



## Modular design with new flexibility in urology

MODULARIS

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MODULARIS

# Modular design with new flexibility in urology



For years, Siemens has been at the forefront of healthcare innovation. Our trendsetting products for X-ray, lithotripsy, and ultrasound enable us to provide a comprehensive solution for your urology department. The MODULARIS® platform consists of multiple components that can be used together or independently to meet your clinical needs. Additionally, its compact design makes the system

easy to move – enabling you to benefit from the performance of a stationary system and the versatility of a mobile one.

The proven platform MODULARIS now presents its newest family member: the innovative lithotripsy module MODULARIS Variostar with surprising new flexibility.



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“The multifunctionality of MODULARIS’ modular components allows us to maximize our clinic’s treatment efficiency. We are able to perform ESWL treatments in the morning, fluoro-urodynamic investigations in the middle of the day, and various fluoroscopic procedures later in the afternoon – all in the same room and on the same table! The majority of our ESWL treatments can be successfully performed under conscious sedation with good patient tolerance and excellent fragmentation rates.”

Dr. Dennis Venable  
Professor of Urology  
Louisiana State University, LA, USA



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MODULARIS Uro

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Variostar

## MODULARIS applications

# Maximum versatility

### Lithotripsy



MODULARIS lithotripsy modules feature the effectiveness and convenience of a dedicated stationary lithotripter. The patient table, C-arm, and lithotripsy modules can be operated by the central hand control. The outline ultrasound imaging allows for precise stone localization and continuous monitoring. Our LithoReport patient data management system supports detailed reporting and can be integrated with your hospital information systems (HIS/RIS).

### Urodiagnostics



Our solution for precise diagnostics includes the patient table MODULARIS Uro, the ultrasound system SONOLINE G20, and your choice of almost all Siemens X-ray C-arms. Additionally, our ARCADIS C-arms support multimodality viewing and central image archiving for increased efficiency.

### Prostate diagnostics and therapy



Combine the patient table MODULARIS Uro with our ultrasound system SONOLINE G20 and you get the ideal standard equipment for prostate diagnostics. Additionally, therapy methods like brachytherapy or endourology can be performed as well. A wide range of optional table accessories supports patient comfort and ergonomic procedures.

MODULARIS offers multiple configurations for a full range of urological applications, thus answering individual requirements and budgets.

When configuring MODULARIS, you can choose from:

- two lithotripsy modules
  - MODULARIS Variostar
  - LITHOSTAR MODULARIS Vario
- MODULARIS Uro patient table
- mobile X-ray C-arms from Siemens or other manufacturers

In addition, you can optionally add:

- Siemens SONOLINE® G20 ultrasound system

Moreover, the Siemens ARCADIS® C-arm's software easily connects your urology department into the hospital network with:

- *syngo*®, the unique software platform from Siemens for multimodality viewing
- LithoReport™, the designated lithotripsy patient data management

#### Endourology and PCN/PNL



Consisting of the MODULARIS Uro table, a Siemens C-arm, and combined with any endoscopy tower, this configuration is optimal for endoscopic diagnostics and percutaneous interventions.

#### Pain therapy\*



With its wide energy spectrum, Siemens' electromagnetic shockwave system *C<sub>plus</sub>* is ideally suited for pain therapy in orthopedics as well as for treatment of pseudarthrosis and Peyronie's Disease (IPP). Over-table positioning of MODULARIS Variostar's shockwave head allows for comfortable therapy in the supine position. What's more, ultrasound localization with SONOLINE G20 supports the procedure.

\* This application use is not approved for every country

## MODULARIS lithotripsy modules

# Outstanding efficiency and ease of use

	MODULARIS Variostar	LITHOSTAR MODULARIS Vario
Shockwave system	C <sub>plus</sub>	C <sub>plus</sub>
Integrated focus alignment phantom	+	+
Under-table position	++ additional flexibility ( $\pm 10^\circ/20^\circ/30^\circ$ )	+
Over-table position	+	-
	additional flexibility ( $\pm 10^\circ/20^\circ/30^\circ$ )	
Flexible shockwave head positioning	+	-
Universal C-arm coupling	+	+
Motorized C-arm angulation	++	-
	ARCADIS Varic or SIREMOBIL Compact L	
Central hand control	++ new design and interface	+
Option for remote control	+	+
Outline ultrasound	+	+*
Prepared for mobile use	++ enhanced maneuverability	+

- Not available
- + Available
- ++ Available with additional features
- \* Not approved for the U.S.



