

**MAGNETOM Altea
with BioMatrix**

**Confidence
to deliver**

siemens-healthineers.com/altea



SIEMENS
Healthineers

MAGNETOM Altea provides you the confidence to deliver

As the reimbursement landscape in the healthcare industry shifts from volume to value, the pressure for operational discipline grows on care providers. At the same time the market is becoming increasingly competitive as consumerism in healthcare has gained significant traction.

In this challenging environment, MAGNETOM Altea is the new 1.5T Open Bore system that gives you full confidence to deliver the productivity, reproducibility, and patient satisfaction that you demand. Powered by our premium MR technology, MAGNETOM Altea combines our unique BioMatrix technology, the new *syngo* MR XA software platform, and our exclusive Turbo Suite to fundamentally transform care delivery for the better.

With a clear focus on financial sustainability, MAGNETOM Altea also gives you full confidence that your MR asset will deliver the expected returns on investment. Throughout the entire system life cycle, Siemens Healthineers provides you with tailored products and services that guarantee future security.

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MAGNETOM Altea

Confidence to deliver

As part of our groundbreaking BioMatrix scanner portfolio, MAGNETOM Altea is the 1.5T Open Bore system designed to fundamentally transform care delivery in your clinical key areas and provide financial sustainability.

New 1.5T magnet

with 70 cm Open Bore and large 50 x 50 x 50 cm³ FoV

Tim [180x32] RF technology

with powerful XJ gradients
(33 mT/m @ 125 T/m/s simultaneously)

syngo MR XA software platform

for intuitive system operation and
one user interface across your fleet

Innovision³ – the revolutionary patient infotainment solution

designed to redefine the in-bore experience



Transforming
**care
delivery**



Unique BioMatrix technology
automatically adjusts to patient biovariability

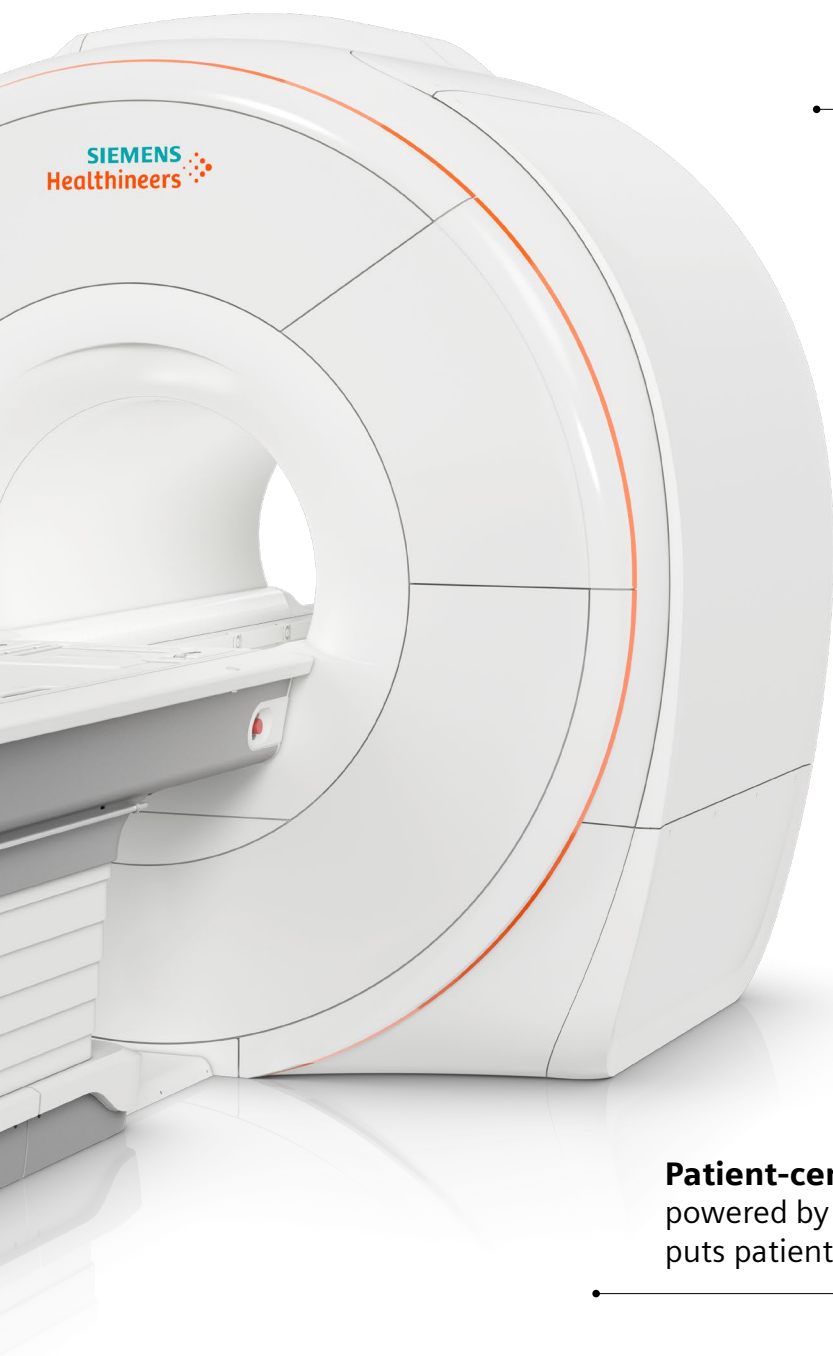
Turbo Suite
acceleration packages enable
up to 50%¹ faster scanning

8 unique Dot Engines
provide highly automated
scan procedures for more
than 90%¹ of all MRI exams

GO technologies
powered by artificial intelligence
boost patient throughput

syngo Virtual Cockpit²
the game-changing
remote scanning assistance
for standardized results
across your system fleet

Patient-centered coil portfolio
powered by Tim 4G and BioMatrix technology
puts patients at greater ease



MAGNETOM Altea

Confidence to deliver productivity gains

MAGNETOM Altea is designed with the clear goal to deliver significant productivity gains. At the core of its impressive acquisition speed lies our exclusive Turbo Suite allowing for up to 50%¹ faster routine scans. And with the further objective to reduce the overall patient time slot in your institution, MAGNETOM Altea offers additional remarkable innovations to boost workflow efficiency and ensure your return on investment.



Setting the pace in MR acceleration with Turbo Suite

Turbo Suite for MAGNETOM Altea is comprised of two packages including our unique parallel imaging, Simultaneous Multi-Slice, and planned Compressed Sensing⁷ technologies.

