

evo) MROpen

the best MRI experience



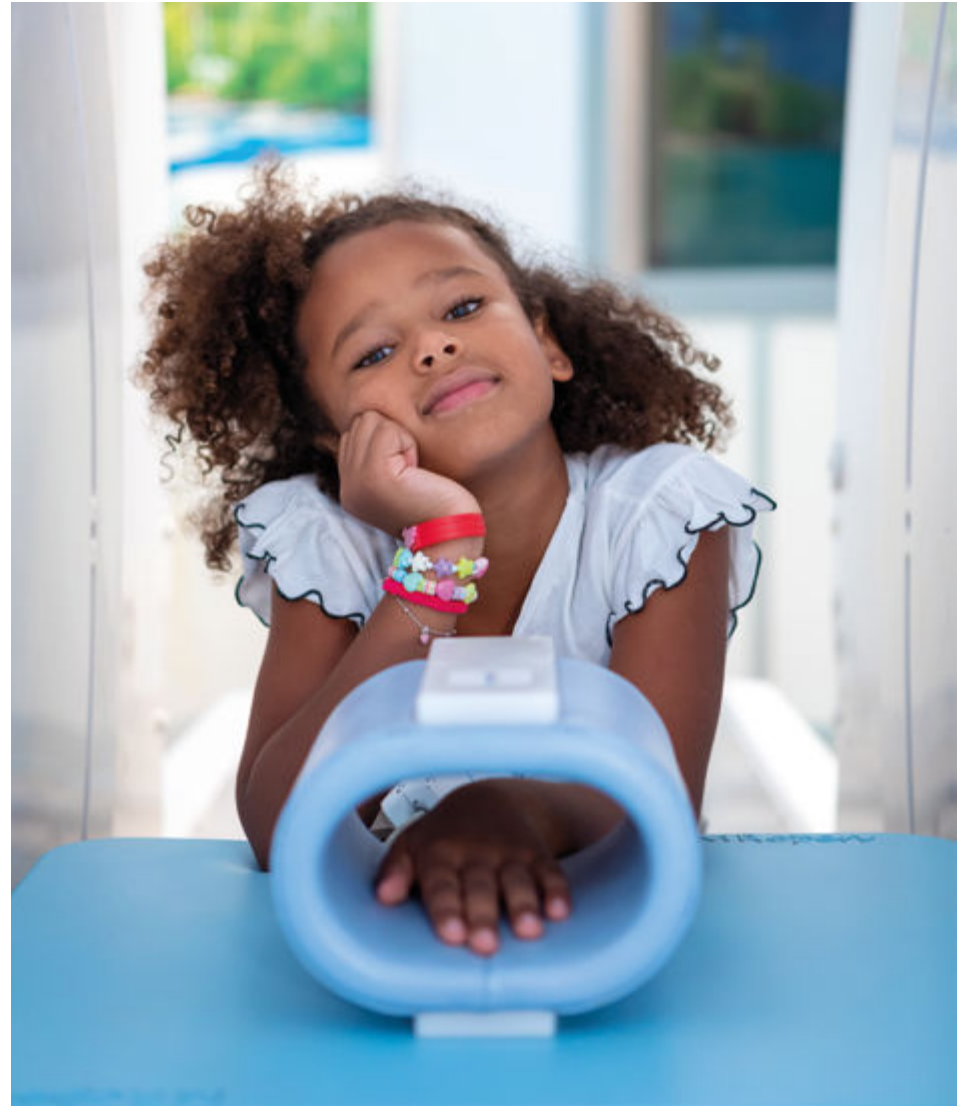
evo) MROpen

MROpen





evo MROpen



# **Stress free**

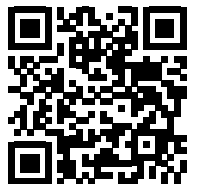
## The best MRI experience

Our key value has always been, since the very beginning, patients first. MROpen Evo provides superior comfort, greatly reducing the problem of claustrophobia and patient anxiety that often occurs in closed "tunnel" systems, causing concern and distress in both patients and MRI operators.

The patient can walk into the scanner, can sit, lie slightly backward, lie horizontally or even stand. With no barrier with the surrounding environment, patients can see around them at all times or enjoy watching TV while comfortably undergoing an MRI procedure.

All of this while improving the clinical outcome by being able to scan the patient in the position of maximum symptom.

