



## Cutting-edge mobile imaging with a larger field of view

ARCADIS Avantic

Answers for life.

**SIEMENS**

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# Discover

new possibilities

Only a few years ago, the ARCADIS® family thoroughly revolutionized intraoperative imaging and opened completely new possibilities. The next ARCADIS generation continues the pace-setting tradition of taking you to a completely new level of clinical excellence.

Focused on improving everyday practice and solely led by your needs, ARCADIS Avantic incorporates numerous unique to-the-point solutions. From image quality to operability, from versatility to efficiency, the groundbreaking features of ARCADIS Avantic set new benchmarks – with outstanding functionalities that make perfect imaging a snap and an overall ergonomic concept that redefines your clinical workflow in many fields of practice.

Discover extensive benefits that put you on the cutting-edge of intraoperative imaging.



## Your benefits at a glance

### Powerful performance

ARCADIS Avantic features large power reserves with generator power of 25 kW, high tube currents of up to 250 mA, and surpassing endurance through 2.57 MHU (Mega Heat Units) heat capacity.

### Precise imaging with a larger field of view

Thanks to its optimally matched and fully digital 1K<sup>2</sup> imaging chain from image acquisition to viewing and archiving, its industry leading Mu-metal shielded 33 cm (13") image intensifier, and EASY (Enhanced Acquisition System) with automatic dose, contrast, and brightness control, ARCADIS Avantic yields brilliant images in every situation.

### Easiest operation throughout

ARCADIS Avantic features a counterbalanced C-arm design with surpassing values in free space, immersion depth, and overscan for superior patient access and positioning flexibility.

Its adjustable control panel provides all-in-one operation, and a remote user interface allows for control of all relevant C-arm functions from within the sterile field.

Electromagnetic brakes with intelligent color coding for fast and precise positioning as well as the programmable multifunction footswitch assure user-friendly system operation.



### Improved clinical workflow

With its ergonomic, lightweight, and compact trolley with 180° rotatable as well as vertically and horizontally adjustable monitors, it features enhanced maneuverability, requires less space, and adjusts to every specific need.

The *syngo*® user interface with a Basic/Extended Menu allow for fast and intuitive system operation, image postprocessing, and networking, while practical solutions like Fluoro Loop (playback of an acquired scene) and LSH (Last Scene Hold) for optional storage of the last acquired scene simplify the imaging itself tremendously.

### Maximum flexibility in data handling

ARCADIS Avantic supports virtually all DICOM 3.0 functionalities and delivers almost unlimited options for postprocessing, archiving, and documentation with CD, DVD, and USB.



# How to cover a broad range of applications and pinpoint every detail

## How to ...

### Perfectly thought-out and fully digital for outstanding image quality

No matter what the task is, you see what you want to see – in excellent quality and as easy as possible for a broad range of applications like vascular and cardiac surgery, trauma, spine surgery, orthopedics, gastroenterology, urology, pain management, and a multitude of other clinical fields. Its fully digital 1024 x 1024 (1K<sup>2</sup>) imaging chain begins right at acquisition and comprises lossless processing, visualization, documentation, and DICOM communication. With its extra-high capacity and its high-resolution digital imaging chain, ARCADIS Avantic is setting standards for mobile C-arms.

### High performance for most demanding applications

The powerful imaging hardware of ARCADIS Avantic puts extraordinary reserves at your fingertips. Its dual-focus rotating anode with a heat-storage capacity of 2.57 MHU delivers tube currents of up to 250 mA at a minimum pulse width of 7 ms. In DCM (Digital Cine Mode), the generator delivers up to 25 kW – enough for even the most demanding applications.





# pinpoint

### See better, see more

ARCADIS Avantic delivers the decisive plus in information: Compared to the common 30 cm (12") image intensifiers, the industry-leading 33 cm (13") Siemens image intensifier features a 15% larger entrance surface area for the usable field of view. Thanks to a Mu-metal shielding, nearly distortion-free images throughout the entire field of view are provided – fully digital and ready for lossless further processing and storage within the fully digital 1K<sup>2</sup> imaging chain of ARCADIS Avantic. With its outstanding image quality, high-speed dynamic recording capabilities, and its high image storage capacity of 60.000 images, ARCADIS Avantic becomes a reliable partner in the OR for a vast range of surgical interventions.