And – with Turbo Suite, you gain access to future developments in MR acceleration, keeping you up to date.



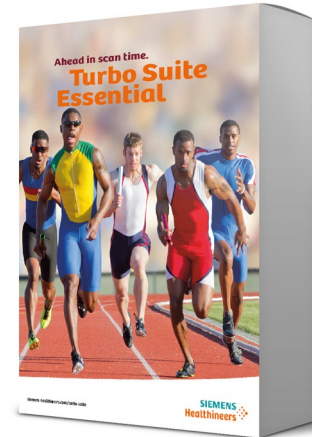
Reduce the total exam time by
up to 50%¹

Further information on Turbo Suite:
[siemens-healthineers.com/turbo-suite](https://www.siemens-healthineers.com/turbo-suite)

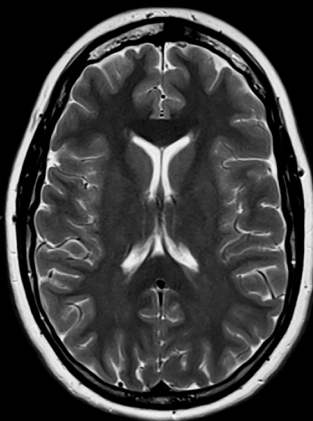
Turbo Suite Essential

Be ahead in scan time and maximize productivity with core MR acceleration technologies

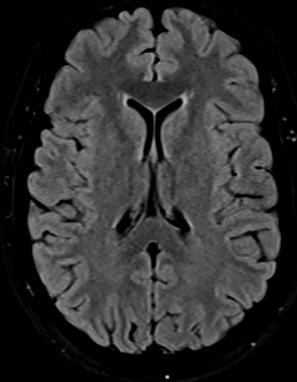
Turbo Suite Essential is our standard acceleration package for MAGNETOM Altea. This package leverages high element density coils, the parallel imaging techniques GRAPPA and our unique CAIPIRINHA to deliver routine exams in 10 to 15 minutes¹.



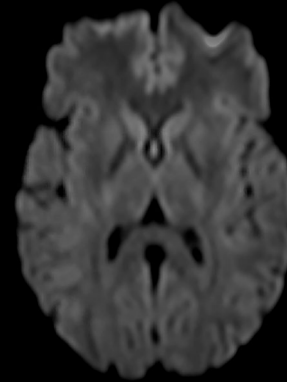
Neuro imaging



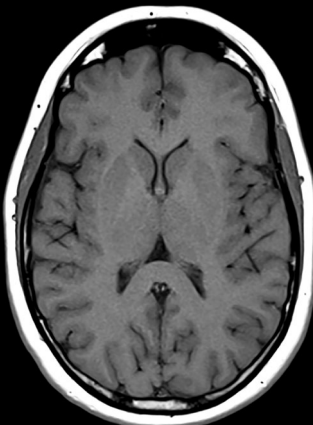
T2 TSE
0.6 x 0.6 x 4 mm³, TA 1:50 min
1aaaa2528



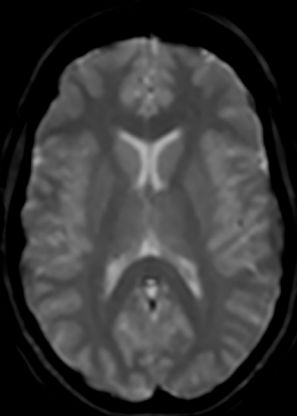
T2 Dark Fluid
0.8 x 0.8 x 4 mm³, TA 1:36 min
1aaaa2528



DWI, b50 b1000
1.1 x 1.1 x 4 mm³, TA 1:16 min
1aaaa2528



T1 SE
0.6 x 0.6 x 4 mm³, TA 2:00 min
1aaaa2528



T2*
0.8 x 0.8 x 4 mm³, TA 1:29 min
1aaaa2528



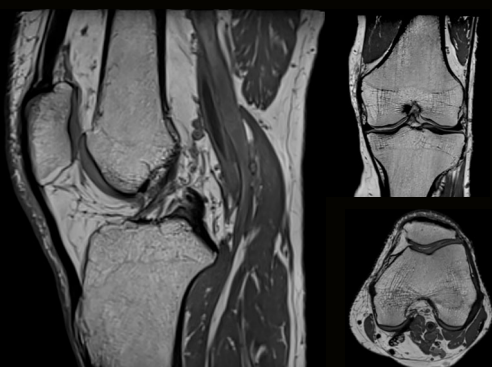
3D TOF
0.3 x 0.3 x 0.6 mm³, TA 4:24 min
1aaaa2528

**Total exam
12:35 min**

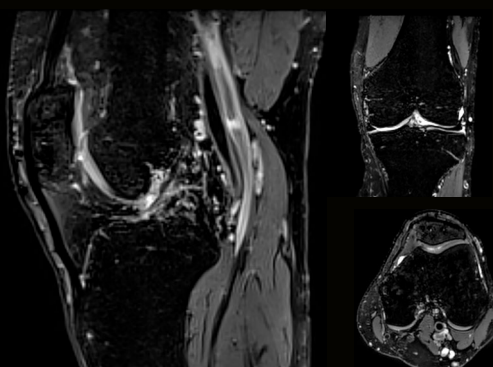
Routine exams in
10–15 minutes¹

Isotropic 3D MSK exams utilize the power of CAIPIRINHA, delivering all clinically relevant contrasts in 10 minutes. For body imaging, up to 50%¹ shorter breath-holds and high-resolution scans are possible with CAIPIRINHA.

MSK imaging – 3D exam



3D PD CAIPIRINHA SPACE, CAIPIRINHA 4
0.6 mm iso, TA 3:55 min
1aaaa2356



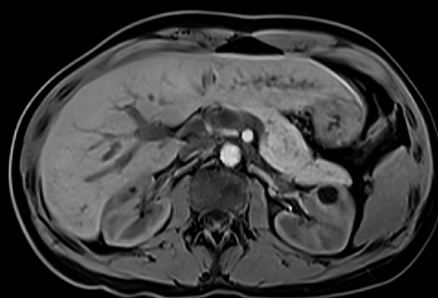
3D T2 CAIPIRINHA SPACE FS, CAIPIRINHA 4
0.8 mm iso, TA 5:42 min
1aaaa2356

Total exam
9:37 min
enabled by unique
CAIPIRINHA SPACE

Abdominal imaging – significantly shorter breath-holds and improved resolution



CAIPIRINHA VIBE, CAIPIRINHA 5
Matrix 211x288, SL 3 mm, TA 15 s
1aaaa2370

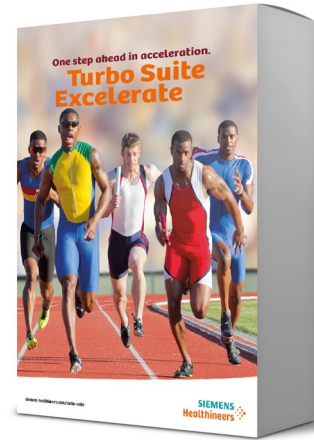


CAIPIRINHA VIBE, CAIPIRINHA 4
TA 15 s
1aaaa2488

Turbo Suite Excelerate

Be up to 50%¹ faster for routine, clinical exams

Turbo Suite Excelerate introduces a paradigm shift in productivity with up to 50%¹ time savings, for all contrasts, orientations, and body regions. Dramatically transform care delivery with cutting-edge acceleration technologies Simultaneous Multi-Slice and planned Compressed Sensing⁷ for static 2D and 3D imaging, covering neurological, orthopedic, and body MRI.