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# Stand out

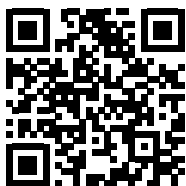
## Make your MRI centre truly unique

Thanks to its unique design, MROpen Evo offers something different to both patients and clinicians.

The unique vertical opening accommodates larger, claustrophobic, elderly and young patients, or those who are in pain, with no barrier between the patient and the environment.

To cover specific needs, differentiate your services and increase productivity MROpen Evo is the perfect choice for your centre as a stand-alone scanner or associated with a traditional MRI.

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# **Don't guess. See**

## Upright and multi-position imaging

MROpen Evo changes the approach to the clinical investigation using positional symptom-driven imaging.

The innovative design improves the clinical approach towards pathologies of the spine and joints, by allowing earlier detection and more accurate diagnosis, thus improving overall patient outcomes.

Changing point of view makes the difference.

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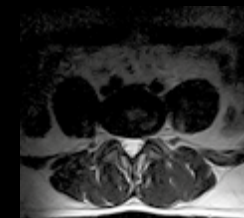
SUPINE FSE T2  
4 mm thk - 3'13''



SUPINE SE T1  
4 mm thk - 3'14''



SUPINE FIR PD  
4 mm thk - 3'40''



SUPINE FSE T2  
4 mm thk - 3'22''



SAME PATIENT

SITTING FSE T2  
4 mm thk - 4'53''

STANDING FSE T2  
5 mm thk - 1'19''

**Thoracic spine**  
**Lumbar spine**

Routine  
Flexion/Extension  
Weight Bearing

PATIENT POSITIONS:

Supine Angle 60  
Angle 20 Sitting  
Angle 40 Standing



**Cervical spine**

Routine  
 Flexion/Extension  
 Soft tissue neck  
 MRA carotids

PATIENT POSITIONS:

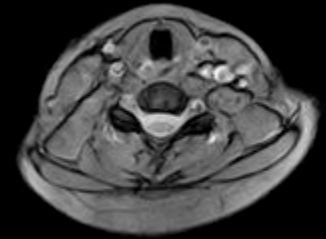
Supine                      Angle 40  
 Angle 20                    Sitting



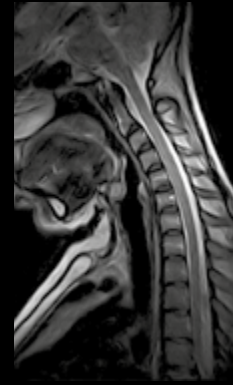
SUPINE FSE T2 3  
 mm thk - 2'04''



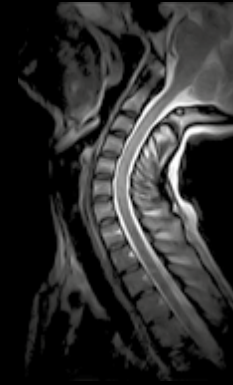
SUPINE SE T1 3  
 mmh thk - 3'41''