### Making acquisition a snap with EASY

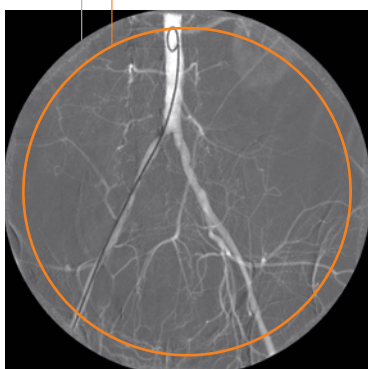
ARCADIS Avantic comes equipped with EASY (Enhanced Acquisition System), a bundle of automatic imaging processing features that make intraoperative imaging easier than ever before. Thanks to EASY, ARCADIS Avantic automatically analyzes the images during acquisition to optimize dose, brightness, and contrast. Even off-center objects are now displayed with excellent clarity. This means a great contribution to an intuitive and smooth workflow and will surely redefine the way you work.

### Immediate fluoro playback and large storage capacity

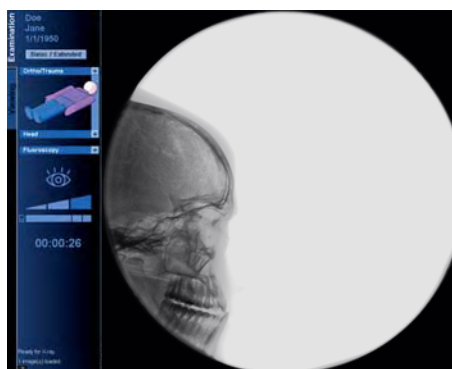
Fluoro Loop delivers your scenes without delay: Playback of an acquired scene starts automatically, directly after radiation stops. And with LSH (Last Scene Hold), up to 120 images are kept in the temporary memory for retrospective optional storage of the acquired scene.

33 cm (13") Siemens image intensifier

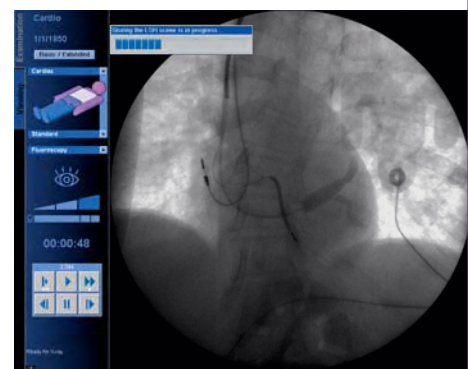
30 cm (12") common image intensifier



The image intensifier of ARCADIS Avantic delivers a decisively larger field of view



EASY guarantees perfect image quality independent of object position



Fluoro Loop and LSH for optimized scene handling





# cover

# How to visualize everything you need to see and reduce dose

## Ingeniously supporting your workflow with Basic and Extended Menu

With its unique Task Cards, ARCADIS Avantic puts the control elements you need at your fingertips right from the start. The Task Cards offer a Basic Menu with easy user-guidance for fastest orientation and operation. Whenever needed, you can switch to an Extended Menu that delivers additional information and control elements with a single mouse click.

## Simply click and go ahead

The Examination Task Card provides you with a large range of medical applications. The specific program is intuitively selected using VPA (Virtual Patient Anatomy). Simply click on the VPA body region to be examined to select the appropriate application program optimized to perform the task. Up to 200 dedicated, application-specific programs are available.

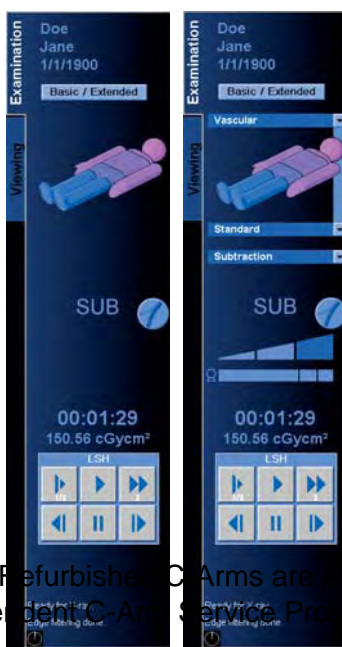
## Extra power plus maximum dose savings

ARCADIS Avantic delivers tube currents of up to 250 mA, which means that you are prepared for virtually any application. The enhanced "Power Mode" is available at the touch of a button when you need it. ARCADIS Avantic makes sure that you see every relevant detail at first go. The need for additional exposures is reduced to a minimum. Above that, pulsed fluoroscopy, along with features like the integrated laser localizer, radiation-free collimation and multi-level dose control, allows for intelligent and most effective dose reduction. With its detachable grid and an integrated Cu-filter, ARCADIS Avantic is even suitable for pediatric surgery, where minimum dose is absolutely essential.

