HITACHI
Inspire the Next


# ECHELON™ | 1.5 High-Field MR

HITACHI Medical Systems
Technology improves Life

# **ECHELON™** – the new standard in 1.5 Tesla MR

HITACHI Medical Systems presents ECHELON™, the fully featured high-field performance MR, incorporating powerful imaging tools that meet your current and future clinical demands.

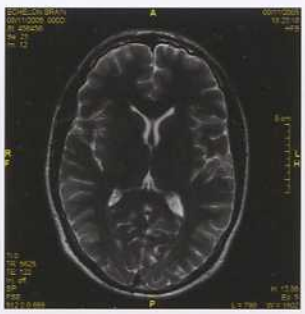
HITACHI Medical Systems, is a division of Hitachi Ltd., headquartered in Tokyo, Japan; a company renowned for technological innovation.
Our broad experience and expertise in magnet, gradient and RF technology makes us a recognized leader in open MRI, meeting the latest design and quality standards such as truly panoramic and patient-friendly systems, outstanding image quality, advanced clinical applications and unbeatable economical performance.

With the latest product innovation, ECHELON™, HITACHI launches a premium 1.5 Tesla MR system. Its heart is a high performance short bore superconductive magnet with high homogeneity and low cryogenic boil-off.

This premium 1.5 Tesla MR System features:

- **Approved HITACHI quality and reliability**
  to reassure you in your daily work environment
- **High-field combined with compact design**
  to reassure your patient without compromising clinical utility
- **Scalable RF 8X48 eight-channel system**
  to provide RAPID™ parallel imaging technology, versatility to optimize workflow and support for multi-channel coils
- **Higher order active shim technology included**
  to ensure consistently high image quality and uniform RF fat saturation
- **Powerful VERTEX™ image reconstruction engine**
  to deliver up to 5'500 images/sec
- **HITACHI SENTINEL™ remote assistance and monitoring for maximum uptime**
  to constantly diagnose the status of your MR investment and support you if needed
- **HITACHI education and customer service**
  to ensure that you can trust in our technology


*Sagittal PD-weighted FSE image with high resolution matrix and excellent spectral fat saturation.*



*Transversal T2-weighted FSE image with ultra-high resolution matrix (1024 x 1024) allowing detailed visualization of brain structures.*

*Coronal T2-weighted FSE high resolution image of pelvis with precise depiction of uterus and ovaries.*

For more information about ECHELON™, contact your local HITACHI representative.

# ECHELON™ – technical specifications

## 1 Imaging

| | |
|---|---|
| Imaging region | Whole body |
| Imaging type | 2DFT/3DFT |
| Scan matrix | 64-1024 x 64-1024; 4-step increments |
| Multi-slice: | Maximum 256 slices |
| Image reconstruction time | 5500 slices/s (256 x 256) |
| Slice thickness | 0.05mm (minimum) |
| Imaging field | 5-500mm |

## 2 Magnet

| | |
|---|---|
| Magnetic field type | Horizontal super-conducting magnet |
| Static magnetic field strength | 1.5 T |
| Leak magnetic field (0.5mT) | 2.5m x 4m (radially x axially) |

## 3 Gradient magnetic field system

| | |
|---|---|
| Gradient magnetic field strength | 30mT/m (maximum) |
| Slew rate | 150T/m/s (maximum) |

## 4 Slice thickness

| | |
|---|---|
| 2D | 0.7mm to 100mm |
| 3D | 0.1mm to 5.0mm |
| Field of View | 30mm to 500mm |
| Time of Repetition (TR) | 1.3ms to 20,000ms |
| Time to Echo (TE) | 0.5ms – 7,680ms |
| Time of Inversion | 20ms to 8,000ms |
| Inter Echo Time (IET) | FSE 4.4ms – 30ms, EPI 0.4ms – 7ms |
| RF Flip Angle (FA) | SE 3-120, GE 3-90 |
| Number of Signals averaged | 1-99 |
| 3D Multi-slab | 32 |
| Maximum Number of 2D Slices | 256 (512 x 512) |
| Maximum Number of 3D Slices | 512 (512 x 512) |
| Acquisition Matrices | up to 1024 x 1024 |
| Reconstruction Matrices | up to 1024 x 1024 |

## 5 Component dimensions

| | |
|---|---|
| **Gantry** | |
| Length | 1,600mm |
| Width | 2,100mm |
| Height | 2,200mm |
| Bore diameter | 610mm |
| Weight | 5150kg |
| **Patient table** | |
| Length | 2,350mm |
| Width | 700mm |