**The new star of MODULARIS:  
MODULARIS Variostar**

We have extended our MODULARIS platform with the innovative lithotripter MODULARIS Variostar. Its unsurpassed flexibility enables both under-table and over-table treatments. An entire portfolio of additional new features like the motorized C-arm angulation or advanced ergonomics simplifies daily procedures and allows for easy handling. The shockwave system C<sub>plus</sub> stands for reliable therapy success. And combined with Siemens ARCADIS C-arms, MODULARIS Variostar connects your urology department with the hospital's network.

**The entry level version:  
LITHOSTAR MODULARIS Vario**

If you are looking for a basic solution at minimal cost, our well-known lithotripter LITHOSTAR MODULARIS Vario is the right choice for you. With our proven C<sub>plus</sub> shockwave system, this lithotripter provides the same clinical efficacy and performance in terms of stone fragmentation as a stationary one. Simply connect any C-arm, select the optional ultrasound system, and start treatment in under-table positioning. The central hand control allows for intuitive operation.





MODULARIS Variostar in over-table position



“Being a very satisfied MODULARIS user for many years I was really surprised by the numerous advantages that the new lithotripsy module MODULARIS Variostar brings with it.

Now I can position the shockwave head in any inclination I require – my patients always lie comfortably on their back. This saves time and effort! The fantastic new hand control is really easy to use and can even command the C-arm angulation. Many ergonomic enhancements are very useful in our daily work – we are all convinced that MODULARIS has become everything we hoped it could be!”

Prof. Dr. Manfred Kallerhoff  
Head of Urology  
Prosper-Hospital  
Recklinghausen, Germany

MODULARIS Variostar

# A new star with advanced capabilities

Some of the numerous therapy  
head positions of MODULARIS Variostar



Our latest innovation, the lithotripter MODULARIS Variostar, offers a broad spectrum of new features that bring significant advantages to your daily routine. Furthermore, the efficacy of its shockwave system C<sub>plus</sub> has already been proven for years in various facilities around the world.

### New flexible therapy head positioning

MODULARIS Variostar's therapy head can be easily moved not only in under-table, but also in over-table position. Both positions provide a high degree of angulation freedom for conventional and case-specific stone treatment.

Thanks to the swiveling therapy head of MODULARIS Variostar, ureteral stones can be fragmented in a comfortable supine position. Pain therapy also becomes more efficient due to the flexible adaptation to patient's morphology. Moreover, the safe connection between C-arm and lithotripter facilitates reliable focus alignment.



## MODULARIS Variostar

# Unsurpassed ease of use

### Central hand control

MODULARIS Variostar's completely new hand control facilitates every treatment. Almost all MODULARIS modules can be operated by the intuitive user interface. Shockwave parameters are easy to configure and even X-ray C-arm angulation is activated simply by one click. Additional information such as accumulative energy and the distance between the stone and the skin can also be displayed. A dedicated extension cable provides the flexibility of operating the system from behind a lead glass wall or even a separate room.



Central hand control with intuitive user interface



Spacious drawer for numerous accessories

### Advanced ergonomics

New ergonomic features of MODULARIS Variostar make it easy to operate. The cabling is minimal and hidden behind semi-transparent doors together with the coupling device. New handles facilitate movement and its spacious drawer offers room for documents, ultrasound probes, and much more. The MODULARIS focus phantom helps to quickly control the alignment of the C-arm.

The ECG monitor of MODULARIS can be directly positioned on the dedicated ECG holder, with all related cabling being integrated. A central brake immediately locks the system, thus providing reliable alignment between lithotripter and X-ray C-arm. Consequently, the shockwave focus remains in a constant position.

### Superior mobility

Both LITHOSTAR MODULARIS Vario and MODULARIS Variostar have been designed for maximum mobility, even for mobile providers. Their compact size makes them easy to be moved and a central brake permits secure positioning. Due to their “plug-and-play” functionality, warm-up is not necessary and hospitals or provider vans can use the systems immediately. In addition, MODULARIS Variostar offers a sophisticated transport position that protects the therapy head during transport and reduces the footprint for storage.