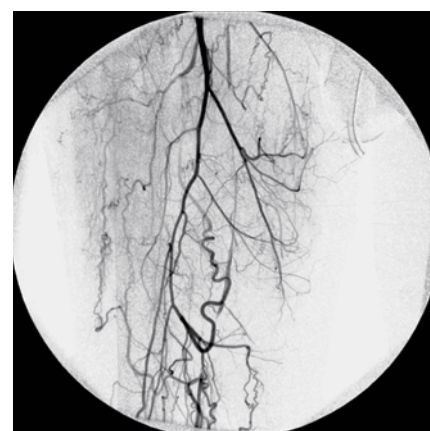
## Vascular surgery

The 33 cm (13") image intensifier is a great advantage for surgeons, as it permits maximum overview without any need for C-arm repositioning. Therefore, ARCADIS Avantic is ideally suited for vascular interventions in many different applications

Basic and Extended Task Card menus: additional information and controls at a single mouse click



With the integrated laser light localizer, precise positioning is a breeze



Vascular surgery



such as AAA, femoral artery bypass, or placement of carotid stents. In subtraction and roadmap, new contrast algorithms deliver better vessel contrast and a darker catheter representation within the vessel. The last peak opacification image in roadmap remains accessible even after a change of the operation mode. Hence, you can, for example, switch from roadmap to continuous fluoroscopy and then back to roadmap or you may change the zoom level without losing any information.

### Cardiac surgery

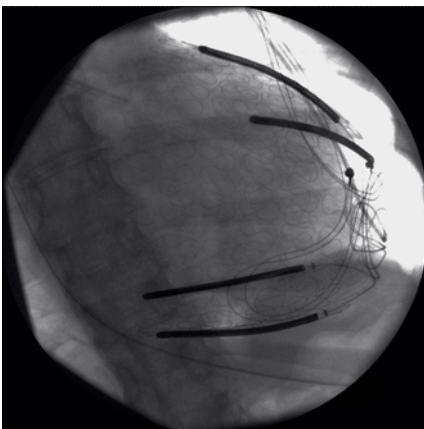
With its large power reserves of 25 kW and its rotating anode, ARCADIS Avantic provides excellent performance in cardiac surgery and electrophysiology. Imaging throughout the chest area is supported by incredibly fast imaging rates of up to 30 images/s with a minimum pulse width of 7 ms in DCM (Digital Cine Mode). Fluoro Loop and LSH (Last Scene Hold), and three zoom levels furthermore support imaging. Thanks to a storage capacity of up to 60,000 images, even a high number of series can be stored without any difficulty.

### Gastroenterology

With its 33 cm (13") image intensifier, ARCADIS Avantic provides decisively more anatomic information and thus facilitates orientation in gastroenterologic interventions. Pulsed fluoroscopy with up to 15 f/s yields crisp images, which can be stored in real time. Especially for interventions in gastroenterology and urology, as well as general surgery, optimum image quality with contrast media can be obtained with customized program settings.

### Ortho, trauma, and spine surgery

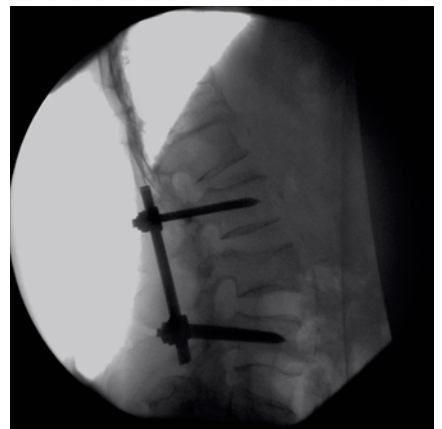
Tube currents of up to 250 mA are available for DR shots providing superior image quality – perfect for complex cases in ortho and trauma applications like fractures of the pelvis, as well as for complex spine surgery. With its extra power reserves, ARCADIS Avantic yields consistently high image quality even in lateral projections of obese patients. For fine detail visualization, three zoom levels make even the finest structures easily visible.