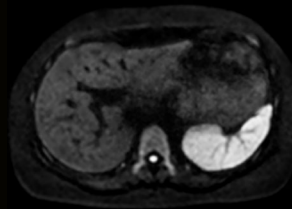


Simultaneous Multi-Slice

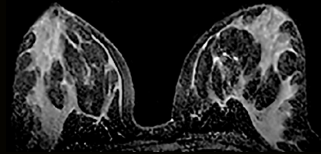
Conventional



PD TSE, PAT 2
0.5 x 0.4 x 3 mm³
TA 3:36 min
1aaaa2233



DWI, PAT 2, b50 b800
1.4 x 1.4 x 5 mm³
TA 3:07 min
1aaaa2476



RESOLVE⁸, b50 b800
1.2 x 1.2 x 5 mm³
TA 4:21 min
0aaaa0001

50% reduction

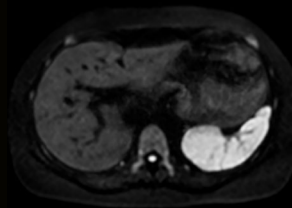
44% reduction

60% reduction

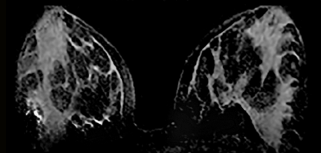
Turbo Suite
Excelerate with
Simultaneous
Multi-Slice and
Compressed
Sensing



SMS PD TSE, PAT 2 SMS 2
0.5 x 0.4 x 3 mm³
TA 1:49 min
1aaaa2233



SMS DWI, PAT 2 SMS 2,
b50 b800
1.4 x 1.4 x 5 mm³
TA 1:45 min
1aaaa2476



SMS RESOLVE^{7,8}, SMS 3,
b50 b800
1.2 x 1.2 x 5 mm³
TA 1:44 min
0aaaa0001

 Up to **50% time savings¹**

In addition to our latest Simultaneous Multi-Slice applications for EPI and TSE, the Excelerate package provides future security with granted access to planned new acceleration techniques including Simultaneous Multi-Slice RESOLVE⁷ as well as Compressed Sensing acceleration for SPACE⁷, TOF⁷ & SEMAC⁷.

Compressed Sensing



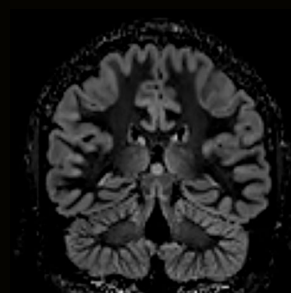
3D TOF Angio⁸, PAT 2
0.4 mm iso
TA 4:28 min
3aaaa0784

56% reduction



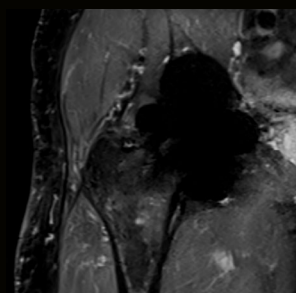
3D T2 SPACE MRCP⁸
0.5 x 0.5 x 1.0 mm³
TA 7:16 min
3aaaa0783

97% reduction



3D T2 SPACE DIR⁸
1.4 mm iso
TA 6:07 min
3aaaa0784

49% reduction



SEMAC^{8,9}
1.2 x 1.2 x 3 mm³
TA 11:10 min
3aaaa1793

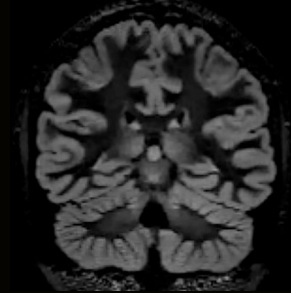
51% reduction



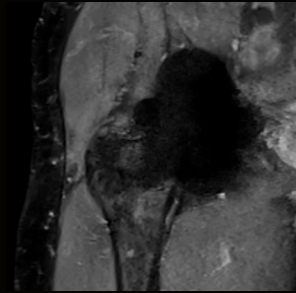
3D CS TOF Angio^{7,8}, CS 10
0.4 mm iso
TA 1:58 min
3aaaa0784



3D T2 CS SPACE MRCP^{7,8}, CS 23
0.5 x 0.5 x 1.0 mm³
TA 0:15 min
3aaaa0783



3D T2 CS SPACE DIR^{7,8}, CS 7
1.0 mm iso
TA 3:07 min
3aaaa0784



CS SEMAC^{7,8,9}, CS 8
1.2 x 1.2 x 3 mm³
TA 5:30 min
3aaaa1793

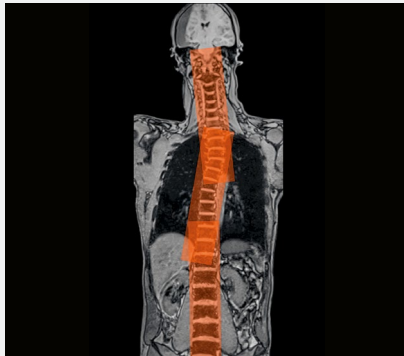
Automate your MR workflow with GO technologies

GO technologies powered by artificial intelligence (AI) and BioMatrix technology are a holistic set of intuitive workflow automations that help you expedite the entire workflow from patient positioning to result distribution.

