



**Embrace
human nature at 1.5T
MAGNETOM Sola
with BioMatrix**

Embrace human nature at 1.5T with MAGNETOM Sola

MRI must adapt to the patient in order to provide high-quality results consistently and cost-effectively.

MAGNETOM Sola, the first 1.5T system with BioMatrix technology, turns challenges into opportunities, delivering a whole new level of consistency, efficiency, and increased clinical capabilities.

-●
First 1.5T BioMatrix system
-●
New 1.5T magnet, 70 cm Open Bore, and large 50 x 50 x 50 cm³ Field of View
-●
New BioMatrix Sensors increase consistency
-●
Expanded BioMatrix Tuners adapt to challenging body regions to provide excellent homogeneity
-●
Enhanced BioMatrix Interfaces ease patient preparation and accelerate patient positioning by 30%¹



-●
Free-breathing exams with Compressed Sensing improve the patient experience
-●
Push-button exams and GO technologies powered by AI increase patient throughput
-●
New accelerated applications with Simultaneous Multi-Slice reduce scan time by up to 46% for comprehensive MSK exams²
-●
New anatomy-adaptive coils improve patient comfort
-●
New user environment with syngo MR XA11 offers more intuitive handling
-●
Cost-efficient energy management with EcoPower

Embrace consistency at 1.5T

with BioMatrix technology

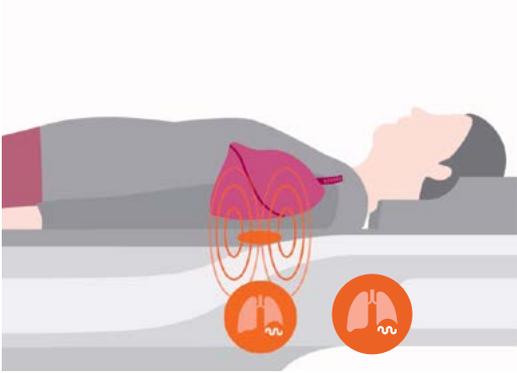
BioMatrix overcomes variations by automatically adjusting to the individual patient. BioMatrix Sensors, Tuners, and Interfaces enable you to anticipate motion, adapt to any patient's body type, and accelerate patient positioning. The result: higher diagnostic confidence, fewer rescans, predictable patient scheduling, and consistent, high-quality personalized exams.



Anticipate motion for high-quality results with BioMatrix Sensors

Motion is a challenge in MRI, as it can dramatically decrease image quality, limiting consistency in scans and leading to costly rescans. Deeply embedded in the system architecture, BioMatrix Sensors capture motion for increased consistency. This allows the user to choose the optimal exam strategy and ensure consistent high-quality results.

BioMatrix Respiratory Sensors



Integrated Respiratory Sensors automatically detect breathing patterns as soon as the patient lies on the table. Respiratory-triggered scans can be performed without additional user interaction to help simplify workflow.



Patient respiration data, acquired by the BioMatrix Sensors, are displayed on the side of the magnet. By viewing the patient's respiration rate, technologists have a sense for how patients are reacting to the exam and can adapt their patient and scanner interactions.

BioMatrix Kinetic Sensor



The Kinetic Sensor enables the operator to visually monitor head movement during head exams. The hardware consists of four cameras with a slim profile mounted inside the bore and a monitor to view the patient.

BioMatrix Beat Sensor



A new BioMatrix Body 12 coil contains the integrated Beat Sensor[®].



Adapt to challenging anatomies for reliable exams with BioMatrix Tuners.

BioMatrix Tuners adapt to challenging anatomies, such as the head/neck, spine, and abdomen, for reliable exams. Our coil technology consistently delivers excellent homogeneity and fat saturation for every patient, every time.

Significantly improved fat saturation and image quality with the BioMatrix Tuner CoilShim



BioMatrix Head/Neck 20, tilttable (0° / 9° / 18°) with CoilShim

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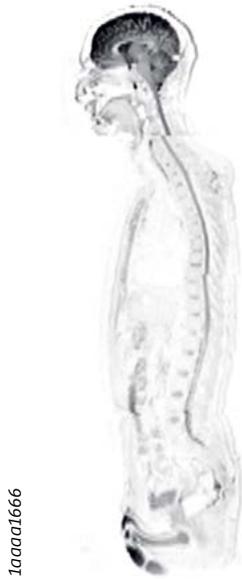


