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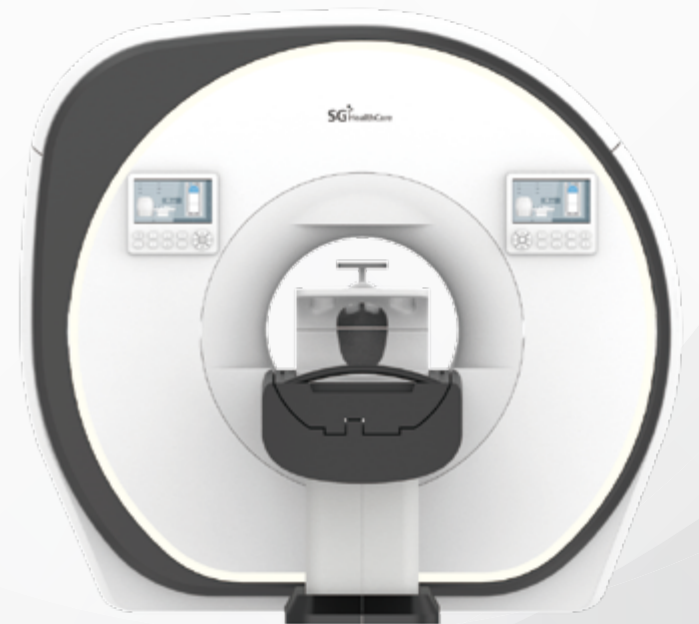
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1.5T Magnetic Resonance Imaging