Hidden cables for increased comfort



ECG holder with integrated cabling

“Thanks to its modular structure, we use the MODULARIS urological system for a wide range of applications – from lithotripsy to transurethral and X-ray controlled endourological interventions.

The shockwave system C<sub>plus</sub> allows us to perform reliable and safe disintegration of even the hardest stones.”

Prof. Dr. Christian Chaussy  
Head of Urology  
Städtisches Krankenhaus München-Harlaching  
Munich, Germany

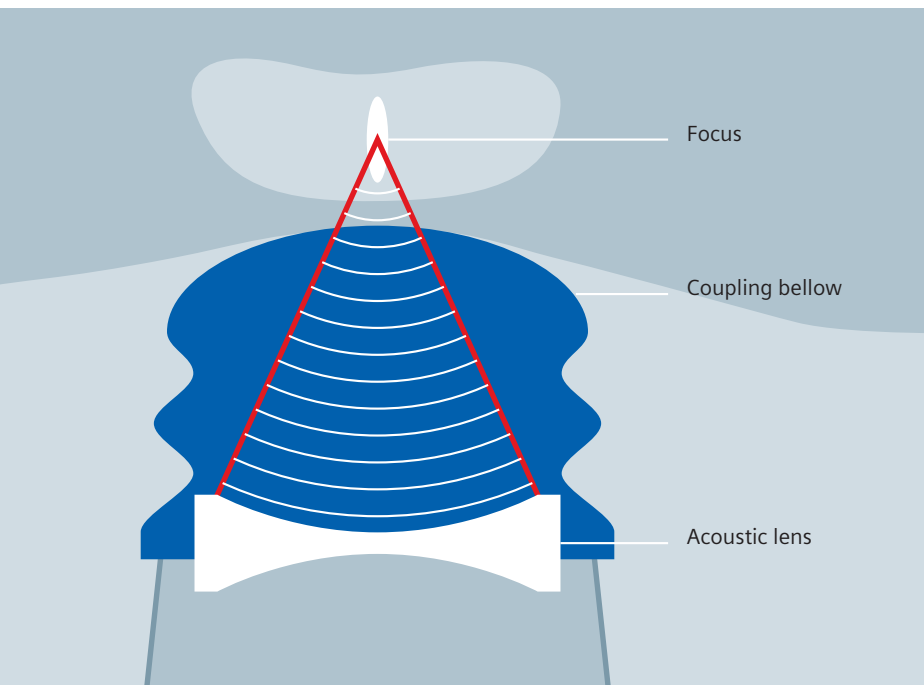




## MODULARIS shockwave technology

# Proven efficacy in shockwave therapy

Efficient shockwave technology is the key to successful stone treatment. Our electromagnetic shockwave system C<sub>plus</sub> is renowned for clinical efficacy and low retreatment rates. Its high penetration depth even applies for obese patients. The combination of a wide focal spot and high energy output has proven to be premium technology. This is why we have equipped both MODULARIS lithotripsy modules with C<sub>plus</sub>.



MODULARIS' shockwave head

Focus phantom

### Highly efficient

One of the most important parameters in stone disintegration is energy. Our C<sub>plus</sub> technology provides energy of up to 113 mJ for effective stone disintegration and a low retreatment rate of less than 6%\*. 38 energy levels allow for individual treatment options also for pediatric and orthopedic applications.