Conventional Shim



With CoilShim

Improved image quality in the entire imaging volume with SliceAdjust



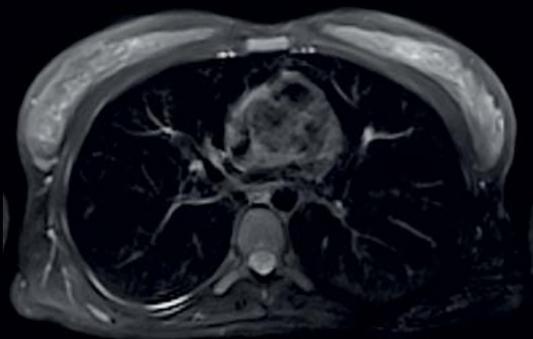
Conventional Volume Adjust



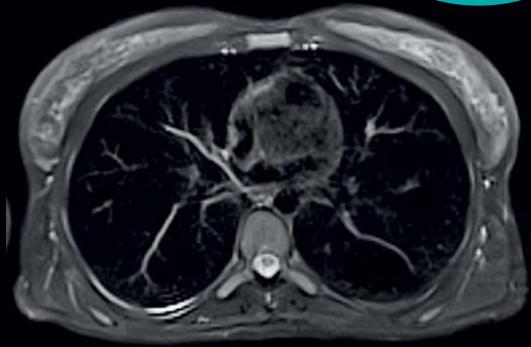
With SliceAdjust

SliceAdjust technology provides reliable fat saturation for both TSE and DWI sequences, as well as distortion-free whole-body DWI scans. SliceAdjust avoids broken spine artifacts in whole-body DWI to provide excellent correlation with anatomical scans.

NEW
SliceAdjust
with TSE for
improved fat
saturation



Conventional Volume Adjust

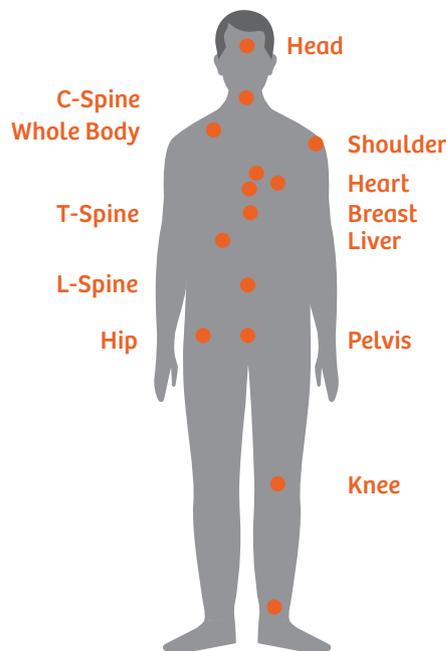


With SliceAdjust
Integrated in Multi-concatenation TSE acquisitions



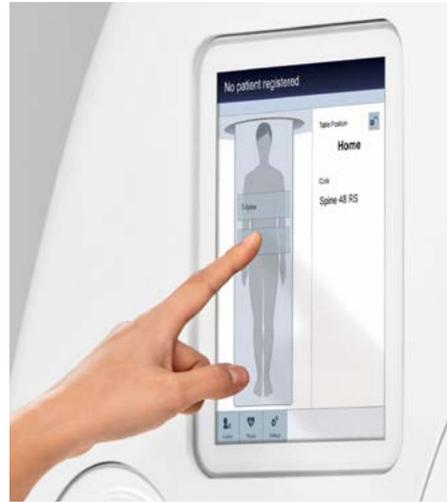
Accelerate patient preparation for increased efficiency with BioMatrix Interfaces.

BioMatrix Interfaces simplify user interaction between the scanner and the patient. Regardless of patient size, mobility, or technologist experience, BioMatrix Interfaces help accelerate workflow for increased efficiency.



**Intelligent
Body Model
powered
by AI**

Select&GO one-touch positioning utilizes AI to accelerate patient positioning by up to 30%² compared to laser positioning. The user simply selects the region or organ to be scanned on the touch display and the patient is automatically positioned for the respective scan, helping to avoid delays due to incorrect positioning.



Fast and easy positioning with the Select&GO display.

The BioMatrix dockable table with eDrive support provides motorized assistance, enabling even the heaviest patient to be moved effortlessly to and from the scanner.