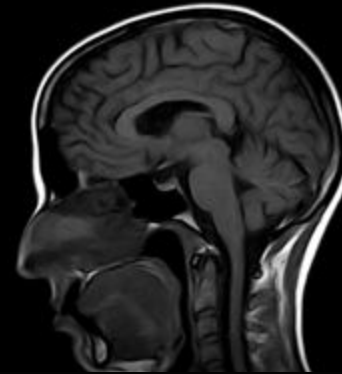
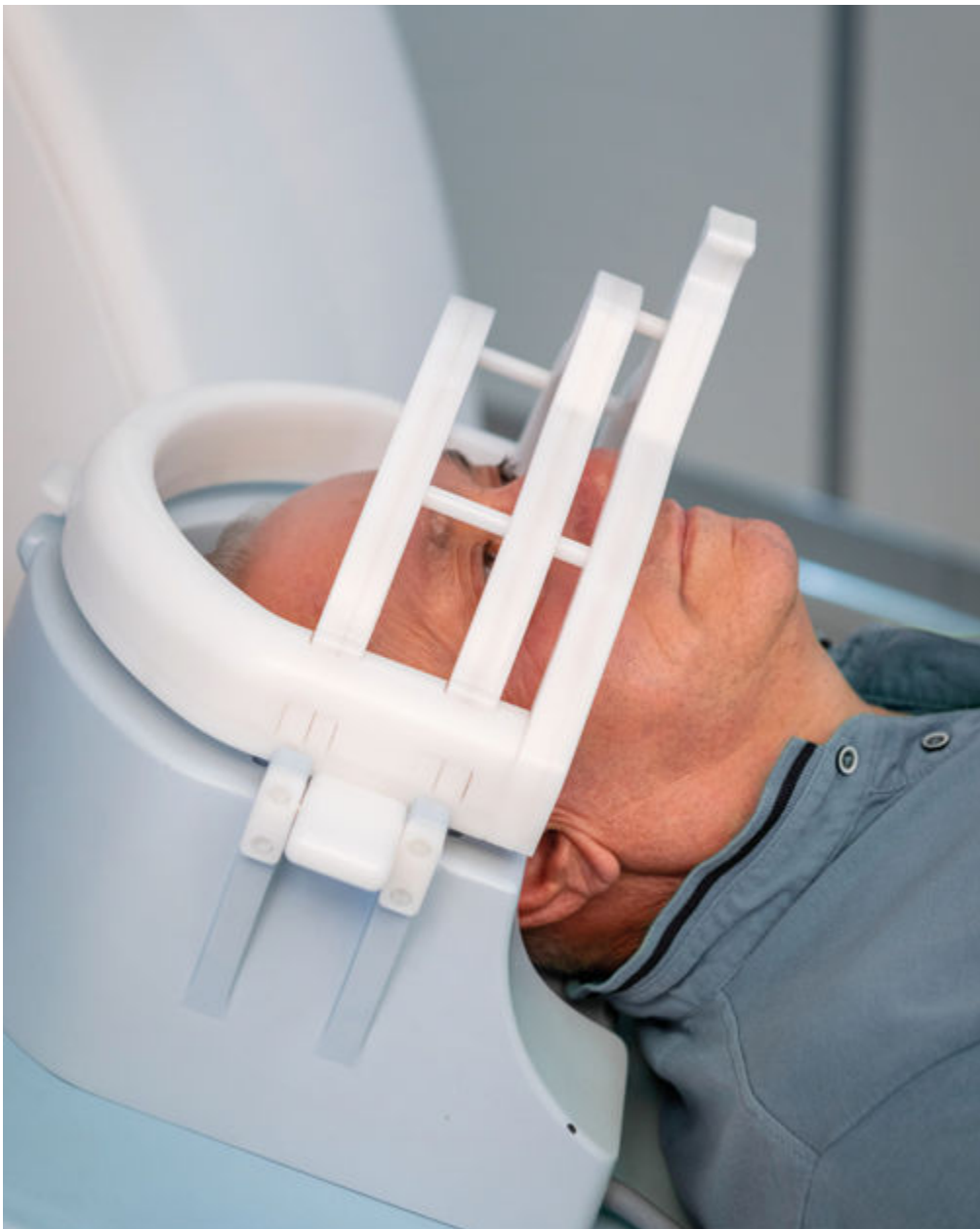
SUPINE GE T2  
 4 mm thk - 4'02''



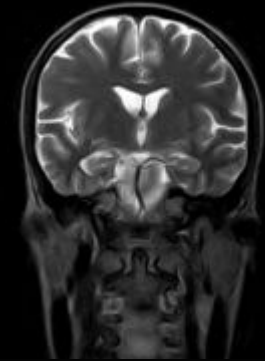
FLEX FSE T2  
 4 mm thk - 1'34''



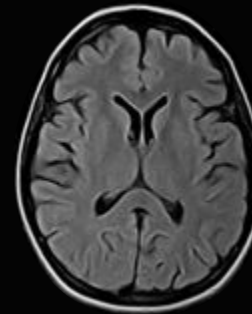
EXT FSE T2  
 4 mm thk - 1'34''



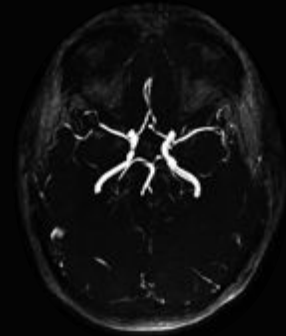
SUPINE SE T1  
5 mm thk - 3'09''



SUPINE FSE T2  
5 mm thk - 2'58''



SUPINE FLAIR T2  
5 mm thk - 3'10''



SUPINE MRA  
1 mm thk - 6'47''

**Brain**

- IAC
- TMJ
- Pituitary gland
- Orbits
- MRA

PATIENT POSITIONS:

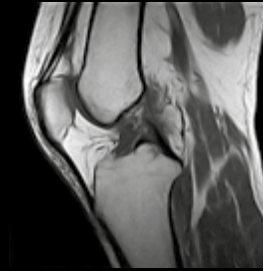
- Supine                      Angle 40
- Angle 20                    Sitting



## Knee

### PATIENT POSITIONS:

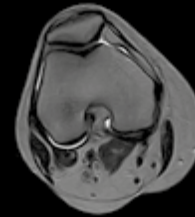
Supine	Sitting
Angle 20	Standing
Angle 40	Bent knee
Angle 60	



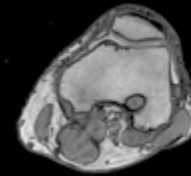
SUPINE FSE T2  
3 mm thk - 2'04''



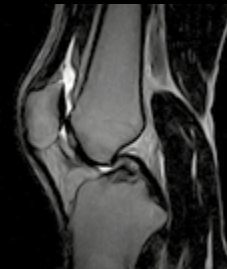
SUPINE FIR PD  
3,5 mm thk - 4'36''



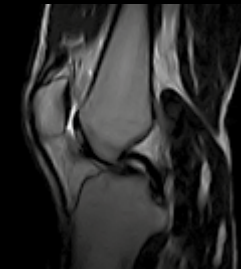
SUPINE FSE T2  
3,5 mm thk - 3'48''



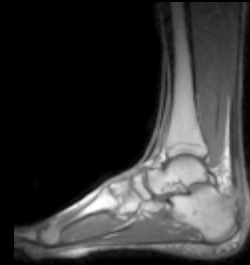
SUPINE STSS 3D  
0,56 mm thk - 2'37''



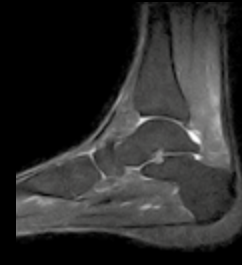
SUPINE FSE T2  
3,5 mm thk - 2'27''



STANDING FSE T2  
5 mm thk - 1'33''



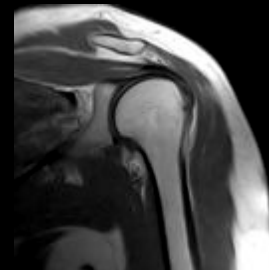
SUPINE SE T1  
4 mmh thk - 2'57''



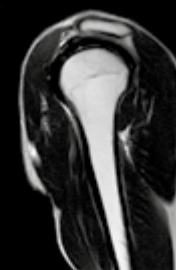
SUPINE FIR PD  
3,5 mm thk - 3'45''



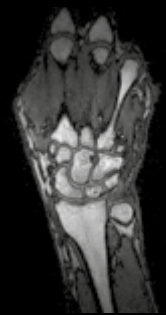
SUPINE GE T2  
3,5 mm thk - 3'28''



SUPINE SE T1  
4 mm thk - 2'28''



SUPINE SE T1  
4 mm thk - 2'28''



SITTING GE T1 3D  
0,48 mm thk - 2'57''

## Extremities

### PATIENT POSITIONS:

Supine                      Sitting  
Angle 40                    Standing

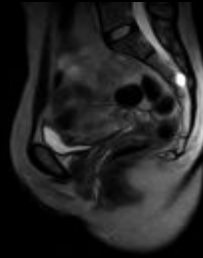


## Pelvis

### PATIENT POSITIONS:

Supine

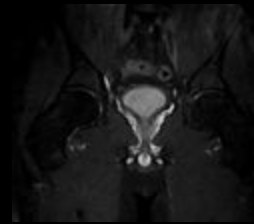
Sitting



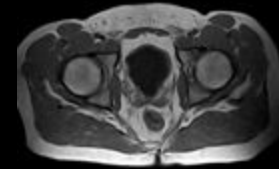
SUPINE FSE T2  
5 mm thk - 3'57''



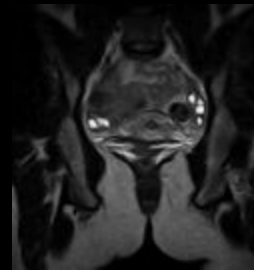
SUPINE FSE T2  
4,5 mm thk - 4'15''



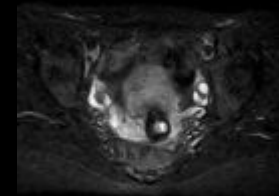
SUPINE FIR PD  
5 mm thk - 4'43''