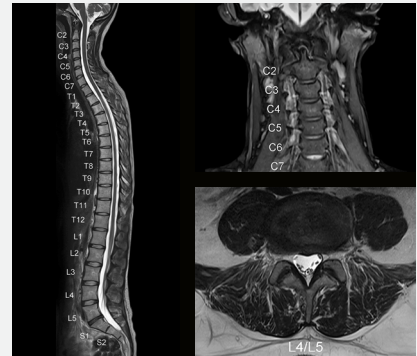
**30% faster²
patient positioning**



**Push-button
planning & scanning**



**Zero click fully automated
inline processing**



Select&GO

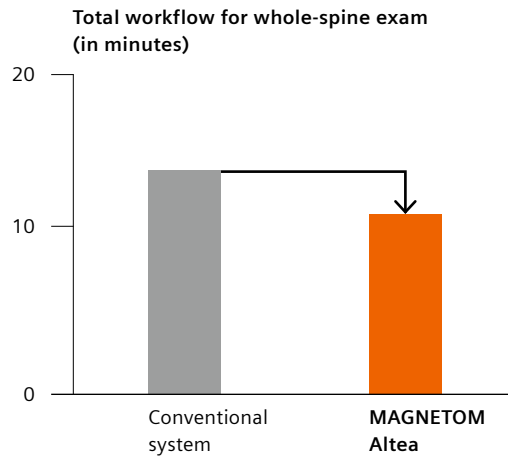
BioMatrix Select&GO, powered by AI, enables fully automated exam positioning with one touch on the display.

DotGO

The intuitive Dot workflow offers automatic placement of imaging slices with the AI powered AutoAlign functionality – making even whole-spine imaging a push-button exam.

Recon&GO

Recon&GO automatically performs postprocessing steps in the background. For example: vertebrae in the sagittal, axial, and coronal views are automatically labeled in all contrasts.



19% faster
spine exams with GO technologies¹

Reduced workload for radiologists through advanced applications



View&GO

Dual screens allow the user to efficiently check and distribute results in real time. In addition advanced applications such as generating computed high b-value images or 3D reconstructions of the plexus can be performed directly at the scanner, reducing the workload for radiologists.

Streamline patient handling with BioMatrix technology



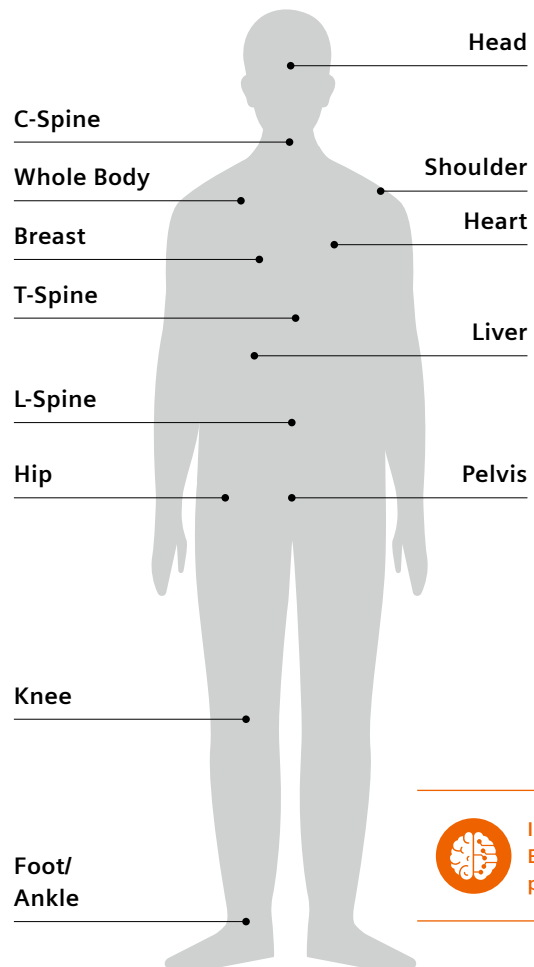
BioMatrix technology overcomes variations by automatically adjusting to the individual patient. BioMatrix Sensors, Tuners, and Interfaces enable you anticipate motion, adapt to any patient's body type and accelerate patient positioning. The result: higher diagnostic confidence, fewer rescans, predictable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

 **30% faster**
patient positioning¹

BioMatrix Select&GO



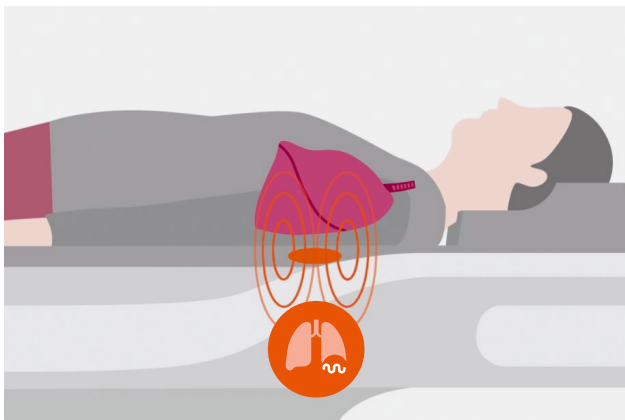
Powered by artificial intelligence – the BioMatrix Select&GO touch display enables patient positioning with one-touch, accelerating patient positioning by up to 30%¹.



 Intelligent
Body Model
powered by AI

Further information on BioMatrix:
[siemens-healthineers.com/biomatrix](https://www.siemens-healthineers.com/biomatrix)

BioMatrix Respiratory Sensors



Integrated into the BioMatrix Spine coil, 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 and accelerate workflow.



Patient respiration data, acquired by the BioMatrix Sensors, are displayed on the user interfaces, including the Select&GO touch display. 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 Beat Sensor



The Beat Sensor is seamlessly integrated into the BioMatrix Body 12. It is designed for automatic cardiac triggering⁶ – without the need for the time-consuming application of ECG leads.

BioMatrix Dockable Table



The BioMatrix Dockable Table with its intuitive control panel streamlines your patient flow especially for immobile patients.

MAGNETOM Altea

Confidence to deliver reproducible results

MAGNETOM Altea delivers consistent diagnostic results across your institution. Eight unique Dot Engines and innovative BioMatrix Tuners, achieve highly reproducible scan results. One common interface, *syngo* MR XA software, and the game-changing *syngo* Virtual Cockpit² enable consistency across your entire scanner fleet.