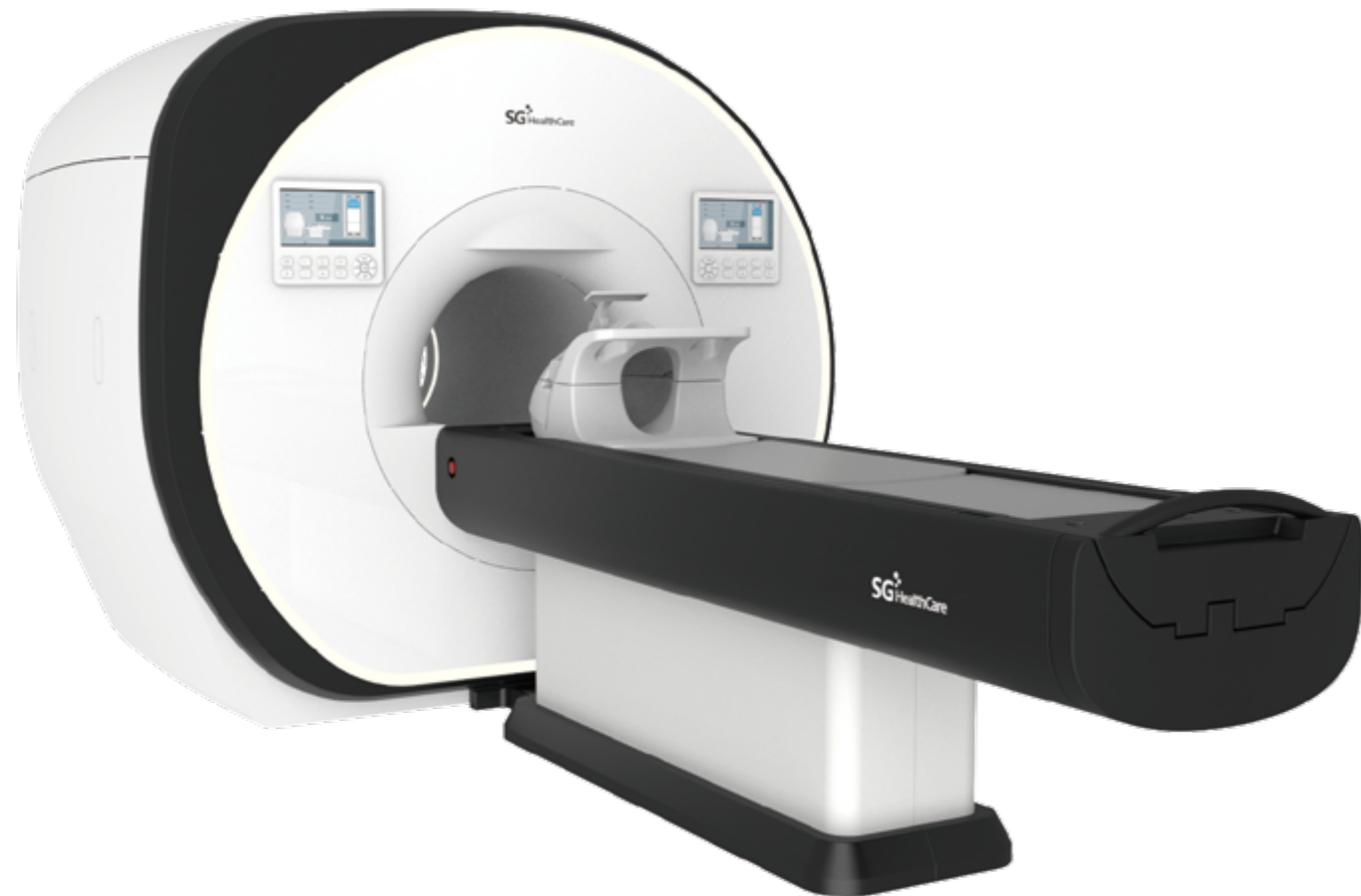
# INVICTUS 1.5



# IMAGING for Life

Focused on excellent performance, 1.5T perfectly meets your needs of quantitative study in MRI practice with new generation of quantitative analysis tools to fulfill precision medicine and latest applications to broaden your clinical scope.

Also with advanced IAI denoising technology, it enables fast image acquisition and multiple exams without repositioning.



SG HealthCare

## Magnet

Type	Liquid helium-free superconducting magnet		
Field strength	1.5T	Center frequency	63.87MHz
Weight	4,400kg	Patient space geometry	D : 60cm / L : 149cm
Magnetic field stability	≤0.1ppm/h	Magnetic field uniformity (Vrms)	≤0.4ppm 45cm DSV
Magnetic field uniformity (pp)	≤8ppm 45cm DSV	5 highs line	4m(A), 2.5m ®
Shimming method	Active + Passive	Liquid helium volume	0L
Liquid helium evaporation loss rate	0 L/day, direct cooling technology (no liquid helium)		

## Gradient subsystem

Maximum gradient field strength	38.5mT/mm	Maximum switching speed	175mT/m/ms
Minimum climbing time	0.22ms	Control mode	Full digital real time control
Cooling method	Water cooling	Automatic shimming function	Possible

## Scanning specifications

Maximum scanning field of view(FOV)	500mm	Minimum scanning field of view(FOV)	50mm
Maximum echo chain length(ETL)	256	2D minimum layer thickness	0.5mm
3D minimum layer thickness	0.1mm	Maximum acquisition matrix	512 x 512
Maximum reconstruction matrix	1,024 x 1,024	Shortest TR / TE	TR : 1.6ms / TE : 1.0ms

## Table specifications

Maximum weight capacity	200kg	Movement range	2,070 ± 5mm (HF) 270 ± 10mm (AP)
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## Coil

\*Optional : Shoulder / Wrist / Breast / Ankle / Knee / Temporomandibular

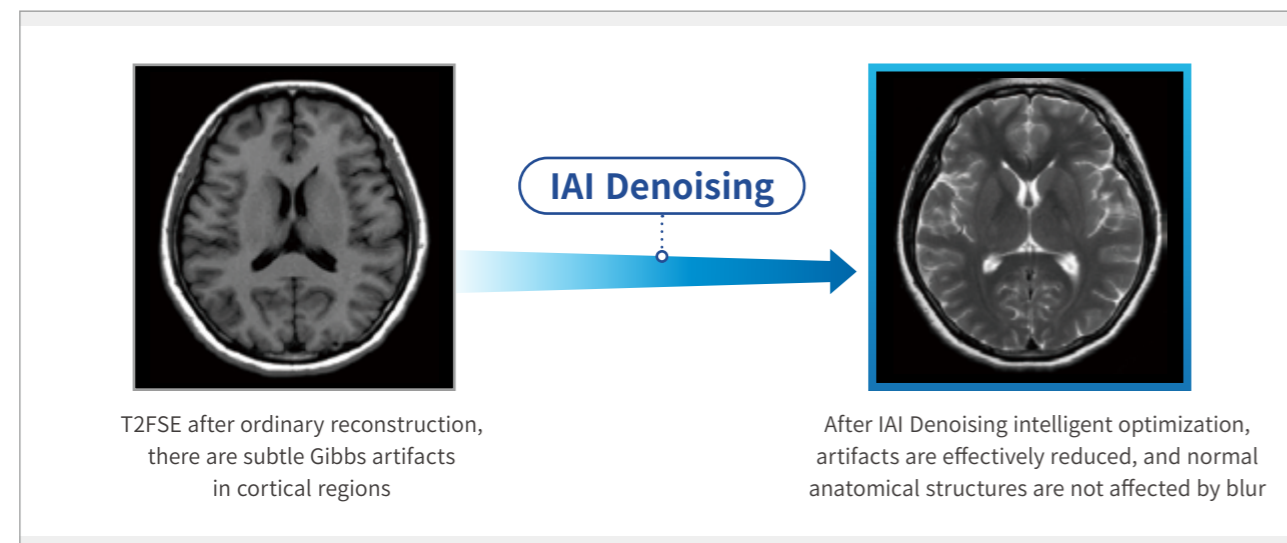
<b>Spinal</b> 8 channels	<b>Combined head / neck</b> 16 channels	<b>Flexible body</b> 8 channels	<b>Universal flexible</b> 8 channels	<b>Ankle</b> 8 channels
<b>Knee</b> 8 channels	<b>Shoulder</b> 8 channels	<b>Wrist</b> 4 channels	<b>Temporo-mandibular</b> 2 channels	<b>Breast</b> 8 channels

# Fully Upgraded Algorithms

**INVICTUS** has a variety of core algorithms, such as machine learning AI noise reduction and artifact removal algorithm : IAI denoising, compressed sensing algorithm, high-speed parallel acquisition grappa technology, etc., while ensuring scanning speed and imaging quality.

