

AIRIS Light Bring you to a new field.

Hitachi Medical Corporation Medical System Operations Group, Kashiwa has established and maintains a quality management system according to ISO 9001, ISO 13485.

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Specifications and physical appearance may change without prior notice.
We request you to refer to the "operation manual" and the related documents for appropriate use of this product.

@Hitachi Medical Corporation

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UKAS MANAGAMANT SISTER



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Compact yet Sophisticated

Hitachi has brought "Open-MRI" one step further in its evolution, to provide assistance to medical professionals who work in the forefront of healthcare. AIRIS Light provides new imaging technologies and workflow solutions that improve the efficiency of examinations, while achieving high cost performance and a compact size that allows for it to easily fit into a wide range of examination environments.

AIRIS Light



Compact yet Sophisticated

Wide Opening

The widely open gantry with ample space. The sophisticated body that creates a cozy atmosphere. This unprecedentedly beautiful design in pursuit of ultimate patient comfort is a culmination of Hitachi's materialization of "patient-friendliness."



Compact yet Sophisticated

The laterally aligned table offers ease of patient setting and a small footprint. The round form of its gantry gives patients friendly impression. "AIRIS Light" is an open MRI system characterized by a large open space, coupled with ease of use and compactness.

AIRIS Light Benefits

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AIRIS Light

Diagnosis | Advanced Imaging

High quality imaging that satisfies needs of d

The new applications available on AIRIS Light pro clinical images that expand the potential of diagr

Benefit:02 **Examination** | Easy Operation

Ease of operation for operators and friendline

A patient-friendly design that lessens loads on op that is possible only with an open MRI system.

Benefit:03 Management | High Cost Perfo

Cost and performance desired by managemen This permanent magnet MRI system made by Hita high performances while minimizing costs.

Technology	10
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and Patient-friendly Design	14
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Diagnosis Advanced Imaging Technology More beautiful, more detailed, and more accurate. Hitachi's advanced imaging technology allows AIRIS Light to offer a high image quality. It will satisfy the needs of doctors and expand the potential of image diagnosis. HITACHI . IMAGE QUALITY Benefit:01 10-11 Doctors' Demand •Do not want to compromise on the image quality even when using an open MRI system. Want a feature that reduces artifacts.

Want to use non-contrast imaging with a wide variety of applications.

►►► IMAGE QUALITY with Advanced Imaging Technology

High Quality Imaging that Satisfies Needs of Doctors

"MRI system" that keeps evolving. AIRIS Light is equipped with Hitachi's property technologies developed for high field MRI systems, such as RADAR and VASC-ASL. Additionally, it comes with a new image reconstruction system that realizes image reconstruction matrix of 2048 by 2048, supporting high-resolution imaging.



High Resolution Image

Image reconstruction matrix up to 2048 by 2048 realizes high-resolution imaging. It supports to further expand the potential of diagnosis and is effective for imaging regions for which high-resolution clinical images are required.

RADAR

Generally, motion artifacts pose particular problems in MR imaging. RADAR based on the radial scan technology suppresses motion artifacts and is applicable to any cross-sections as well as various pulse sequences. It can be used not only on T2 weighted images, which are commonly used in radial scans, but also on T1 weighted images and FLAIR. It is particularly effective for imaging of the abdomen in a free-respiration state or the shoulder joints significantly influenced by respiratory motions. Furthermore, RADAR-DWI has an effect of reducing image distortions, which were hard to reduce previously.



FatSep Measurement (Fat-Water Separation)

Fat suppression is an important factor in MR imaging. FatSep is a method that suppresses fat signals using differences of proton resonance frequency between water and fat. FatSep, less influenced by inhomogeneity of magnetic fields, enables fat suppression in a wide range of body regions.

FITT

MR angiography is an important imaging function for MRI diagnosis. The basic performance of a system is essential in MRA imaging. AIRIS Light is equipped with "FITT," Hitachi's comprehensive imaging technology to improve image quality of multi-slab MRA.







VASC-ASL*

VASC-ASL is a non-contrast MRA imaging function that visualizes blood flows labeled with IR pulses using 3D BASG (balanced sequence) in the abdomen. It can be used for imaging of the portal veins and renal arteries where blood flows at a high speed.

* Option

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AIRIS Light

Benefit:02

Easy Operation and Patient-friendly Design

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Benefit:02

Technologists' Demand

Want adequate images even with a low magnetic field strength.
Want to scan patients who feel uncomfortable with closed type MRI.
Want to complete setting quickly.

High-precision technology that evolved for quick and accurate diagnosis Hitachi's permanent magnet MRI technology has improved the image quality to a new level. This open MRI system enables to scan patients in various positions, contrary to closed type MRI systems. These features are expected to be applied to new clinical situations.

*The photo is for illustration purpose only.



Ideal characteristics

Eddy current



The open MRI system uses a vertical magnetic field and solenoid type receiver coils . They are around 40% more sensitive than receiver coils of horizontal magnetic field systems. It offers a wide FOV even with a surface coil.