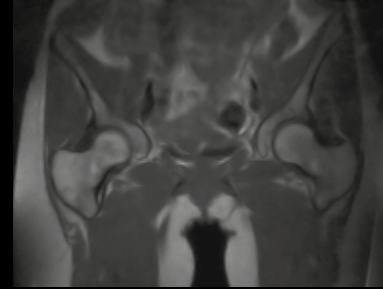
SUPINE SE T1  
4,5 mm thk - 2'48''



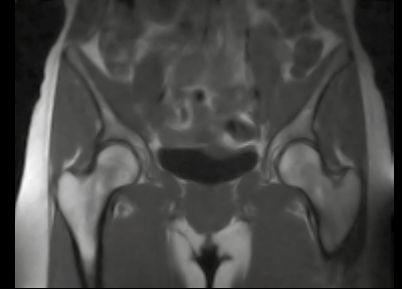
SUPINE FSE T2  
5 mm thk - 4'07''



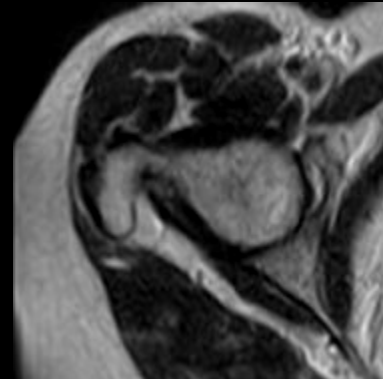
SUPINE FIR PD  
5 mm thk - 4'13''



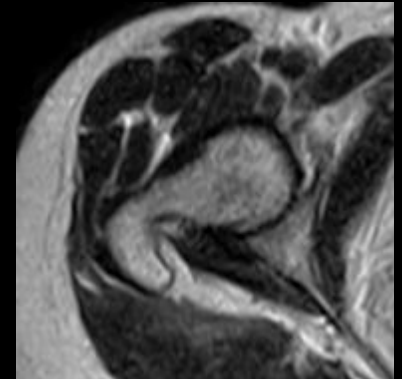
SUPINE SE T1  
5 mm thk - 2'16''



STANDING SE T1  
5,5 mm thk - 1'48''



STANDING FSE T2  
5 mm thk - 1'38''



STANDING FSE T2  
5 mm thk - 1'38''

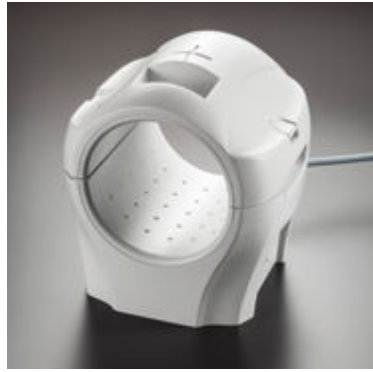
## Hip

### PATIENT POSITIONS:

Supine                      Standing  
Standing                    with hip rotation



## Receiving coils



**KNEE**  
Channels: 2  
clinical applications: knee, ankle, foot



**BODY SPINE**  
Channels: 4  
clinical applications: l-spine, t-spine, pelvis, bilateral hips, sacroiliac joints



**WRIST-HAND**  
Channels: 2  
clinical applications: hand, wrist, elbow



**MP-FLAT**  
Channels: 1  
clinical applications: upright/sitting hip pelvic floor, multipurpose



**SPINE FLAT**  
Channels: 4  
clinical applications: upright/sitting, l-spine, t-spine, sacroiliac joints



**CERVICAL SPINE**  
Channels: 2  
clinical applications: c-spine



**MP-LOOP**  
Channels: 1  
clinical applications: shoulder, dynamic studies, multipurpose



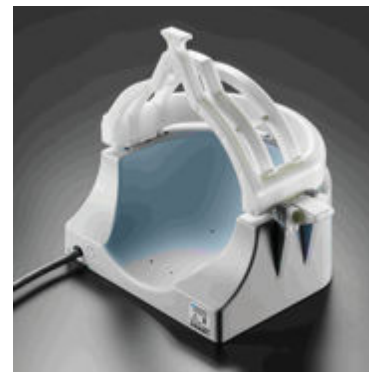
**SHOULDER**  
Channels: 2  
clinical applications: shoulder