Embrace efficiency at 1.5T

with GO technologies and Simultaneous Multi-Slice

For routine MR exams, referrals are increasing due to changing demographics. MAGNETOM Sola embraces efficiency at 1.5T and makes push-button exams a clinical reality. GO technologies, powered by AI, help you accelerate the entire workflow from patient positioning to result distribution. New speed technologies such as Simultaneous Multi-Slice TSE can dramatically reduce scan times for routine exams.



Preparation with Select&GO:

Select&GO enables exam positioning with one touch on the display – by anyone, on any patient.



Acquisition with DotGO:

AutoAlign Spine, an intuitive Dot workflow powered by AI, automatically places the image slices to make whole-spine imaging a push-button exam.



Reconstruction with Recon&GO:

Recon&GO performs postprocessing steps in the background without user interaction. For example, vertebrae in the sagittal, axial, and coronal views are automatically labeled in all contrasts.



Distribution with MR View&GO:

Dual screens allow the user to control scans on the left monitor while checking the results on the right monitor in real time.

Embrace new clinical opportunities at 1.5T

MAGNETOM Sola opens access to patients previously excluded from MRI because of a medical condition or an exam's complexity. Simultaneous Multi-Slice accelerates imaging significantly, making complete MSK exams almost twice as fast. Free-breathing Compressed Sensing applications improve the patient experience while enabling you to expand services. Automated workflow engines simplify procedures for potential growth areas like whole-body MRI.

Simultaneous Multi-Slice TSE

New speed applications with Simultaneous Multi-Slice reduce scan time without compromising image quality.

Simultaneous Multi-Slice accelerates imaging significantly through the simultaneous excitation and readout of multiple slices, making complete MSK exams almost twice as fast.



Up to 46%
scan time
reduction for
complete
MSK exams²

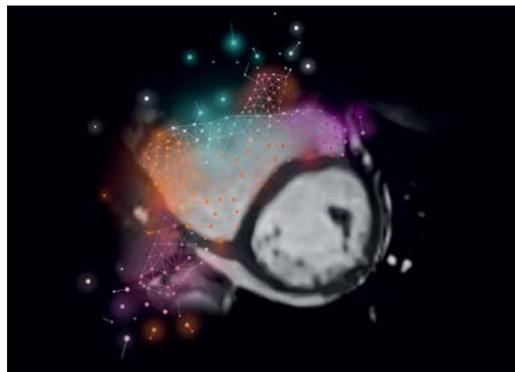


Compressed Sensing GRASP-VIBE

Dynamic, contrast-enhanced imaging is an important exam for characterizing abdominal lesions. It is often challenging for patients because it requires several breath holds over a short time period. Plus, the administration of a contrast agent must be timed correctly. For patients who cannot hold their breath for the scan duration, the result is often a non-diagnostic image.

With Compressed Sensing Grasp-VIBE:

- Obtain push-button, free-breathing liver dynamics
- Remove the timing challenges and respiratory artifacts associated with dynamic imaging
- Outperform Cartesian VIBE acquisition with no breath holds



Compressed Sensing Cardiac Cine

MR cardiac function imaging is the gold standard for the diagnosis and prognosis of a variety of cardiac diseases, but it is time-consuming and requires a challenging number of breath holds. Image quality is impaired in particular for patients with arrhythmia.

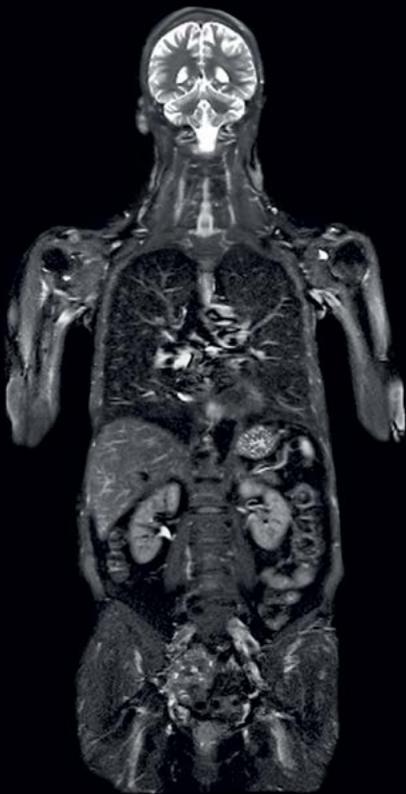
With Compressed Sensing Cardiac Cine:

- Acquire free-breathing, high-resolution Cardiac Cine images
- Offer cardiac function evaluation to all patients—even those with arrhythmia
- Capture the whole cardiac cycle for precise quantification
- Expand the patient population eligible for Cardiac MRI

Perform complete whole-body exams from head to pelvis in less than 30 minutes⁴

The new Whole-Body Dot Engine reduces the planning and execution of complex, whole-body exams to a few clicks. Simply select which regions need to be scanned, decide whether a focus region should be investigated, and set a few patient-specific settings (e.g., breath-hold capability).