### Tissue-sparing

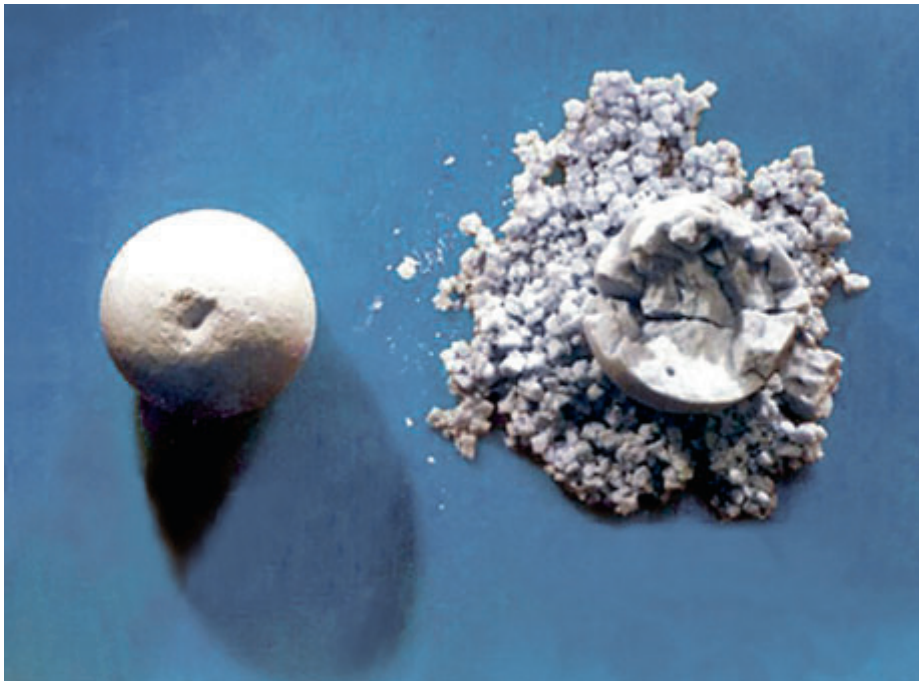
In most cases, there is only a very small, if any, correlation between the disintegration of stones and the pressure caused by a shockwave system. It is generally assumed that pressure causes tissue damage. In order to minimize tissue damage, we have optimized the pressure of our C<sub>plus</sub> technology, which delivers low pressure of 59 MPa – even at maximum energy levels.

### Reliable

The focus size with typical energy levels used in stone treatment allows a statement on the reliability and safety of stone disintegration. Our large shockwave focal width of up to 12 mm mostly compensates for stone excursion caused by respiration. Additionally, with our focus phantom you quickly control the therapy focus.

### Economical

Siemens provides the longest-lasting electromagnetic shockwave system for lithotripsy currently available on the market. MODULARIS' shockwave head is guaranteed for 1.5 million shocks.



### In vitro plaster ball test

Energy or pressure – what is it that destroys the stone?

An in vitro test with plaster balls demonstrates that energy is the only parameter that truly defines the disintegration performance of a lithotripter. Both plaster balls were targeted with 1000 shockwaves with a positive peak pressure of 20 MPa. The left ball was targeted with energy of 0.3 mJ per shot and the right ball with energy of 5 mJ per shot. This demonstrates that energy is the primary factor in stone disintegration.

\* Data on file

MODULARIS Uro table

# Maximum comfort for all applications



Our multifunctional MODULARIS Uro table enables you to ideally position your patients for virtually all urologic procedures, including lithotripsy, endourology, and urodiagnostics. Its ergonomic design is field-tested by countless users. Special dedicated millimetric and application-specific movements facilitate the multifunctional usage of the table. A large range of accessories completes the MODULARIS Uro table for multifunctional use. And its high degree of radiolucency allows the entire urogenital region to be viewed without shadowing effects.

#### Key features of MODULARIS Uro table

- Isocentric  $\pm 15^\circ$  table tilting for constant working height
- Low-height adjustment for easy patient access
- Carbon-fiber table top for optimum radiolucency and stability
- Application-specific operation modes
- Hand and foot switch for motor-driven table movements
- Replaceable head and foot extensions for endourologic procedures



## MODULARIS with C-arms

# Excellent image quality with X-ray

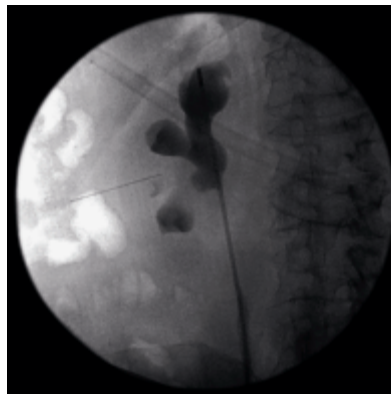
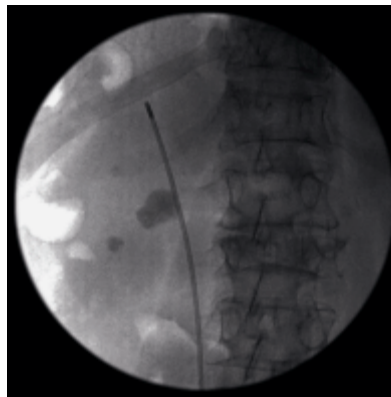
In combination with one of our mobile X-ray C-arms, MODULARIS becomes a comprehensive urology platform with excellent imaging for diagnostics and therapy.