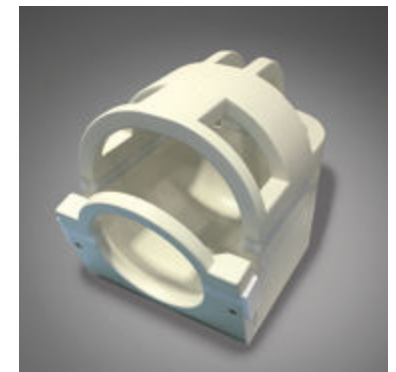
**WHOLE SPINE**  
Channels: 8  
clinical applications: spine



**FLEX SMALL/LARGE**  
Channels: 1  
clinical applications: upright/sitting pelvis, bilateral hips



**BRAIN**  
Channels: 2  
clinical applications: head - brain



**HEAD NECK**  
Channels: 3  
clinical applications: brain, mra

Different by design



## **UNIQUE DESIGN**

U-shaped design delivers unparalleled patient comfort with no barrier between the patient and the environment.

## **UPRIGHT IMAGING**

New approach towards pathologies of the spine and joints, by allowing earlier detection and more accurate diagnosis.

## **HELIUM-FREE TECHNOLOGY**

Innovative superconducting material Magnesium Diboride – MgB<sub>2</sub>.  
Environmentally friendly.  
Quench-free safe operation.  
Lower power consumption.

## **HIGHEST PATIENT ACCEPTANCE**

Claustrophobic, anxious, larger, elderly or disabled patients, or those who are in pain, are able to undergo the examination in comfort and without anxiety.

## **MULTI-POSITION IMAGING**

Imaging can be performed with the patient positioned appropriately according to symptoms: standing, sitting, bending or lying down.

## **SPECIAL STUDIES & RESEARCH**

Unmatched versatility enables special MRI studies and clinical research: from dynamic studies, to imaging professional athletes with extreme ranges of flexion of the spine and joints.



# Testimonials

## patients and professionals

"I'm a combat veteran from US Air Force and I'm suffering from PTSD. A closed bore MRI was not an option for me. In the MROpen Evo everything is different because you can sit and see all around you"



"Over the years my claustrophobia increased and it left me dreading necessary MRI scans. After experiencing the MROpen that all changed."



**Penny Gowland**  
Professor of Physics, Faculty of Science  
Sir Peter Mansfield Imaging Centre  
Nottingham University



"I had a problem with my lumbar spine. After the examination in the MROpen scanner, being in the flexion and extension position as well I got to see what my real problem had been this whole time."



A child suffering from Asperger syndrome, Tourette syndrome, and ADHD has had many terrible experiences with MRIs and finds relief with the MRI system at an Innovative MRI Partners facility.

"Open scanners give a whole new dimension to MRI, which can be used to study the effects of gravity on structure and function, and also dynamic processes in the human body. This will provide new clinical information most obviously in MSK imaging but also in lung, GI and neuroimaging, and will also open up new avenues in experimental medicine research. Furthermore, the convenience of the scanner offers the chance for faster patient scanning with less risk of claustrophobia."



# MROpen Evo Graphic User Interface

Intuitive, efficient and workflow-optimized

Designed with the user in mind, the MROpen Evo Graphic User Interface (MR-Gui Pro) offers an easy-to-use and intuitive experience, ensuring smooth operations and optimal efficiency. Thanks to customized protocol-driven scanning, MR-Gui Pro enables quick examinations and high throughput—all while maintaining exceptional diagnostic quality. This streamlined interface helps you maximize productivity without compromise.

## **Faster Imaging, Exceptional Quality**

Thanks to continuous advancements and optimizations, the latest version of MROpen Evo delivers outstanding image quality while cutting scan times by up to 50%. Utilizing the powerful Compressed Sensing algorithm, MROpen Evo combines parallel imaging, sparse data sampling, and iterative reconstruction techniques to dramatically reduce scan time without compromising resolution. This innovative technology works with both 2D and 3D sequences, making it suitable for all anatomies.

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# MgB<sub>2</sub>

## The true Helium-free MRI innovation



### SMART

MROpen Evo makes the best use of the most recent MgB<sub>2</sub> high-temperature superconductor and helium-free cooling solutions in an open-sky magnet, enabling an innovative approach to imaging and therapy.



### SIMPLE

Eliminating the need for gas refills or helium venting lines makes magnet installation and running much simpler than with conventional solutions.



### SAFE

MgB<sub>2</sub> superconductor and helium-free cooling combined in a very stable magnet solution allow full control to the user, including switching on-off, and simplified start-up and maintenance.