All core protocols for bone and lymph node metastasis detection are covered.



T2 HASTE STIR

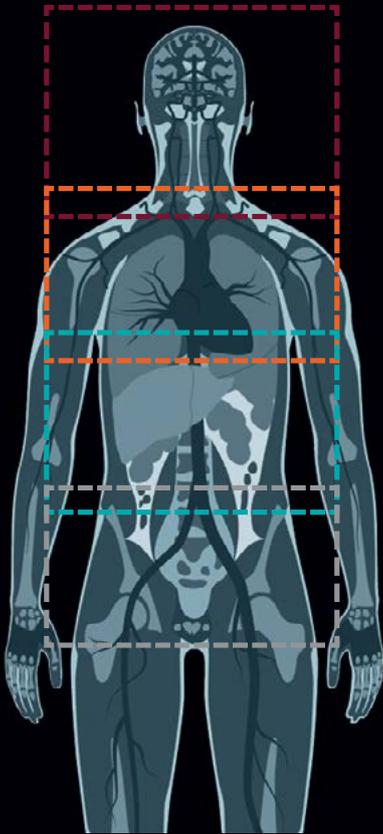


VIBE DIXON Water image



DWI b800

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General Parameters

- Exam Strategy: Standard
- Focus Adaption: BH + AutoCoverag
- Auto Bolus Detection:
- Auto ROI:

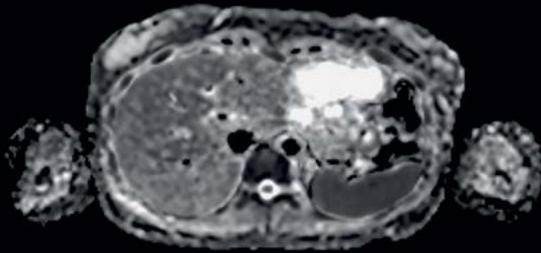
Breath-Hold Parameters

- Breath-Hold Capability: 20 s
- Auto Breath-Hold Commands: German (German)
- Pause Between Breath-Holds: 10 s

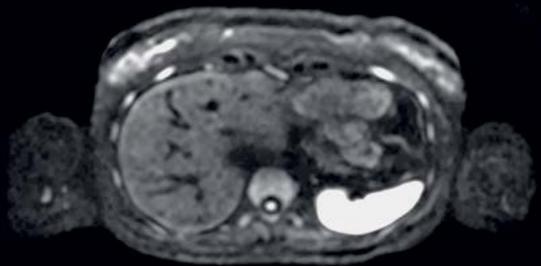
Coverage

- Head:
- Chest: Focus
- Abdomen: Focus
- Pelvis: Focus
- Legs: FastView

The Whole-Body Dot Engine provides intuitive and guided workflow.