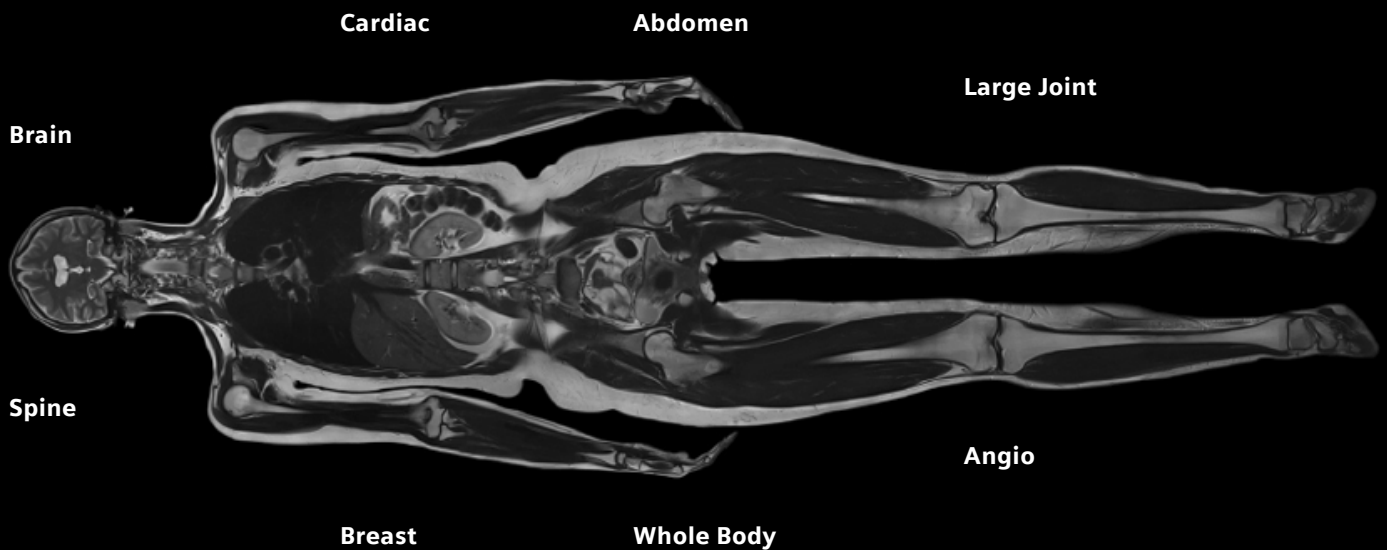
Automated reproducibility with Dot Engines

MAGNETOM Altea's eight unique Dot Engines tailored to different body regions provide highly automated scan procedures for more than 90%¹ of all MRI exams. Each Dot Engine provides a comprehensive guidance system and predefined scan strategies. AutoAlign, powered by artificial intelligence, delivers automatic placement of imaging slices to ensure reproducible scan results – every time.

Over 90%
of MRI exams covered



Dot Engines powered by
artificial intelligence



Whole-body MRI from head to pelvis in less than 22 min¹ scan time!

The 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, choose whether a focus region should be investigated, and set a few patient specific parameters (e.g., breath-hold capability).

