M-Series

Compact MRI Systems

- High-Performance Preclinical Magnetic Resonance Imaging (MRI)

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Overview

Aspect Imaging® MRI systems offer a comprehensive preclinical solution to quantify the expression of disease, monitor disease progression and assess therapeutic efficacy and response in lab rodents. The portfolio of products in the M-Series make the power of MRI available for all areas of research requiring rodent imaging from small mice to large rats.

- High performance, compact, permanent magnet
- PC workstation with simple and intuitive operating software
- Flexibility and customization available for more advanced MRI users
- A complete solution including animal handling, physiology monitoring and anesthesia delivery
- Best-in-class post processing, analysis and data management solution

Built to Deliver Powerful Benefits

Simple to operate

Intuitive software interface and analysis tools require no prior experience in MR imaging to fully execute the workflow and imaging.

No additional infrastructure necessary to maintain the magnetic field

Aspect Imaging's permanent magnet technology removes the need for cryogens, plumbing and supplemental power supplies or coolers.

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Models

M3™

The M3™ generates high-resolution 2D and 3D anatomical, functional and molecular images with a bore size optimized for mice.

- Permanent Magnet: 1T magnetic field strength
- Magnetic Opening:
  - Flange Insertion Diameter: 70 mm
  - Inner Bore (Height x Width): 50 x 130 mm
- Imaging Volume: 80 x 80 x 35 mm3 spheroid
- Height: 1080 mm | Width: 734 mm | Depth: 734 mm

M5™

The M5™ enables non-invasive 2D and 3D anatomical, functional and molecular imaging of both mice and rat models

- Permanent Magnet: 1T magnetic field strength
- Magnetic Opening:
  - Flange Insertion Diameter: No insertion flange
  - Inner Bore (Height x Width): 76 x 200 mm
- Imaging Volume: 90 x 90 x 60 mm3 spheroid
- Height: 1300 mm | Width: 550 mm | Depth: 550 mm

M7™

The M7™ provides optimum versatility, with 2D and 3D *ex vivo*, *in vivo* and *in vivo* imaging of mice and large rats.

- Permanent Magnet: 1T magnetic field strength
- Magnetic Opening:
  - Flange Insertion Diameter: No insertion flange
  - Inner Bore (Height x Width): 76 x 200 mm
- Imaging Volume: 90 x 90 x 60 mm3 spheroid
- Height: 1300 mm | Width: 550 mm | Depth: 550 mm

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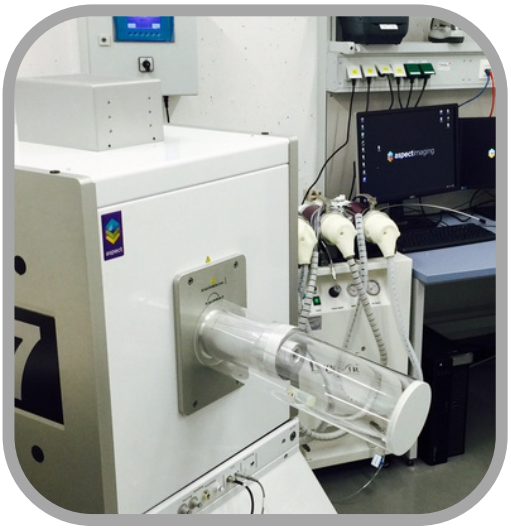
Pain-free installation, ready for imaging room day one

Simply wheeled into position and moved around based on the needs of the working lab, with imaging possible just a few hours after installation.

No running costs of upkeep

Negligible running cost with a maintenance free magnet, no moving parts or cooling. Standard warranty is 24 months* with options for extended warranty for up to 5 years. Power fluctuations and outages have no impact on the permanent magnet.

*applies to purchases made during 2021



No special location requirements

Requires no dedicated power supply, no shielded room or other magnetic field restrictions, and all within a small space.