ADC map



DWI b800

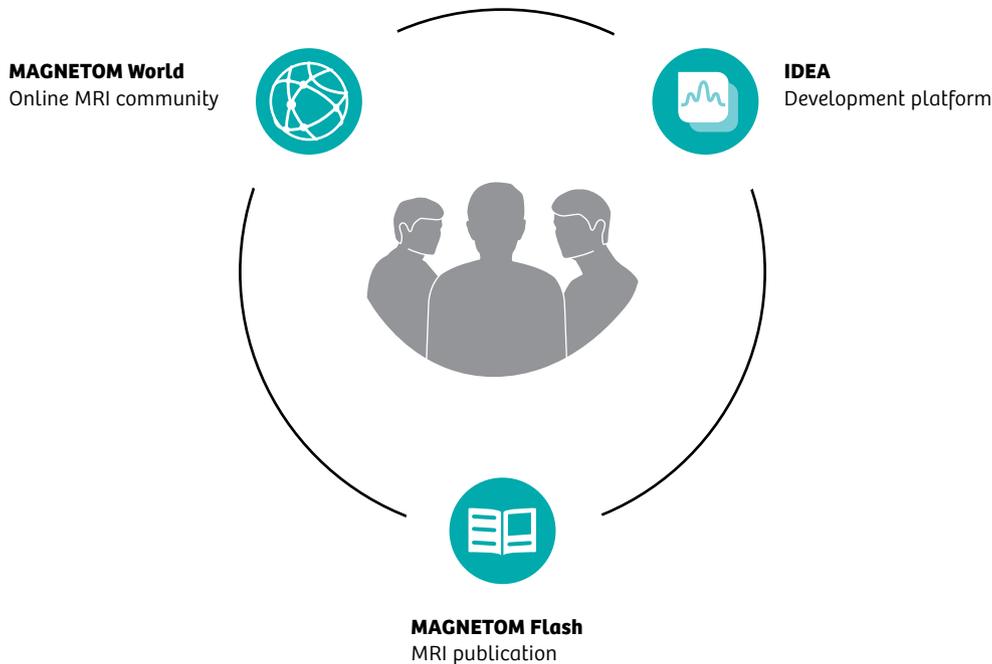


T2 STIR



T1 TSE

Peer-to-peer information exchange



MAGNETOM World

The global MRI community of Siemens Healthineers offers peer-to-peer support and information. Radiologists, cardiologists, technologists, and physicists all have contributed with protocols, presentations, application tips, case studies, and more—all freely available to you via this unique network.

[siemens.healthineers.us/magnetom-world](https://www.siemens-healthineers.com/magnetom-world)

MAGNETOM Flash

The MRI customer magazine features up-to-date clinical case studies, application tips, as well as technical and product information. All content is carefully compiled by experts to meet the needs of today's MRI users in both clinical and research scenarios. In fact, 98.5% of readers report that MAGNETOM Flash is clinically relevant³.

[siemens.healthineers.us/magnetom-flash](https://www.siemens-healthineers.com/magnetom-flash)

IDEA

IDEA⁴ is an open development platform supporting the largest and most active MR research community in the world. It brings users from across the globe together and fosters innovation in the field of MRI. Members collaborate online at:

[siemens.healthineers.us/mr-idea](https://www.siemens-healthineers.com/mr-idea)

Technical specifications

MAGNETOM Sola Technical specifications

Field strength	1.5 Tesla
Bore size	70 cm Open Bore design
System length	157 cm cover to cover
System weight (in operation)	4.2 tons
Minimum room size ⁵	28m ² / 302 ft ²
RF technology	
Maximum number of channels ⁶	204
Number of independent receiver channels that can be used simultaneously in one single scan and in one single FoV, each generating an independent partial image	32, 48, 64
Gradient strength	
	XQ gradients 45/200 simultaneously [2.03 MVA]
	XJ gradients 33/125 simultaneously [1.25 MVA]
Helium consumption	Zero Helium boil-off technology



Why Siemens Healthineers?

At Siemens Healthineers, we enable healthcare providers to achieve better outcomes at lower costs by expanding precision medicine, transforming care delivery, improving patient experience, and digitalizing healthcare.

Healthcare providers around the world have long relied upon our engineering excellence: leading-edge, high-quality medical technologies across a broad portfolio. Our technologies touch an estimated 5 million patients⁷ globally every day. At the same time, they help hospital departments to continuously improve their clinical, operational, and financial outcomes.

We now consolidate this unprecedented volume of data and insights and turn them into pioneering enterprise and digital health services. With those, we maximize opportunities and share risks of your entire health system.

Partnerships are built on people. With Siemens Healthineers, there is no team more committed and more connected than we are to realize your success together.

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 170 years of experience and 18,000 patents globally. With more than 48,000 dedicated colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

The outcomes and statements provided by customers of Siemens Healthineers are unique to each customer's setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, and level of service/technology adoption), there can be no guarantee that others will achieve the same results.

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For accessories, please visit:
[siemens-healthineers.us/accessories](https://www.siemens-healthineers.us/accessories)

¹Data on file.

²Values for a 196 cm person.

³2013 MAGNETOM Flash reader survey. Data on file.

⁴This website provided by Siemens AG may be used solely in accordance with the general terms and conditions of use, available prior to registration/login on the website itself.

⁵Minimum total space requirement for magnet, electronics and console room.

⁶Channels (coil elements) that can be connected simultaneously.

⁷Siemens AG, "Sustainable healthcare strategy—Indicators in fiscal 2014", page 3–4

⁸Cardiac Triggering is still under development and not commercially available yet. Its future availability cannot be ensured.

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