



PET InLine

- Sequential High-Field PET/MR Imaging

Highest Molecular Sensitivity Combined with Excellent MRI Contrast and Resolution

The new PET Inline Module with unique Bruker PET technology can now be added to all high-field MRI systems for unsurpassed PET and MRI imaging performance. Unlimited applications are now possible without compromise, enabling top-level *in-vivo* preclinical imaging research.

Featuring homogeneous, high-resolution and quantitative PET imaging together with a high-precision motorized animal transport system in one fully integrated software user interface.

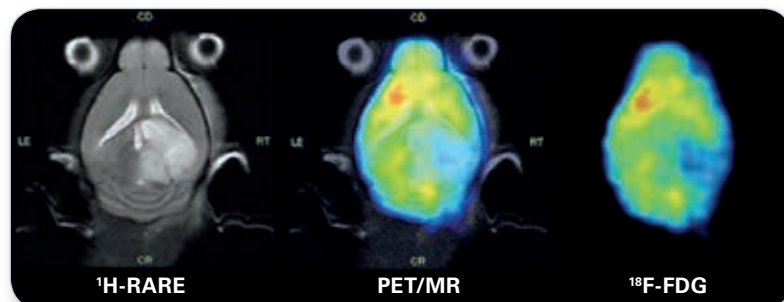
Key Benefits

- Inline PET can be integrated into almost all existing horizontal bore MRI instruments.*
- Large PET FOV of 80 mm diameter; 150 mm in a single acquisition.
- High countrate quantitated performance.
- SiPM full field accuracy PET, with spatial resolution of up to 0.7 mm and 12% sensitivity.
- Respiration and ECG monitoring and gating. Temperature monitoring and control.

Multimodal System

- One single user interface for PET/MR workflows and databases.*
- Full field accuracy PET quantification with attenuation correction based on MRI attenuation maps.
- Accurate animal positioning with motorized animal handling system.
- Touchscreen operation by gloved hands.
- Single click, automatic, connected animal bed for mice and rats, including anaesthesia mask and electrical connections to all physiological sensors.

**Contact your local Bruker representative for details*



Courtesy of Dr. Uwe Himmelreich, Dr. Willy Gsel, Dr. Cindy Casteels, Molecular Small Animal Imaging Center (MoSAIC), University hospital of Leuven, Belgium. Measured with the PET/MR Inline.



Touch screen operated motorized animal handling system .

● More than the sum of its parts

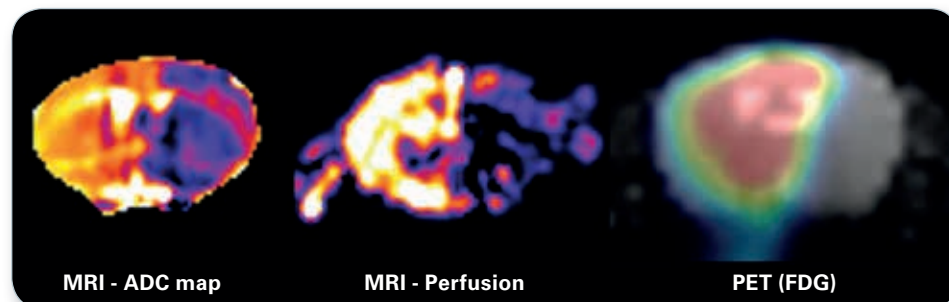
Two best in class imaging technologies combined in one instrument. Benefit from synergies and perform preclinical research and applications far beyond the sum of the individual modalities.

PET Features

- Patented continuous LYSO crystals, unrestrained by discrete layers and high resolution depth-of-interaction technology enable precise 3D localization of events. This precise event localization overcomes the degradation of spatial resolution when moving out of the center of the PET Field-of-View.
- Consistent and reproducible tracer quantification within the entire FOV, regardless of object size, position and activity is enabled by the homogeneous spatial resolution in combination with high performance SiPM based readout electronics.
- Exceptional count rate performance combined with 12% sensitivity for dynamic and gated studies for high temporal resolution and superior image quality.

Combined PET/MR Possibilities

- PET Module compatible with existing BioSpec and Agilent MRI systems. Fully integrated software interface for controlling both modalities, with integrated workflows and scan programs.
- Fully automatic high-precision PET/MR image co-registration.
- Ultra-fast 4 x GPU reconstruction. Advanced mode allows full control of frame definitions, voxel size and PET corrections.
- Includes PMOD®, the standard software platform for advanced image analysis and kinetic modelling.



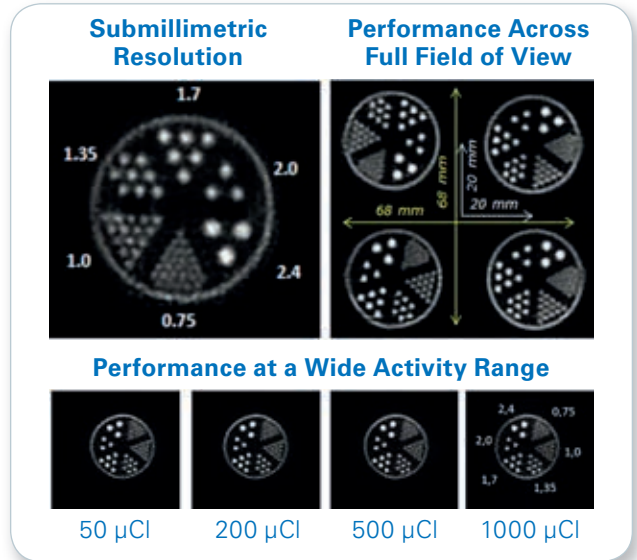
Brain stroke model. Conventionally ischemic penumbra is determined based on perfusion/diffusion mismatch. PET FDG enables mapping of the metabolism. Courtesy of Anke Wouters, Antina De Boer and Robin Lemmens, Molecular Small Animal Imaging Center (MoSAIC), University hospital of Leuven, Belgium.

Technical Specification

PET Imaging

Specifications	
FOV axial	148/300** mm
FOV transaxial	80 mm
Spatial resolution	up to 0.7 mm
Sensitivity	12%
Average energy resolution	17%
NEMA Standards	
NECR rat @ 10 MBq	> 150 kcps
NECR rat @ 43 MBq	330 kcps
Max NECR mouse @ 10 MBq	> 150 kcps
Max NECR mouse @ 43 MBq	560 kcps
Spatial resolution	better than 1.2 mm
Sensitivity (50% energy window)	9%

*** using automatic multi-position imaging*



Dimensions and Site Requirements



Mains: 230 V ~50/60 Hz 10A
 Weight: 220 kg
 Compressed air: 250 l/min @ 3 bar
 Temperature: 20 – 22 °C

Bruker BioSpin

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