Cardiac surgery



Gastroenterology



Spine surgery

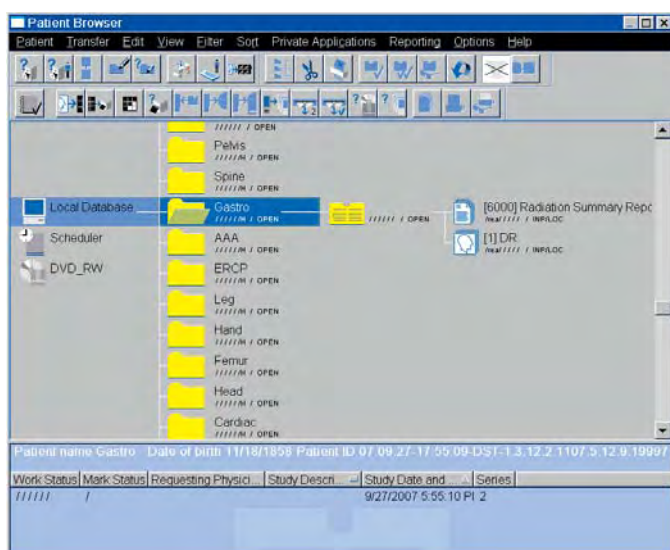
# How to handle excellent images without loss

## Intuitive and time-saving operation

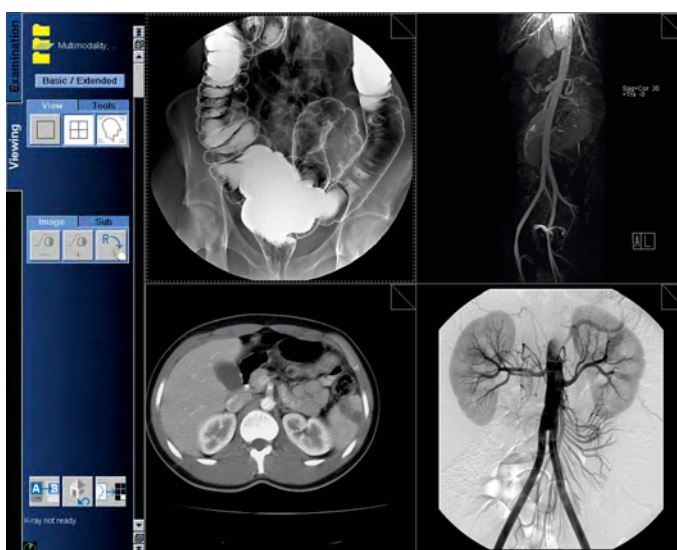
With its *syngo* user interface, ARCADIS Avantic enables intuitive system operation from registration through examination and postprocessing to documentation and archiving. The self-explanatory icons make all the image postprocessing capabilities of *syngo* available to your OR staff with ease.

## Flexibility in patient-data handling

With *syngo*, ARCADIS Avantic seamlessly integrates into the HIS/RIS and PACS world and allows effortless patient pre-registration by data transfer to your worklist from the HIS/RIS. Alternatively, you can query the archive using the search function. This significantly reduces OR prep time. It goes without saying that ARCADIS Avantic also fully supports emergency registrations.



*syngo* user platform for uncompromised access to patient data



Multi-modality viewing – all required information always at hand

### Forget the light box

Equipped with a fully functional multi-modality workstation, ARCADIS Avantic provides you with all image information you need before, during, and after the OR procedure. Multi-modality viewing (Query/Retrieve) allows you to access images from other modalities, such as CT and MR, whenever you need them while *syngo* enables intuitive and easy handling.