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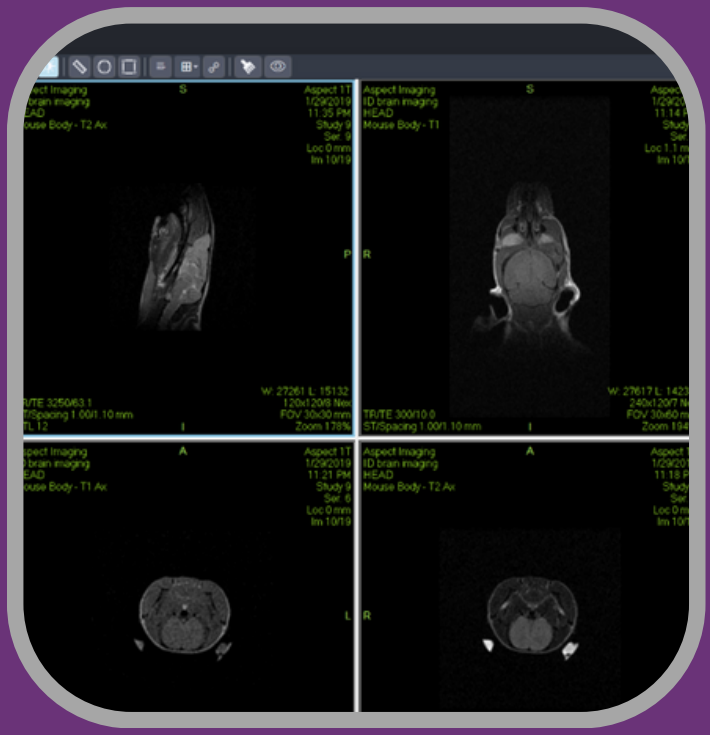
M-Series™ Imaging Software Platform

Acquisition software for preclinical MR imaging, integrating a coherent suite of sequences:



Spin Echo with the following options:

- Respiratory triggering
- Preceding inversion recovery pulse
- Diffusion weighted imaging (DWI)

Gradient Echo with the following options:

- 2D and 3D
- Respiration/cardiac triggering
- Dynamic acquisition - i.e. Dynamic Contrast Enhanced (DCE)
- IR Snap for T1 map generation
- CINE

Fast Spin Echo:

- 2D and 3D
- Respiration gating
- Variable echo train length
- Multi-point fat/water separation

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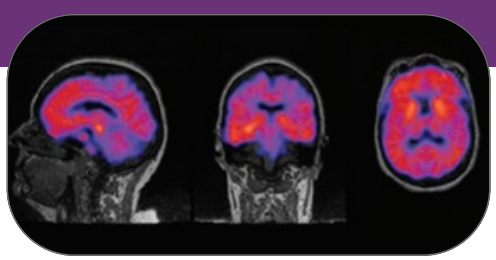
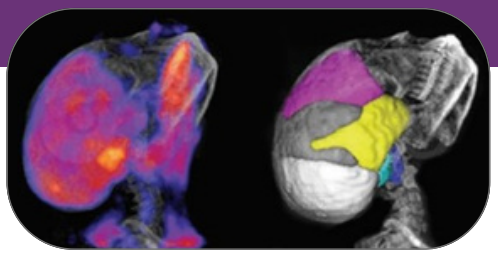
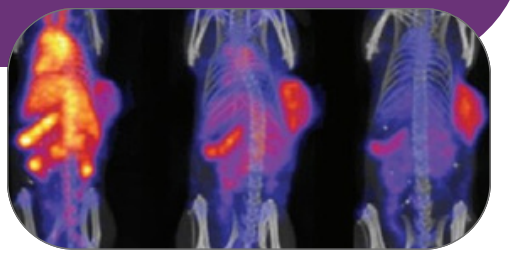
Applications

VivoQuant™ Image Post-Processing Suite

The M-Series compact MRI systems are compatible with Invicro's VivoQuant™ , a postprocessing software suite for SPECT, CT, PE, MR, Optical and Autoradiography imaging data, which is designed to support multi-modality, multi-species image processing applications. VivoQuant combines fundamental viewing functionality with powerful tools for fine-tuning images, isolating and analyzing regions of interest, and more. Multiple display modes including orthogonal views, slice views, special co-registration multi-views as well as 3D MIP and volume renderings allow users to optimally view information of interest. Built-in tools allow the imaging scientist to extract the information needed with minimal effort.







