The in-house dedicated Vet MRI
Welcome to the world of Vet-MR

The Innovation in imaging Pets:

> Why Vet-MR
> Vet-MR: the reasons for success
> Easy MRI

With more than twenty years of experience in MRI, Esaote, the leading international corporation of diagnostic imaging, presents Vet-MR, an MRI system uniquely designed to bring the diagnostic excellence into the Veterinary world.

Vet-MR, which is specifically suitable for imaging small animals, is the result of attention to details in designing magnet, coils and electronic components, merging in a high performance MRI system capable of providing high quality MRI to your fingertips also thanks to its remarkable cost effectiveness and ease of use.
Welcome

The in-house dedicated Vet MRI
Why Vet-MR

Today MRI is the preferred modality for imaging soft tissue particularly trauma and pathologies of the central nervous system and joints. The specific features of Vet-MR make available this imaging modality for the veterinary field.

> In house MRI

The advantage of Vet-MR is the convenience of having a fully customized system in your practice.

With Vet-MR there is no need to rely on outside MR providers, allowing you to improve your workflow while providing your customers with excellent diagnostic capabilities and follow-up that suit the animal’s needs.

Vet-MR can be easily installed in a small room, thanks to a specially designed shielding cage that makes Vet-MR an in office MRI.

> Superb soft tissue visualization

MRI is recognized to be the method of choice for soft tissue imaging. Vet-MR include a complete set of receiving coils providing high image quality for the different anatomic areas. Our dedicated coils are tailored to specific anatomy for the best image quality.
Epagneul Breton, male, 5 y old. Clinical signs: altered mental status, tetraparesis, multiple cranial nerve deficits
a) SE T2 weighted transverse image (TR 3000 TE 90, slice thickness 3.5 mm)
b) SE T2 weighted sagittal image (TR 3000 TE 90, slice thickness 3.5 mm)
c) SE T1 weighted transverse image (TR 600 TE 18, slice thickness 4 mm) after contrast administration Bacterial meningoencephalitis

Dog, cross-breed, 6 y old. Clinical signs: neck pain.

German Shepherd, female, 7 y old. Clinical signs: hypermetria, tetraparesis
a) SE T2 weighted transverse image (TR 3000 TE 90, slice thickness 5 mm)
b) SE T1 weighted transverse image (TR 600 TE 18, slice thickness 4 mm) after contrast administration Posterior fossa meningioma

c) SE T1 weighted sagittal image (TR 600 TE 18, slice thickness 4.5 mm) C5-C6 disk extrusion with spinal cord and right nerve root compression

Dobermann, female, 5 y old. Clinical signs: neck pain, ataxia on four limbs.

a) and b) HRSE T1 weighted (TR 640 TE 26, slice thickness 4 mm) C5-C6 disk extrusion with spinal cord and right nerve root compression
8-year-old, castrated, miniature pinscher with seizures for 6 months. The seizures were responsive to phenobarbital therapy but recently have gotten worse. MRI Conclusion: Based on the MRI signs, the prioritized differential diagnosis for the caudal lesion includes a neoplasm arising from the brain parenchyma, ependyma or choroid plexus with or without adjacent edema and less likely an inflammatory lesion (granuloma or infection). The prioritized differential diagnosis for the rostral lesion includes cerebral edema or a low-grade glioma.

German Shepherd, male, 6 y old. Clinical signs: Lumbosacral pain
a) SE T1 weighted sagittal image (TR 640 TE 26, slice thickness 4.0 mm) Disk protrusion L6/L7 (mild) and L7-S1
b) SE T1 weighted transverse image (TR 640 TE 26, slice thickness 4.0 mm)
c) SE T2 weighted transverse image (TR 2000 TE 80 slice thickness 4 mm)
d) SE STIR dorsal image (TR 1300 TE 25 TI 75 slice thickness 4 mm) Synovial cell neoplasia

9-year-old, castrated, Brittany Spaniel with tenesmus for 2 weeks. MRI Conclusion: The clinical signs are attributed to the mass. The mass appears to be surgically accessible using an abdominal approach. The primary differential diagnosis for the mass is a neoplasm (e.g., leiomyoma) of the colon wall.
Vet-MR: the reasons for success

> Smart investment
Vet-MR has a maintenance free permanent magnet, no special cooling systems are required and power consumption is only 1kw enabling to be run from a standard power outlet.
The total operating costs of Vet-MR are very low thanks to its easy siting, minimal running costs and the limited initial investment.