### Flexibility in data storage

With its *syngo* platform, ARCADIS Avantic offers comprehensive connectivity with other modalities and clinical networks irrespective of the manufacturer, and it supports virtually all DICOM functionalities, including DICOM Send/Receive, Storage Commitment, Print, Worklist, Query/Retrieve, and MPPS. This means maximum flexibility

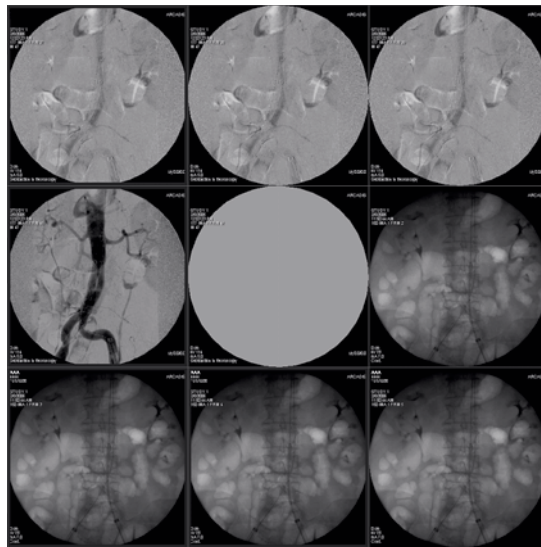
from patient registration through postprocessing to archiving and documentation. In addition, ARCADIS Avantic supports off-line data storage of images in DICOM format on CD, DVD, or even on a USB memory stick in DICOM or Bitmap.

### Flexibility in image identification and selection

Image identification such as cross-series selection of single images and scenes of one patient as well as the possibility to export sub-series in native, subtracted, or raw data enables you to choose the most relevant images for storage on mobile media. In addition, ARCADIS Avantic automatically includes a comprehensive *syngo* DICOM Viewer on every CD and DVD. The images stored on the medium can thus be viewed on every computer, regardless of operating system and platform.



Off-line data storage even on a memory stick



Convenient image selection for storage on external media



# How to assure brilliant results and enjoy maximum independence

## How to ...

### Sophisticated solutions for effortless imaging

Every detail of ARCADIS Avantic is designed with the clinical workflow in mind. Lengthy system operation procedures are a thing of the past. Dedicated solutions for every work step greatly support and improve your clinical routine, making it as convenient as possible for you to obtain great images without delay. The counterbalanced C-arm of ARCADIS Avantic excels with surpassing values in free space and immersion depth, and it delivers up to 42° of overscan for outstanding patient access and positioning flexibility.

### Straightforward right from the start

To facilitate operation whenever quick imaging is needed, ARCADIS Avantic features an adjustable control panel for all-in-one operation. All relevant control buttons for intraoperative image processing are in direct reach. Even the electromagnetic brakes can be controlled from here.

### Remote control from within the sterile field

On top of that, the remote user interface allows for the control of all C-arm functions such as image processing as well as opening and closing the brakes from within the sterile field. It even makes the control of movies possible. In combination with the new EASY technology, which makes imaging itself a snap, this brings a completely new level of independence during operation for the surgeon.

Outstanding patient access  
and positioning flexibility



Adjustable control panel for  
all-in-one operation



Remote user interface for  
control of all relevant C-arm  
functions from within the  
sterile field

A photograph of two surgeons in an operating room. They are wearing blue scrubs, blue bouffant caps, and white surgical masks. The surgeon in the foreground is looking towards the right, while the surgeon in the background is looking towards the left. The surgeon in the foreground has their right hand, wearing a white glove, raised and gesturing. The word "enjoy" is overlaid in a large, white, serif font across the lower half of the image.

# enjoy





### Uncompromising performance throughout the imaging chain

ARCADIS Avantic is equipped with two dedicated medical TFT displays that deliver flicker-free visualization on large 19" screens at high contrast and brightness. With an extraordinarily wide viewing angle of 170° and a highly ergonomic mounting on the trolley, the monitors will adapt to any situation and specific requirement. The displays are available in color or in a monochrome version for extra brightness. And for all those who want even more, ARCADIS Avantic features a practical monitor-out function to connect external monitors, e.g., ceiling-mounted monitors of the C-arm.

Dedicated medical TFT displays with outstanding luminosity for brilliant, flicker-free visualization







assure

# How to operate a comprehensive system most conveniently

## Appealing, well thought-out, and easy to handle

The monitor trolley of ARCADIS Avantic comprises a multitude of improvements designed to facilitate everyday work. With its footprint of only 73 x 65 cm, it sets a new benchmark for space saving design and advantageously accommodates the limited space in most ORs. Moreover, its lightweight and compact design, ergonomic handles, centralized footbrake, and the foldable monitors all contribute to an appreciable plus in maneuverability.

