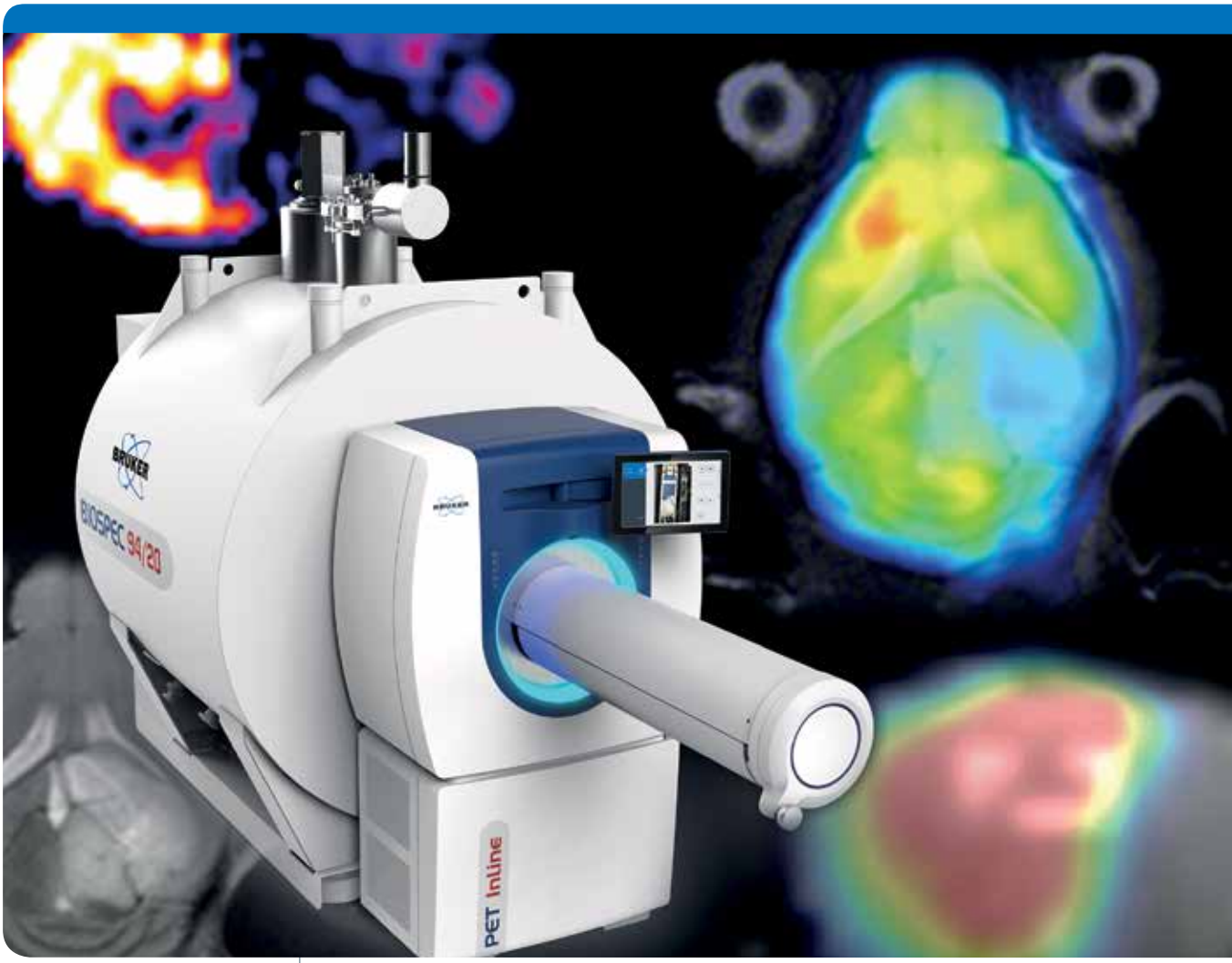


PET Inline

- Sequential High-Field PET/MR Imaging

Preclinical Imaging

Innovation with Integrity

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 comprise, enabling top-level *in-vivo* preclinical imaging research.

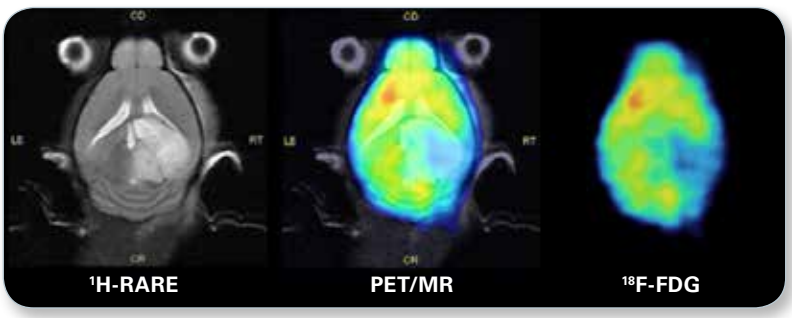
Featuring homogeneous, high-resolution and quantitative PET imaging together with a high-precision motorized animal transport system in one fully integrated software user interface.