Compact, Reliable PET/MRI Solutions

Aspect Imaging offers compact, reliable solutions for PET/MRI studies in small animals to enhance your research – from sequential PET/MRI imaging to SimPET™ , the world's first complete and most cost-effective permanent magnet simultaneous PET/MRI scanner for preclinical studies.

- Proven, future proof SiPM PET technology
- Sub-mm-spatial resolution
- Excellent PET detector stability
- Flexible modes of operation

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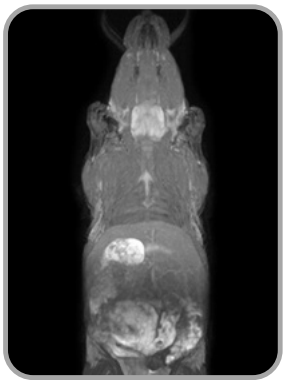
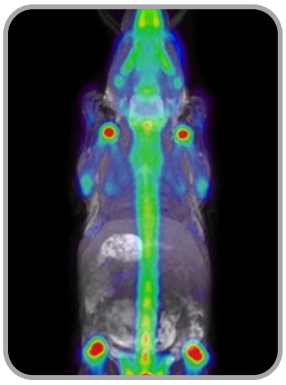
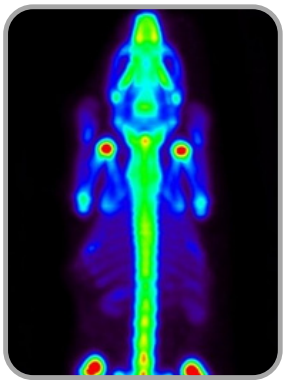
PET Performance

Characteristics	Value
Scatter fraction for mouse	17%
Peak sensitivity	3.4%
Spatial resolution with 3D OSEM	<0.8 mm
Spatial resolution with FBP	<1.3 mm
Energy resolution	15%

Optimized Animal Handling Systems

Acquisition software for preclinical MR imaging, integrating a coherent suite of sequences:

Type	Inner Diameter	Length	Application
Mouse head	23 mm	25 mm	Neurological imaging in mice
Mouse body	30 mm	50 mm	Extremity, abdominal and thoracic cavity imaging in mice
Mouse whole body	30 mm	80 mm	Whole body imaging in mice
Large mouse body	38 mm	50 mm	Multi-modal imaging in mice obesity studies in mice
Rat head	35 mm	40 mm	Neurological imaging in rats
Rat body	50/60 ellipsoid	90 mm	Extremity, abdominal and thoracic cavity imaging in rats
Large rat body	71 mm	90 mm	Extremity, abdominal and thoracic cavity imaging in large rats

Multi-Modality Capabilities

• Simultaneous PET/MRI with SimPET (MR compatible PET insert from Brightonix Imaging).

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Fully-Integrated Animal Handling System

Facilitating a complete setup for preclinical imaging with designated coil for different imaging applications.

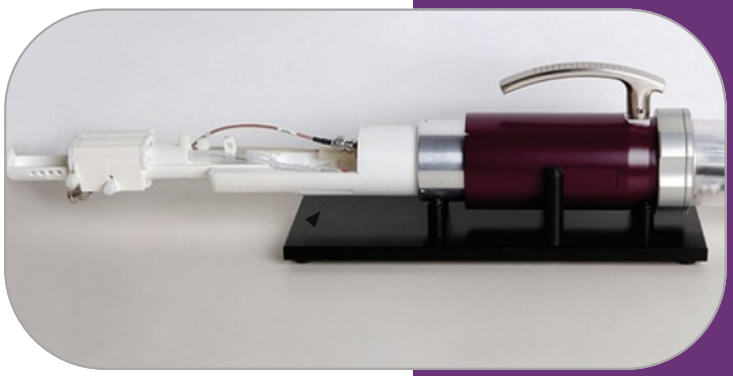
Motorized calibration mechanism enabling automatic coil-tuning