## Highest flexibility in monitor positioning

The monitors may be adjusted vertically to ideally match a surgeon's sitting or standing position, and they may be rotated by 180° to reduce the distance to the operation table considerably. To support this, the rear side of the trolley is kept totally cable-free for easiest cleaning.



The trolley offers high user-friendliness and best maneuverability in tightest environments and under busiest working conditions

### Clarity of orientation

The cleverly devised color code, for example, is a uniquely easy-to-understand and efficient means of orientation providing for quick and precise positioning of the C-arm. Each moving direction of the C-arm is represented by a color-coded measurement scale, which corresponds to the color of certain handles and brakes. Moreover, electromagnetic brakes for every moving direction support fast, precise, and effortless positioning considerably.

### Advanced footswitch operability

The multifunction footswitch, which is available as an alternative to the standard footswitch, enables even more user-friendly and intuitive operation of ARCADIS Avantic. It allows surgeons as well as OR staff to control all operating modes and single image storage. Thanks to the adjustable footswitch setup, pulsed fluoroscopy instead of continuous fluoroscopy can be allocated to a fixed pedal – an easy way to further improve dose saving measures and efficient tube load management.



Each moving direction of the C-arm is represented by a color-coded measurement scale



The multifunction footswitch enables more user-friendly and intuitive operation



The central footbrake at the bottom allows for one-touch blocking and unblocking of the wheels



# How to employ cutting-edge technology and achieve maximum convenience

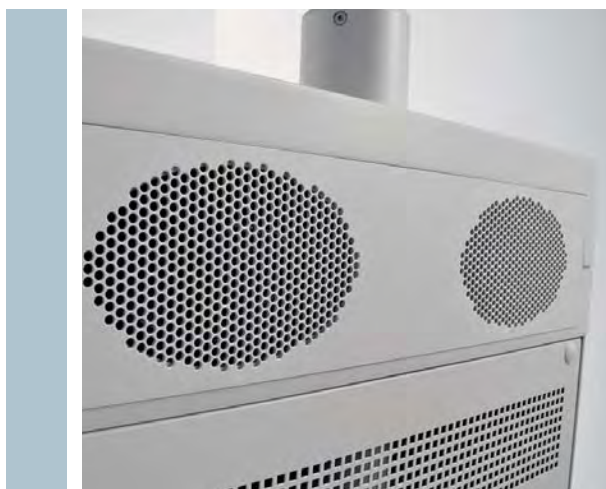
## Taking ergonomics seriously

The trolley has been greatly improved for even higher user-friendliness and best maneuverability in tightest environments and under busiest working conditions. Input devices such as keyboard and mouse are always in direct reach, and the top of the trolley also features intelligent detail solutions like a drawer for CDs, DVDs, and the quick guide. All network and video interfaces are easily accessible placed at the left and at the right side of the trolley for direct connections without any cable chaos. The x-ray indicator on top of the monitor support guarantees best visibility from all directions, which contributes to optimum dose care for all staff.

## Enjoyable work throughout

ARCADIS Avantic was designed to contribute to a working atmosphere that increases the overall job performance of surgeons and all OR staff. It allows for a smooth workflow and concentrated work that really focuses on the patient instead of dealing with technical difficulties. To round out the multitude of beneficial improvements to your daily work, ARCADIS Avantic also offers EMotion, the onboard sound system that can be connected to an MP3 player which makes working with ARCADIS Avantic an even more enjoyable experience.

Onboard sound system for an enjoyable environment



Monitors can be folded for parking



### Smart transport and protection

In addition to the comprehensive adaptability the monitors offer during operations, they can be folded for transport and parking. Foldable monitors are a major contribution to safe transport of the system thanks to an unobstructed view, and also provide a very functional monitor protection solution in parking situations.

### An intelligent investment for years to come

Exceptional performance and high versatility backed by comprehensive service options make ARCADIS Avantic a future proof investment of outstanding value. Alongside, the comprehensive service options available for ARCADIS Avantic guarantee highest uptime and utilization rates. Thanks to Siemens Remote Services, your system is proactively monitored and parameter deviations can be detected before problems occur. Remote diagnosis allows us to identify defective parts and to accelerate their delivery, thereby keeping repair times to a minimum.

The unique customer care solutions from Siemens help you get the most from your investment. From the moment of your purchase, Siemens surrounds you with an array of programs and support that enables the continuous development of your skills, productivity, and technology. Increase profitability. And take patient care to the next level.



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