ARCADIS Varic:  
native display of a kidney stone

*syngo*. It's all about you.

*syngo*, our unique solution for the diagnostic and therapeutic cycles, knows how you work. What you need. What's most important. Fast, easy, and intuitive, *syngo* brings together all of the solutions critical to you – and your patients. Uniquely role-based for your workflow, *syngo* completely integrates your day, your department and beyond. Leading to a whole new level of clinical excellence. And partnership you can grow with. It's the beginning of a virtualized, "always on, anywhere" world of healthcare.

The time to *syngo* is now.



ARCADIS Varic:  
renal calices with contrast medium

### Universal C-arm coupling

You can combine almost all of our mobile C-arms with both the LITHOSTAR MODULARIS Vario and the MODULARIS Variostar. With the central hand control, you can release the X-ray and control the motorized C-arm angulation\*. The special universal coupling bridge also allows you to utilize C-arms from other manufacturers.

### Seamless network integration

ARCADIS C-arms introduce *syngo*, Siemens' unique software platform for intuitive operation and multimodality viewing, into your urology department. And with our patient data management system LithoReport, all shockwave parameters are automatically stored in combination with the patient's demographic and image data for archiving purposes.

### Key features of Siemens C-arms

- Compact versatility for a variety of applications
- High-resolution flat screen monitors and a high power generator offer excellent image quality
- Optimized clinical workflow through comprehensive DICOM connectivity, digital patient management, and intuitive handling
- *syngo* for multimodality viewing (ARCADIS C-arms)
- User-friendly color coding for easy positioning and operation as well as light-weight design for unparalleled mobility
- No patient repositioning due to large free space for unrestricted patient access and truly isocentric design (ARCADIS Orbic)



### Simply choose the system that fits your clinical requirements:

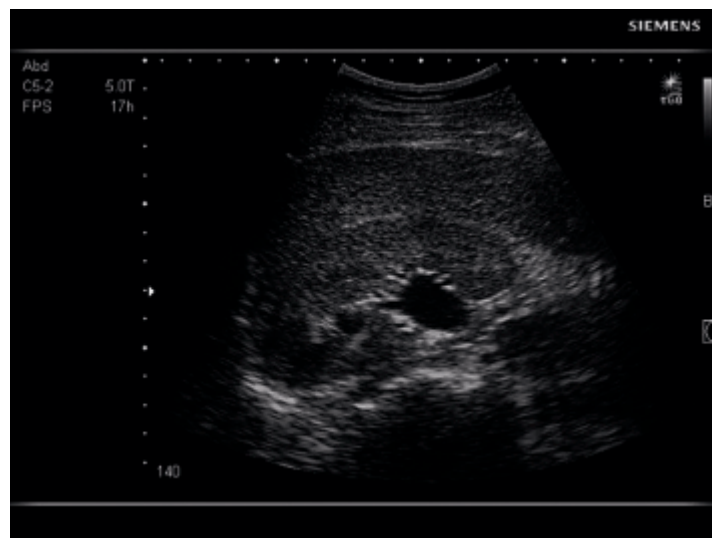
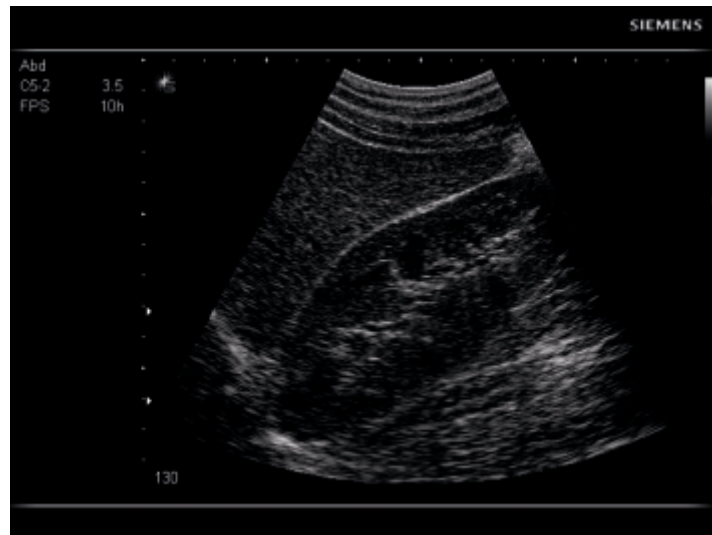
Siemens C-arm	Short description	Technical view	Networking
<b>SIREMOBIL Compact L</b>	Compact versatility with increased user comfort	<ul style="list-style-type: none"> <li>• up to 12.2 mA output</li> <li>• digital 1k imaging matrix (1024 x 929 px)</li> <li>• motorized angulation with MODULARIS Variostar</li> </ul>	<ul style="list-style-type: none"> <li>• comprehensive DICOM package</li> </ul>
<b>ARCADIS Varic</b>	Digital patient management and excellent image quality	<ul style="list-style-type: none"> <li>• up to 23 mA output</li> <li>• digital 1K2 imaging matrix (1024 x 1024 px)</li> <li>• motorized angulation with MODULARIS Variostar</li> </ul>	<ul style="list-style-type: none"> <li>• fully DICOM compatible</li> <li>• <i>syngo</i>-based multimodality viewing</li> <li>• LithoReport</li> </ul>
<b>ARCADIS Orbic/ Orbic 3D</b>	Isocentric C-arm movement for precise 2D/3D imaging	<ul style="list-style-type: none"> <li>• up to 23 mA output</li> <li>• digital 1K2 imaging matrix (1024 x 1024 px)</li> </ul>	<ul style="list-style-type: none"> <li>• fully DICOM compatible</li> <li>• <i>syngo</i>-based multimodality viewing</li> <li>• LithoReport</li> </ul>