- Water heated animal bed maintaining hydrated body temperature
- Physiological monitoring system (respiration, ECG and temperature)
- Delivery and evacuation of isoflurane-based anesthesia

Small animal physiological monitoring

- Respiration, ECG and temperature monitoring
- Respiration and ECG output triggering to MRI spectrometer
- Additional readouts monitor

Isoflurane-based anesthesia



- Respiration, ECG and temperature monitoring
- Respiration and ECG output triggering to MRI spectrometer
- Additional readouts monitor

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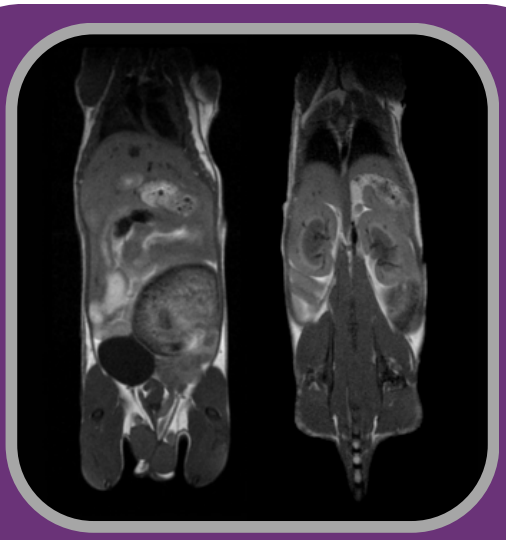
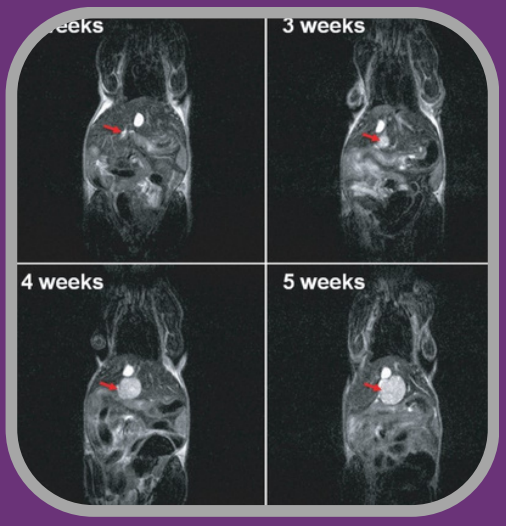
Application-Oriented Imaging



Anatomy and Morphology

I*n vivo* soft tissue imaging for morphological characterization. 2D and 3D imaging can be performed quickly and easily for preclinical model assessment



Cancer Research

Detection, follow-up, and quantification of tumor development and progression.

Histology Imaging

High-resolution, high throughput, 3D MR-based histology imaging of fixed samples and embryos for toxicological and developmental studies.

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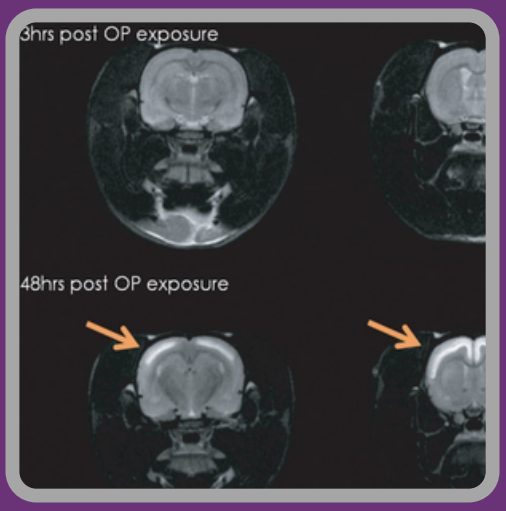
Application-Oriented Imaging