### ADVANCED

We allow you to do what you would expect from a conventional MRI system and in the meantime we allow you to think differently and provide innovative clinical solutions that others cannot, always for better patient outcomes and cost savings throughout cycle of care.



### GREEN

Much reduced use of helium and of rare-earth elements compared to other magnet solutions and full reliance on electricity to operate all help to protect our environment.

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# Technical Specification

Field strength	0.5 T
Type	Superconductive "Cryogen-free" based on the technology of MgB2 (Magnesium Diboride)
Lateral gap	56 cm 22 <sup>3</sup> / <sub>64</sub> in
Digital spectrometer	I-box spectrometer
Receiving channels	8
Gradients max intensity	20 mT/m
Rise time	0.6 msec (0 – 20 mT/m)
Slew rate	33 mT/m/msec
Receiving coils technology	Multi array cross tuned
Max patient weight	200 kg / 440 lb
Patient position	Laying, sitting, standing
Graphic user interface	MR-GUI Pro
Acceleration technique	Compressed Sensing (CS)

## SITING REQUIREMENTS

Total system weight	28,000 kg / 61729 lb
Magnet room standard dimensions	6 mt X 5 mt (19' 8 <sup>7</sup> / <sub>32</sub> X 16' 4 <sup>27</sup> / <sub>32</sub> )
Technical room standard dimensions	3 mt X 4 mt (9' 10 <sup>7</sup> / <sub>64</sub> X 13')
Electronic cabinets	3 x 250 kg / 3 x 551 lb
RF shielding	Required
Power requirement	400V 3N ~50Hz 480V 3N ~50/60 Hz
Power consumption	35 KVA

## PULSED SEQUENCES

Spin Echo  
Gradient Echo\*  
Multi Echo, PD-T2  
Gradient Echo Dual Echo (HiCon)\*

## Fast Spin Echo

Fast Spin Echo (FSE T2, FSE T1, FSE PD)\*  
Fast Inversion Recovery (FIR PD, FIR T2)\*  
Fast Spin Echo Fluid Attenuated Inversion Recovery (Fast FLAIR)\* Metal T1/T2 HASTE\*\*  
Diffusion Weigthed Imaging\*\* (DWI - HASTE)\*\*

\* Flow Compensation available

\*\* Compressed Sensing (CS) not available

## Gradient Echo in Steady State Balanced

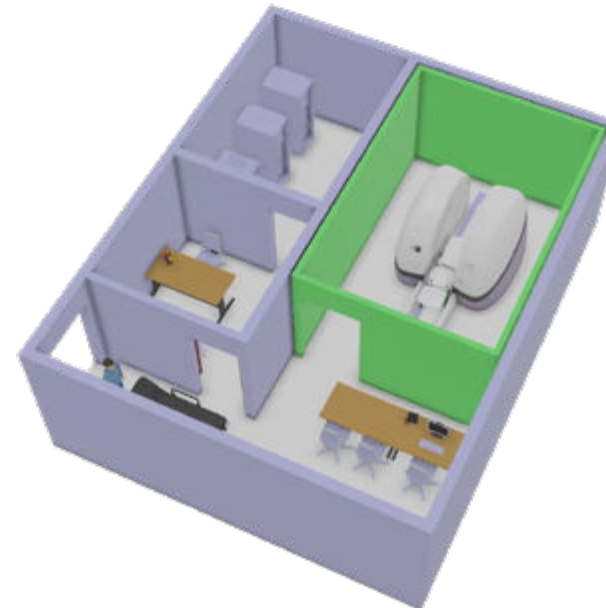
Steady State in Free Precession (GBASS 3D, GBASS 2D) Gradient Echo in Steady State (GE 3D)  
Gradient Echo in Steady State RF Spoiled (GE T1 3D)  
Time Reversed Gradient Field Echo (EMIT 3D)  
Dual Echo in Steady State (STSS 3D)

## MRA

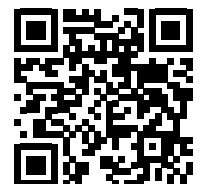
Angio 2D  
Angio 3D

## Fat Suppression

Gradient Echo Fat Water Separation (FWS)  
Short time Inversion Recovery (GE-STIR, SE-STIR)



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 **ASG**  
SUPERCONDUCTORS

 **MR Open**

 **MR Open**

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 **ASG**  
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