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



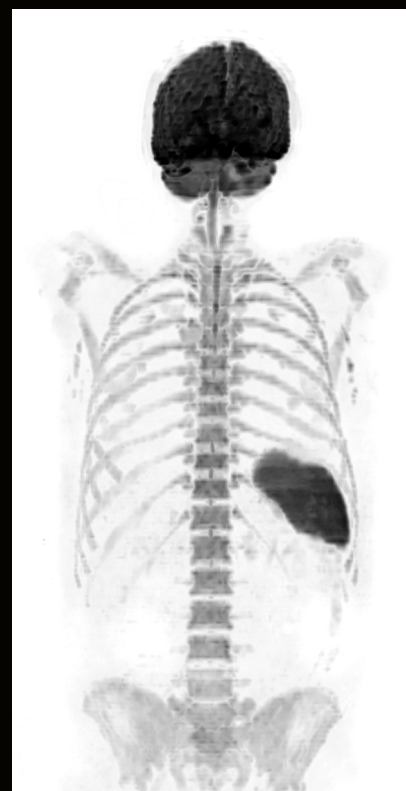
T2 HASTE STIR

1aaaa2527



T1 VIBE DIXON water

1aaaa2527

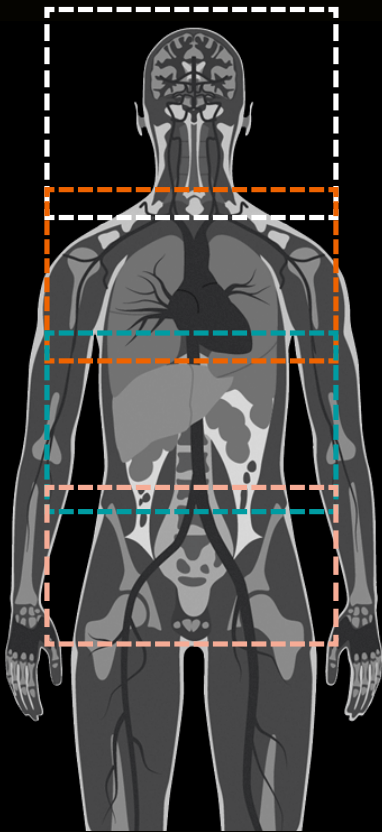


DWI b1400 MIP

1aaaa2527



Whole-Body Dot Engine
powered by artificial intelligence



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

Whole-Body Dot Engine: intuitive and guided workflow



ADC map
1aaaa2527



DWI, b50 b800
1aaaa2527



T2 STIR
1aaaa2527



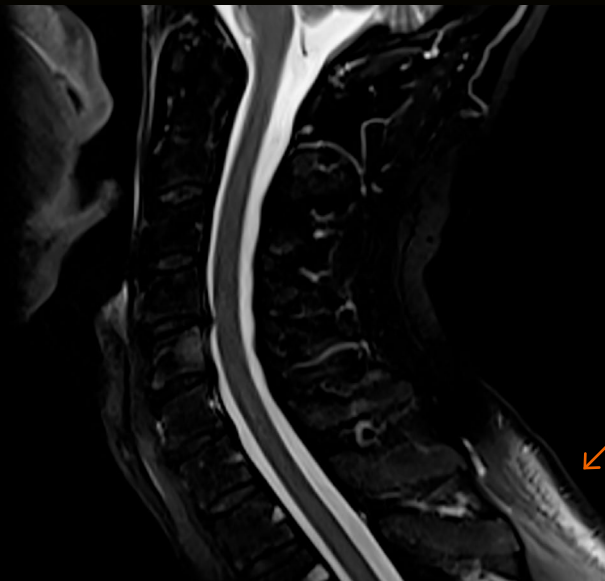
T1 TSE
1aaaa2527

Adapt to challenging anatomies for reliable results with BioMatrix Tuners



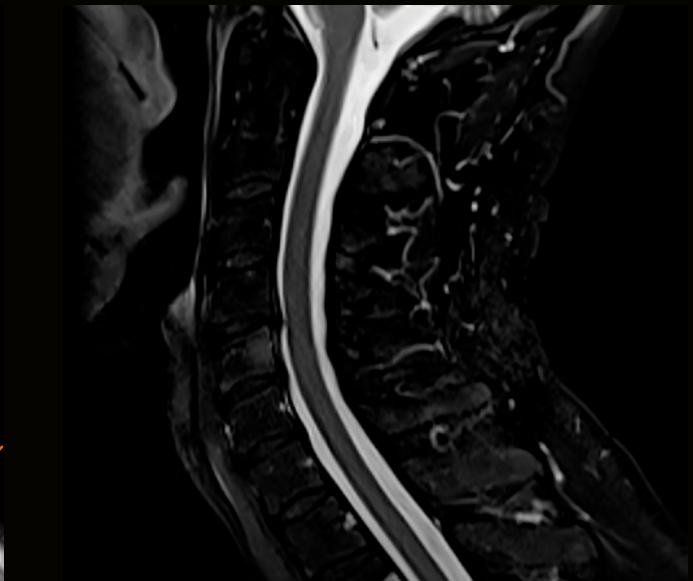
BioMatrix Tuners adapt to challenging anatomies, such as the head/neck area, the spine and the abdomen, for reliable exam results. Even for difficult scan regions, our intelligent coil technology consistently delivers excellent homogeneity and fat saturation – driving robustness and reproducible high-quality imaging – for every patient, every time.

Significantly improved fat saturation and image quality with BioMatrix Tuner CoilShim



Conventional Shim

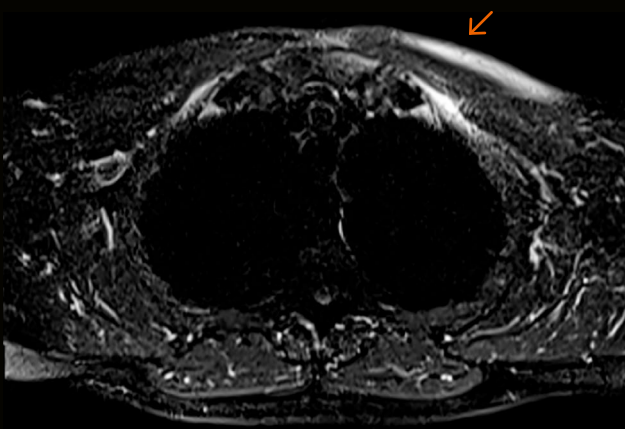
1aaaa2552



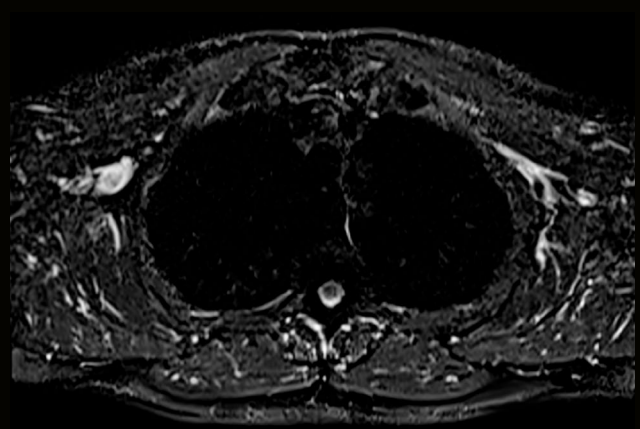
With CoilShim

1aaaa2552

Integrated into the new BioMatrix Head/Neck 20 coil, CoilShim increases diagnostic quality and reduces the need for repeat scans by delivering improved fat saturation and better DWI quality in the neck region. CoilShim technology ensures that the challenging area is automatically and optimally shimmed for reproducible quality in every patient.

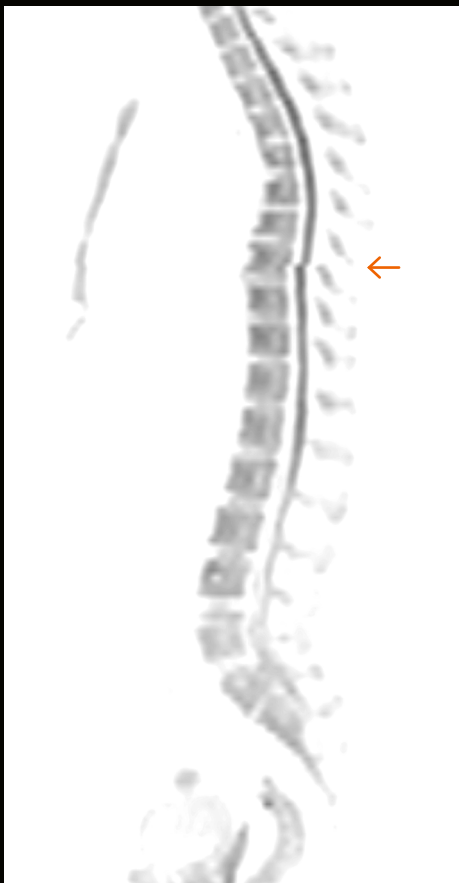


Conventional Volume Adjust
1aaaa2552



With SliceAdjust
1aaaa2552

Improved image quality in the entire imaging volume with BioMatrix Tuner SliceAdjust



Conventional Volume Adjust
1aaaa2513

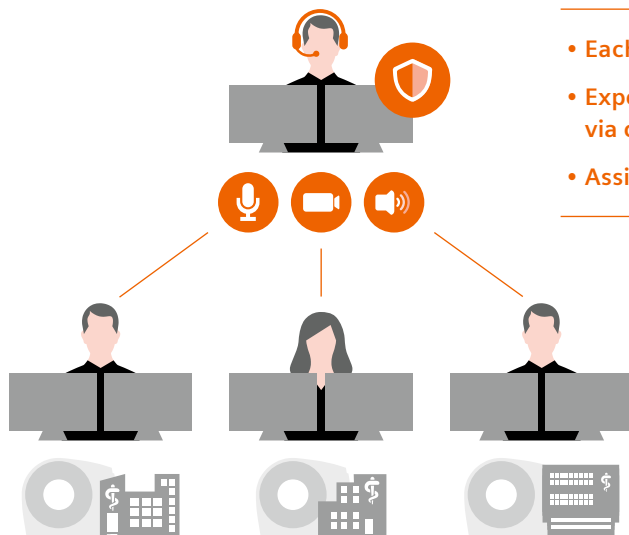


With SliceAdjust
1aaaa2513

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

Reproducible results across your fleet with *syngo* Virtual Cockpit²

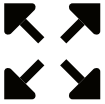
syngo Virtual Cockpit² is designed to assist scan procedures – from a distance. Expert colleagues receive access to the scanner and can support less-experienced technologists – ensuring reproducible results across your entire MR system fleet.