## IAI Denoising

- IAI noise reduction and artifact removal algorithm based on machine learning.



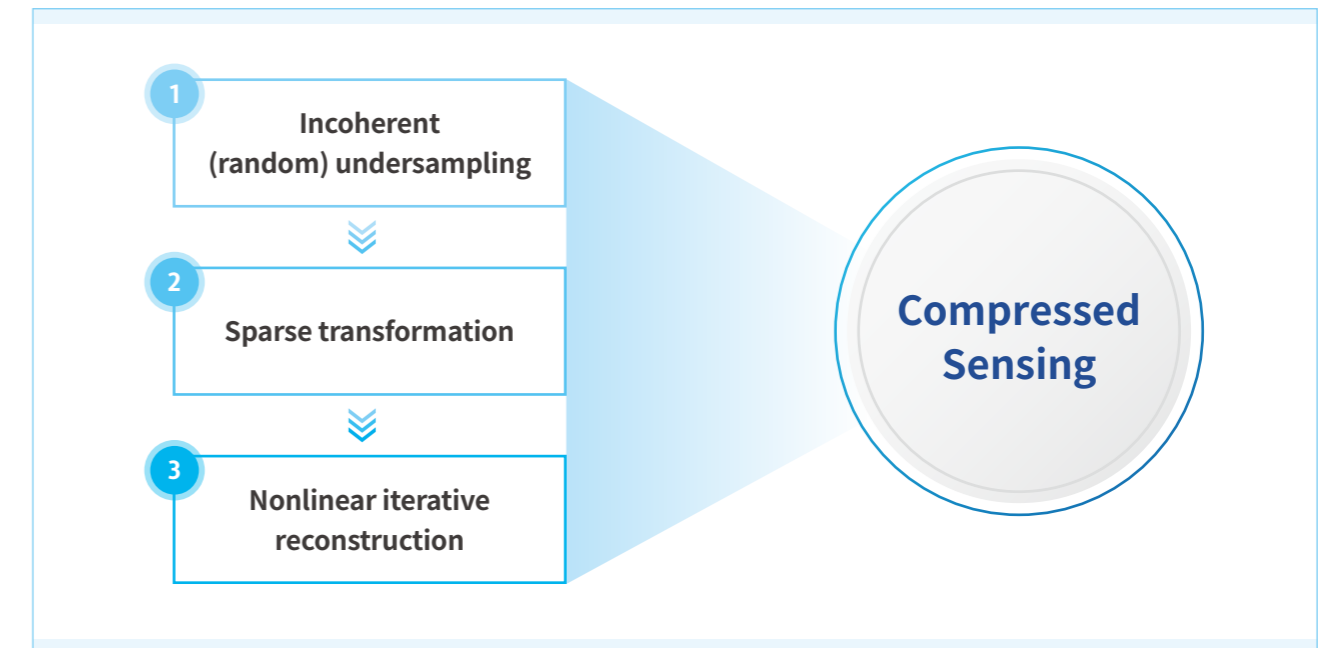
## Comprehensive parallel acquisition technology

- Grappa** : Parallel acquisition algorithm for calibration of K-space data
- Sense** : Parallel acquisition algorithm for calibration of image data
- CAIPIRINIA** : Cocktail algorithm-parallel acquisition algorithm for acceleration in 3D

## DE-FSE

- DE-FSE** : Fast spin-echo technology driving balanced acceleration
- Improving effective data acquisition time using drive balanced pulses

## ACKs(Accelerating Kits)



## Half-scan

- Acceleration technology for half-fourier acquisition
- Partial K space filling technology to speed up data sampling

## Pro 3 three-generation propeller anti-artifact technology

- The new and upgraded collection method has wider application scenarios
- Suppress body motion artifacts
- Remove susceptibility artifacts

## True 16-channel platform

- 16 independent ADCs(analog-to-digital converters) + fiber optic digital spectrometer
- Fifth-generation topological coil** : 16-channel phased array receiving coil-fully supports various parallel acquisition technologies
- High-speed acquisition algorithm supported by GPU hardware acceleration
- High-fidelity three-generation optical fiber transmission technology

## High-definition vascular imaging—the comprehensive application of advanced vascular imaging technology

- TONE / SLINKY / MTC technology
- AI intelligent noise reduction and background signal suppression technology

# Clinical Image

INVICTUS delivers excellent image quality in nervous system. The system supports the complete range of clinical applications.