Advanced Gradient Coil System

Suppressing eddy currents of gradient coil system is a key factor to provide stable high quality images, because the eddy currents cause deformation of the gradient magnetic field waveform, as a result, directly deteriorate the image quality. Hitachi not only adopted magnet materials that reduce eddy current generation, but also developed the ECC (Eddy Current Control) feature that predicts and controls eddy current generation.



SuperShim

Uniformity of the static magnetic field is most important for MRI systems. SuperShim is equipped with both linear and high order (curved surface) shimming function. The high order shimming function is able to correct the static magnetic field homogeneity that was difficult to correct adequately by linear shimming. SuperShim realizes the frequency-selective fat suppression technique even with a low field MRI system.



FEAUTURES

Ease of Operation for Operators and Friendliness for Patients

"Hitachi's technology of permanent magnet MRI systems" accumulated through many years of our experience. Our open MRI technologies, including high-sensitivity solenoid type receiver coils, new gradient magnetic field systems, and improvement of static magnetic field uniformity, are packed into AIRIS Light.







Parameter Guidance Function

This function automatically displays several substitute parameters in case inappropriate parameters are input.





Round Form Design

The design gives friendly impression to patents. It allows their relatives to accompany them during scanning. This feature expands the possibility of MRI imaging of patients who feel uncomfortable with it.

Laterally Aligned Table

The adoption of a laterally aligned table has realized a combination of compactness and ease of use of MRI systems. The floating-structure table enables quick setting of a target region at the center of the magnetic field, where high-quality images can be obtained. In addition, the table realizes easy positioning of a region deviated from the center of body, such as a shoulder or knee, at the center of the magnetic field.



Curved MPR

Arbitrary section images can be reconstructed from 3D image data. It allows simultaneous imaging of plural curves which is useful in the case of scoliosis.

Management:03 High Cost Performance

Compact system equipped with advanced features for MRI. The smaller footprint reduces the initial cost. The low running cost of a permanent magnet MRI system is also a great advantage. These features of AIRIS Light bring you benefits in term of management.

PERFORMANCE >>>

Management's Dem

•Want to install an MRI system in a limited space. •Want to cut running costs as much as possible. •Want to introduce a highly reliable system. $t \coloneqq \beta$

HITACHI AIRIS Light



Cumulative Running Cost for 5 years (Electricity Expense by the System Only)

Installability

AIRIS Light's small leakage of a magnetic-field makes its required space of MRI scan room small. In addition, AIRIS Light does not require an equipment room, a chiller or its related devices which are usually necessary for superconductive MRI systems. Therefore, the system fits into a small space in a medical facility.

Profitability

AIRIS Light is profitable. This is realized by its low initial cost, low power consumption and low maintenance cost features.

PERFORMANCE

Cost and Performance Desired by Management.

The real value of AIRIS Light is its "High Cost Performance." It expands the possibility of installation and reduces power consumption with its eco-friendly permanent magnet, thus it helps you minimize the running costs and maximize its cost performance.



Low Initial Cost

Thanks to AIRIS Light's small body and small fringe field, its required space of MRI scan room becomes small and this reduces cost of its shield room. Moreover, Hitachi permanent MRI does not require a equipment room. It fits in a small installation space effectively. Those features result in saving total installation cost. Management

Benefit 03

Low Power Consumption

Monthly cost of electricity of AIRIS Light is very reasonable, since its required power supply is only 10kVA and it requires only an air cooling system, not a water cooling system. Compared with superconductive MRI, its electric power consumption is much lower.

Low Maintenance Cost

Hitachi Permanent MRI is a very stable system. It does not use cryogen (Helium) and there is no risk of quench, unlike superconductive MRI systems. In addition, it does not require expensive periodic replacement parts such as cold head. These features of AIRIS Light drive down its maintenance cost.

Note: These information and graphs are based on data of our products which are used in Japan. Conditions are different depending on each region. Please inquire to our sales person for details.

Management Benefit 03





Reliability

Hitachi sold over 6,800 MRI systems^{*} in the world since the market launch of the first model in 1983. Hitachi will contribute to the progress of MRI systems as a leading MRI manufacturer.

* Source: Factory shipment record of Hitachi

Sentinel^{*} Customer Support for AIRIS Light

AIRIS Light is compatible with Hitachi's customer support system, Sentinel*. Sentinel is a system which observes the operational status of your MRI to support stable use. AIRIS Light is able to acquire information about its operational status, and the information is sent to and archived in the Sentinel server at Hitachi. If abnormality are detected, notifying e-mail are sent to the service staff to prompt appropriate actions. Long-term operational status can be confirmed using accumulated information organized in a chronological order.

 Users are required to set up the network environment compatible with the service. The contents of the service may vary depending on the extent of contractual coverage.

AIRIS Light Layout



Sample Layout