- Each expert can assist up to 3 scanners, simultaneously
- Expert communicates with scanner operator via chat, video, and voice
- Assist MR, MR-PET, CT & PET/CT scanners

Further information on *syngo* Virtual Cockpit:
siemens-healthineers.com/syngo-virtual-cockpit

syngo Virtual Cockpit² can assist you in a great variety of everyday use cases:



Routine examinations
Less-trained technologists can receive live support



Staff bottlenecks
Personnel from distant sites can fill in without the need to commute



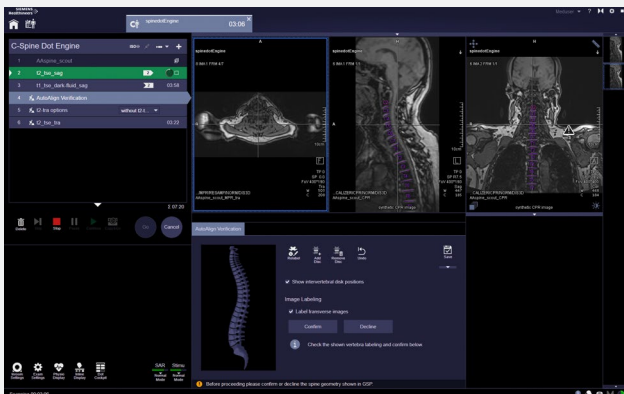
Complex examinations
An expert can assist from remotely, e.g. for protocol adjustment or contrast timing



Training
Staff members receive hands-on training remotely

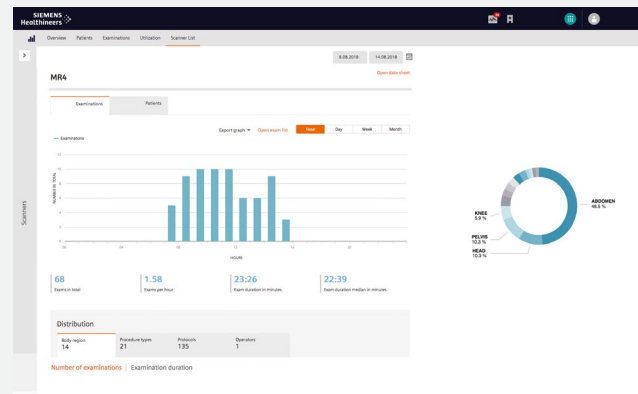
Additional fleet management solutions for consistency across your MR scanner fleet

syngo MR XA-line



One common software platform and user interface across our entire BioMatrix scanner generation. Ensuring consistency and reproducible results, no matter which scanner is operated.

teamply



Optimize your scanner performance and ensure protocol consistency across your fleet with our cloud-based performance management solution teamply.

MAGNETOM Altea

Confidence to deliver patient satisfaction

Patient experience matters. MAGNETOM Altea transforms the MRI experience and puts patients at ease.



Redefine the MRI experience with Innovision³

Innovision³ is designed to redefine the patient experience, using a revolutionary in-bore infotainment solution. By engaging patients in an immersive video and audio experience as soon as they lie on the table, patients remain relaxed and at greater ease during the scan.

Enhance the patient experience
with customizable video content

Reduce claustrophobia
with a video display that creates a virtually larger bore

Keep the patient informed
by displaying the scan progress

Exceptional sound quality
for voice commands and entertainment

Effective noise reduction
with unique memory foam pillow



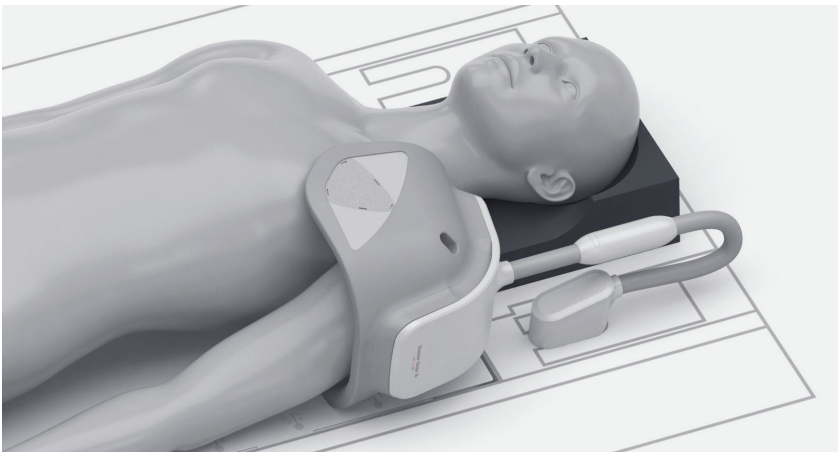
Further information on Innovision:
[siemens-healthineers.com/innovision](https://www.siemens-healthineers.com/innovision)

Tim 4G ultra-light and high-density coils are designed for patient comfort

Based on our proven Tim 4G technology MAGNETOM Altea offers a broad range of ultra-light and high-density coils that strongly support patient comfort.

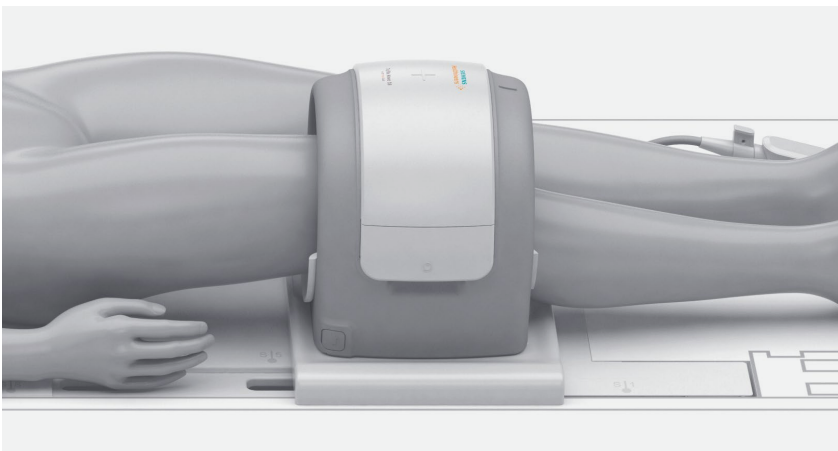
New anatomy-adaptive coils for greater flexibility to accommodate larger patients