\* MODULARIS Variostar in combination with ARCADIS Varic and SIREMOBIL Compact L

# MODULARIS with ultrasound

## Enhanced stone localization

SONOLINE G20: longitudinal image of the right kidney



SONOLINE G20: congested right kidney





To perform simultaneous stone localization and monitoring of the stone fragmentation, you can add the black/white ultrasound system SONOLINE G20 to your MODULARIS. The transducer is fixed on a unique isocentric arm, enabling fast and reliable stone localization. Its special design provides an optimal entry window into the patient's anatomy while bypassing obstructing structures to the stone. Movements of up to  $-15^\circ$  relative to the horizontal axis give you unparalleled flexibility. And by releasing the break, the position can be locked or changed for each individual case.

Whatever your needs for localization and monitoring are, the Siemens ultrasound system offers premium image quality in under- and over-table positions.

#### Key features of SONOLINE G20 ultrasound system

- Slim, lightweight design with small footprint makes the system ideally suited for use in small areas
- Excellent image quality with Tissue Harmonic Imaging (THI) and Tissue Grayscale Optimization (TGO™) technology
- Seamless integration of advanced capabilities including DICOM connectivity
- Ongoing performance enhancements, which require only simple and cost-effective software upgrades, protect your initial investment for the future

SONOLINE G20



MODULARIS

# Modular design with new flexibility in urology

Life – our customer care program

Life is the unique customer care solution from Siemens that helps you get the most from your investment. From the moment of your purchase, Life surrounds you with an array of programs and support that enables the continuous development of your skills, productivity, and technology. Allowing you to broaden your capabilities. Increase profitability. And take patient care to the next level.



Configure your individual MODULARIS system according to specific clinical needs. Benefit from high-quality components and comprehensive service support by Siemens.

Our proven competence in lithotripsy, X-ray technology, and ultrasound provides the best foundation for accurate stone localization, efficient stone disintegration, and comprehensive treatment monitoring. Advantages like eliminating patient repositioning, very low retreatment rates, digital data management, and dedicated service support contribute to lower costs while increasing quality for both your patients and your institution.



The information in this document contains general descriptions of the technical options available and may not always apply in individual cases.

The required features should therefore be specified in each individual case at completion of contract. Siemens reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens sales representative for the most current information.

Original images always lose a certain amount of detail when reproduced.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources, waste conservation), we recycle certain components. Using the same extensive quality assurance measures as for new components, we guarantee the quality of these recycled components.

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