Key Benefits

- Uncompromised PET quantification across the entire large Field-of-View of 80 x 148 mm
- Shortest PET scan times by highest sensitivity
- Exceptional PET count rate for short-lived isotopes
- Optimized access to animal for kinetic PET tracer studies
- Multi-parametric MRI imaging with excellent tissue contrast for better PET quantification
- MRI based attenuation maps

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.



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.

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.

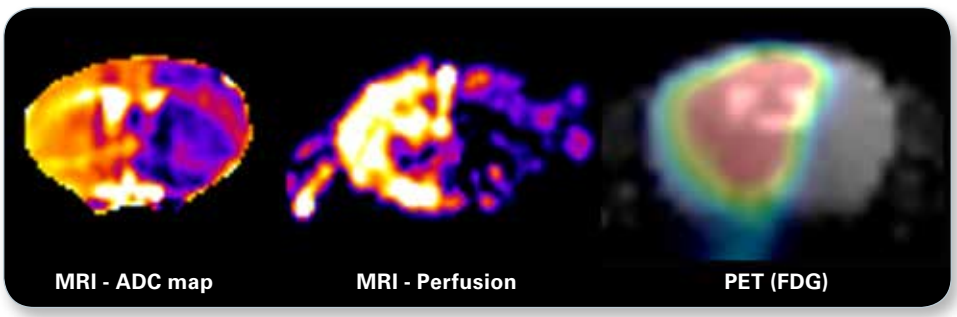
PET Features

- 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

- Inline PET can be integrated into almost all existing horizontal bore MRI instruments
- Compatible with existing BioSpec and Agilent MRI systems *
- Fully integrated software interface for controlling both modalities, with integrated workflows and scan programs.
- Fully automatic PET/MR image co-registration and image fusion.
- Advanced mode PET image reconstruction allows full control of frame definitions, voxel size and PET corrections.
- Ultra-fast 4 x GPU reconstruction
- Fail-safe RAID 5 storage system with optional diskspace extension
- Optional use of PMOD® software for specific image analysis packages kinetic modelling.

**Contact your local Bruker representative for details*



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.

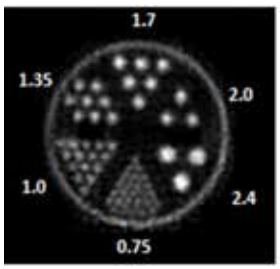
Technical Specification

PET Imaging

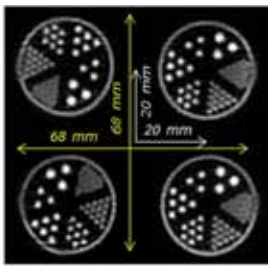
Specifications	
FOV axial	148/300** mm
FOV transaxial	80 mm
Spatial resolution	up to 0.7 mm
Sensitivity	12%
Average energy resolution	17%
NEMA Standards	
NECR rat @ 10 MBq	> 150 kcps
NECR rat @ 43 MBq	330 kcps
Max NECR mouse @ 10 MBq	> 150 kcps
Max NECR mouse @ 43 MBq	560 kcps
Spatial resolution	better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

*** using automatic multi-position imaging*

Submillimetric Resolution



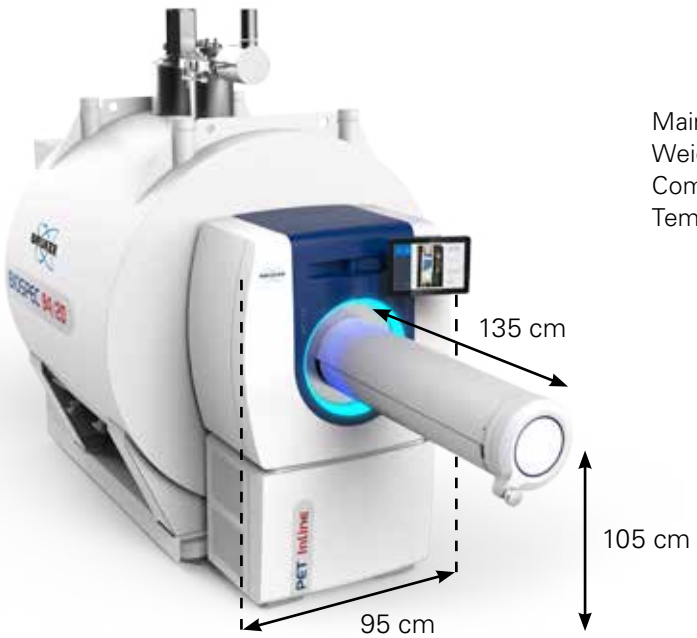
Performance Across Full Field of View



Performance at a Wide Activity Range

50 µCi 200 µCi 500 µCi 1000 µCi

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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