with electromagnetic brakes, motorization package*, single-touch positioning*, and remote user interface*



Clinical versatility

Fully integrated workflow support, with features like unique Live Graphical Overlay*, SmartView*, and injection trigger*, to name just a few

Experience why detail matters

Around the world, Siemens Healthcare is known for innovation power and technology leadership. All our medical systems are backed by more than 125 years of experience.

Cios Alpha has our in-depth expertise in medical technologies built in and lets you benefit from our innovations.

Full View FD combined with 25 kW* and an active cooling system* makes Cios Alpha ideal for complex and demanding surgical cases. Usability features like touch-sensitive electromagnetic brake controls, motor-driven single-touch positioning*, and the remote touch user interface* translate into enhanced precision and easy operability. With these and other details, Cios Alpha lets surgeons see and do more.

Cios Alpha: because detail matters.

Free yourself from technical worries at fixed cost

Cover all service needs of your Cios Alpha with a Performance Plan TOP from Siemens Healthcare. It already includes service parts and corrective maintenance, and you can opt to add special components to your service agreement. Compare your revenue loss from a system downtime with your expenditure for a service contract that assures the quickest possible system recovery at defined costs. In other words, investing in a Performance Plan TOP truly pays off.

A safe investment

Cios Alpha is a safe investment – thanks to reliable throughput, a long lifecycle, and improved productivity. Based on the well-known engineering and manufacturing excellence from Siemens Healthcare, the mobile C-arm offers innovative technologies for a broad spectrum of surgical procedures. It seamlessly integrates into your surgical workflow and hospital network. The operating elements have the well-known Siemens Healthcare look and feel, which translates into flexible staff usage and minimal training requirements. In short: Cios Alpha is an investment that pays off – by letting you see the power with Full View FD.

* Option

Cios Alpha

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