> Shaped to meet Veterinary needs
Thanks to the open design, the animal’s handling is extremely easy, and the operator gets familiar with the use after a short training on site.
The Windows operator interface allows also an intuitive approach for the operator and it features appropriate vet terms.

Through our worldwide network of clinics we guarantee quality applications for every customer
Easy MRI

> Dedicated software
Vet-MR speaks the veterinary language. The system has been developed in close collaboration with veterinary doctors, in fact it features correct vet terminology and image orientation, that together with an appropriate patient set up scheme yield an easy exam management flow.

> Full connectivity
Vet-MR is fully DICOM and offers smart solutions for connectivity and teleradiology, featuring the standard Dicom classes.

> Service on line
The remote service program Aras Win, specially developed for the Esaote MRI systems, enables service technicians to directly connect to any Esaote MRI unit for immediate check-up and troubleshooting.
> Real Time positioning
Pet positioning is extremely fast by using the real time feature that continuously visualizes the anatomy location (MRI fluoroscopy); afterwards a localizer (scout) scan is performed contemporarily in the three orthogonal directions.

> Pet monitoring
With Vet-MR ease of monitoring and accessibility to the patient reduces risk during the exam; furthermore, the specific design of Vet-MR allows for use of existing anesthesia equipment.

> Examination
Vet-MR provides a wide range of preprogrammed protocols that are optimized for Vet purpose and tested at research sites, but it offers also the possibility to create customized protocols, according to specific clinical needs.
**Vet-MR Site Requirements**

Minimum space requirements:
- 18 m² footprint - 15' x 15'
- 2.4 m ceiling height

Total unit weight: 2250 kg (shielding cage excluded)
- Shielding cage weight: 500 kg

Temperature:
- 20 to 26 °C
- ± 3 °C / hour max
  - max power 1.0 kW - standby 0.2 kW
  - Voltage: 100 V, 110 V, 200 V, 220 V, 230 V, 240 V
  - Frequency: 50/60 Hz

**Magnetic Unit**

- Magnet Type: open, permanent
- Magnetic Field: 0.2 T, vertical
- Open design with patient access from three sides
- Inner opening: 24 cm - Outer opening: 30 cm
- Stray field: 0.5 mT line max 150 cm from magnet isocentre

**Gradient System**

- Gradient Strength: ± 20 mT/m
- Rise Time: 0.8 msec (0 to 99 %)
- Slew Rate: 25 mT/m/ms

**Patient Table**

- Patient table can rotate and slide into the magnet
- Maximum patient weight: 200 kg

**Console**

- Main PC and control unit - Electronics and signal processors - Keyboard and mouse
- High resolution – high contrast color monitor – 19” – real flat

**Processing System**

- PC based computer with separate Digital Signal Processor for data elaboration
  - Operating System: Windows® 2000 Professional
  - Storage capacity: over 130,000 images

**Storing System**

- External SCU CD writer - CD 700 MB
- Magneto-optical disc drive - MO up to 1.1 GB

**RF System and Coils**

- Solid state RF amplifier
- Automatic receiving coil recognition
- Pre amplifier integrated in all receiving coils
- Full set of receiving coils tailored to all relevant anatomical areas

**User Interface and software**

- Windows® modality interface
- Pre-defined sequences and protocols
- User’s customized protocols

**Acquisition Sequences**

- Scout view
- Spin Echo - Turbo Spin Echo - Multi Echo - Turbo Multi Echo
- Spin Echo Half Echo - Spin Echo Half Scan - Gradient Echo
- Fast Field Attenuation Inversion Recovery
- Gradient Echo - Turbo Spin Echo

**Imaging Capabilities**

- Real Time positioning tool
- 3D and 3D acquisition
- Scan Planes:
  - Sagittal, transverse, coronal, oblique and double oblique
  - in acquisition: from 100 to 300 mm
  - Visualized VOI: 140 mm
- Minumum slice thickness: 2.0 mm
- Maximum slice number: 96
- Matrix: up to 512 x 512

**Networking**

- Full DICOM® capability:
  - sending/receiving images (Storage SCU/SCP) – “autosend” functionality included
  - exporting images on removable media in dicomdir modality (Media Exchange)
  - DICOM® printing (Print Management SCU)
  - Worklist modality (Modality Worklist Management SCU)
- Easy connection to PACS and workstations
- Easy PC connection with Esa-View

**Printing**

- Analog Printing - electrical connection
- Digital Printing - DICOM® Printing
- Optical connection (optional)

**Technical Support**

- Remote service for prompt technical assistance
- Automatic self check

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Specifications subject to change without notice

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