Shoulder Shape 16



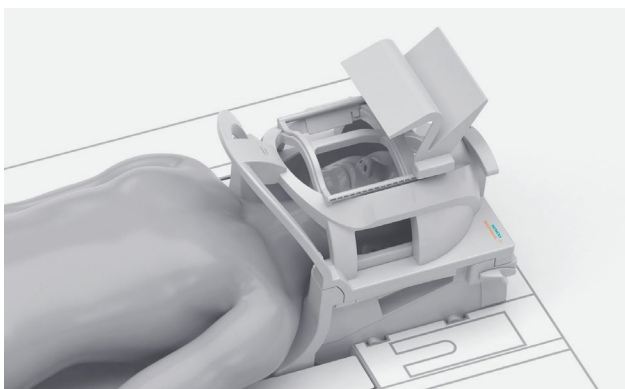
For orthopedic applications, the new Shoulder Shape 16 and the new Tx/Rx Knee 18 deliver greater flexibility to accommodate larger patients through their anthropomorphic design.

Tx/Rx Knee 18

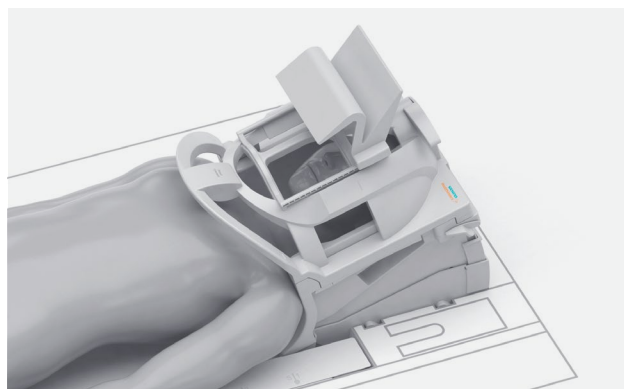


Better address kyphotic patients with the tiltable BioMatrix Head/Neck 20

BioMatrix Head/Neck 20



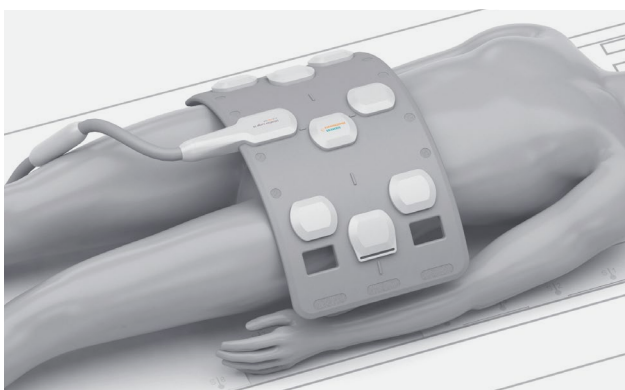
Head tilting between 0° and 18°



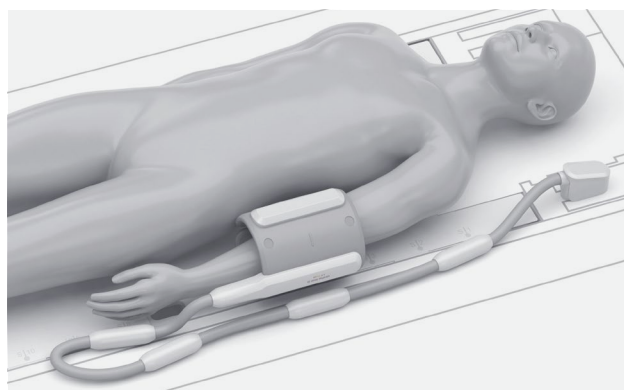
Increase patient comfort, better address kyphotic patients, and improve your imaging results with the tiltable BioMatrix Head/Neck 20.

Maximize flexibility with the new UltraFlex 18 coils in small & large

UltraFlex Large 18



UltraFlex Small 18



The new UltraFlex 18 Large and UltraFlex 18 Small combine ultra-high coil element density with high flexibility, for multipurpose imaging. Compared to standard 4-channel flex coils, resolution can be increased and acquisition accelerated.

MAGNETOM Altea

Product services

Siemens Healthineers takes care of your equipment throughout the entire equipment lifecycle. We offer a comprehensive product service approach that ensures a smooth clinical workflow based on maximum equipment availability.

MAGNETOM Altea's equipment service is based on Siemens Healthineers' matchless service infrastructure around the world

250 billion

data points for AI based error pattern analysis

400

system components constantly monitored

> 70%

first visit fix rate

> 1,600

service engineers worldwide



**Based on this exceptional infrastructure and connected through our Smart Remote Services
MAGNETOM Altea offers unique services to continuously ensure system availability**



Condition Based Maintenance
50% reduced downtime
by performing maintenance
based on system use



Remote Diagnosis & Repair
50% remote fix rate, minimizing
workflow interruptions



Guardian Program
23% reduced downtime through
preventive monitoring of
400 critical system components



Smart Remote Services

MAGNETOM Altea

Technical specifications

Field strength	1.5 Tesla
Bore size	70 cm Open Bore design
System length from cover to cover	1.57 m
System weight (in operation)	4.2 tons
Minimum room size⁵	28 m ²
RF technology	
Maximum number of channels ⁴	180
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
Gradient strength	XJ gradients 33/125 simultaneously [1.3 MVA]
Helium consumption	Zero Helium boil-off technology



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For accessories, please visit: siemens.com/medical-accessories

¹ Data on file.

² syngo Virtual Cockpit is not commercially available yet in all countries. Its future availability cannot be guaranteed.

³ Innovision is still under development and not yet commercially available. Its future availability cannot be guaranteed.

⁴ Channels (coil elements) that can be connected simultaneously.

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

⁶ Cardiac Triggering is still under development and not commercially available yet. Its future availability cannot be ensured.

⁷ Still under development for MAGNETOM Altea and not yet commercially available. Its future availability cannot be guaranteed.

⁸ The exemplary images and scan times displayed were acquired on MAGNETOM Vida.

⁹ The MRI restrictions (if any) of the metal implant must be considered prior to patient undergoing MRI exam. MR imaging of patients with metallic implants brings specific risks. However, certain implants are approved by the governing regulatory bodies to be MR conditionally safe. For such implants, the previously mentioned warning may not be applicable. Please contact the implant manufacturer for the specific conditional information. The conditions for MR safety are the responsibility of the implant manufacturer, not of Siemens.

Siemens Healthineers Headquarters

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 9131 84-0
siemens-healthineers.com