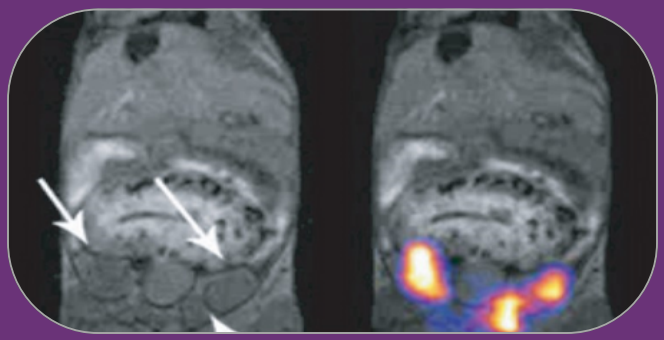
Molecular Imaging Using Contrast Agents

Detection and quantification of cellular activity targeted and enhanced with contrast agents.



Neurobiology

I*n vivo* anatomical imaging of the brain, spine and spinal cord for assessment and follow-up of neurologically based diseases.



Multi-Modality Imaging

Easy registration with other modalities such as Optical, PET, SPECT and CT to enable powerful multi-modality phenotyping.

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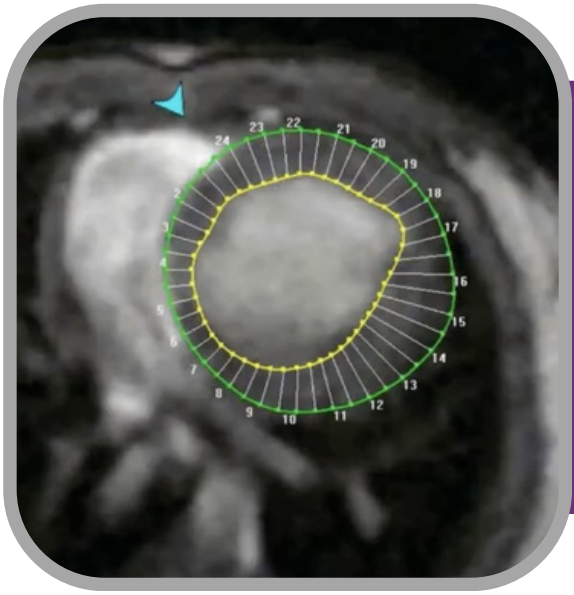
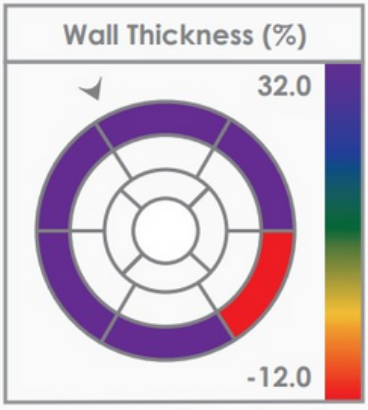
Application-Oriented Imaging

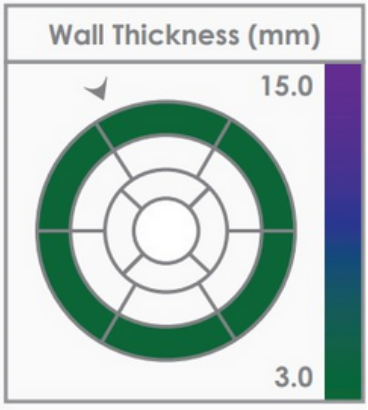


Cardiovascular

Quality *in vivo* imaging enables the detection, monitoring and analysis of cardiovascular metabolism, disease progression, genetic alteration and pharmacological intervention.

Measure Name	LV	RV
ED Volume	0.0208 ml	NA
ES Volume	0.0088 ml	NA
Stroke Volume	0.0119 ml	NA
EF	57.51%	NA
ED Mass	0.0234 g	NA
ES Mass	0.0229 g	NA





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