

B. Braun SpaceStation MRI

Using Space infusion pumps safely
in MRI environments



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Magnetic Resonance Imaging (MRI) has become an indispensable and integral part of medical diagnostics. However, medical devices and specifically the infusion pumps used in the MRI suite, for example to anesthetize small children and deliver critical infusions to polytrauma patients, can pose major challenges to hospitals and nursing staff.

MRI scanners emit strong magnetic fields that can cause functional disturbances and sometimes even permanently damage medical devices. Infusion pumps contain electronic and mechanical components that can be affected by electromagnetic fields. Likewise, the electromagnetic interference created by the pumps can negatively affect the image quality of the MR images.

To make infusion pumps suitable for operation during MRI applications, they must be set up at a safe distance from the imager. Oftentimes, the only alternative is to use expensive MR-compatible peristaltic pumps with special disposables or to use extra-long infusion lines, which means the loss of infusion quality.





Standard infusion pumps for special applications

The SpaceStation MRI closes this technology gap by letting doctors and staff working with Space infusion pumps in every hospital setting.

SpaceStation MRI shields the pumps against magnetic fields and thereby ensures interference-free images. Gone are the days of long infusion lines and complicated and time-consuming upgrades to special MRI-compatible infusion pumps. Interruptions and delays in the infusion have also become a thing of the past.

Now, when Space infusion pumps are used, special treatments like PCA and TCI can be given during MRI examinations. Through the combination with other MR-compatible devices like ECG monitoring, drugs can be delivered without risk, even to intensive-care patients while they are being imaged.

User benefits

- Very low added investment required
- No unnecessary or time-consuming upgrading to special infusion pumps
- Standard infusion lines can be used
- Safe operation thanks to the integrated "navigation assistant" Tesla^{SPY}®
- Operation with up to four infusion pumps and infusion syringe pumps possible
- Extended therapeutic options with PCA and TCI
- Data communication is an integrateable option*

Tesla^{Spy}®

Automated Infusion Systems



Tesla^{Spy}®, is your integrated navigation assistant within the invisible magnetic field. Tesla^{Spy}® lets you position the infusion pumps as closely and safely to the patient as possible. Tesla^{Spy}® tells you whether the pumps are operating in a safe range or signals if their location is hazardous. Tesla^{Spy}® continually monitors the effects the magnetic field has on SpaceStation MRI. This helps prevent any long-term damage to pumps or SpaceStation MRI.

Automated Infusion Systems

Close the gap

- There's no need for complicated, time-consuming upgrading of infusion equipment to special pumps. Accompanying pumps from the ICU can be integrated into the SpaceStation MRI.
- The network option enables data transfer to electronic medical records.*

Enhance safety

- SpaceStation MRI protects the sensitive technology, does not interfere with the imaging procedure and protects infusion equipment from the imager's strong magnetic fields.
- The Tesla^{SPY}® integrated navigation assistant enables staff to position the SpaceStation MRI safely and easily
- Use SpaceCom in combination with SpaceOnline, the integrated Web-Viewer, and you will always have all infusion pumps in full view.

Get more flexible

- Up to 4 infusion pumps can be operated in the SpaceStation MRI. Special applications like TIVA and PCA are now possible.
- The combination of infusion equipment and MR-shielded patient monitoring offers a space-saving solution in tightly spaced MR suites.
- SpaceStation MRI together with battery-operated infusion pumps creates more free space.

Secure investments

- Magnetic overloading from the MR scanner can go unnoticed, but cause long-term damage to equipment. Tesla^{SPY}® protects equipment against invisible interference.
- The use of expensive disposables is unnecessary. Standard infusion lines and accessories for the infusion therapy are all that are required.

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Automated Infusion Systems

Product Specifications

- Shielded aluminum housing (RAL 9002)
- Dimensions: HxWxD: 375 mm x 450 mm x 311 mm without trolley
- Dimensions: HxWxD: 1350 mm x 656 mm x 600 mm when mounted on trolley
- Weight: 11 kg without pumps
- Can be used with up to four Space infusion pumps Perfusor® or Infusomat®
- Can optionally be operated with SpaceCom for data communication with SpaceOnline or a PDMS*
- Protection rating I
- IP21
- IEC 60601 ff
- Voltage: 100...240V 50/60Hz, 110V 0.46A / 220V 0.23A
- SpaceStation MRI can be battery-operated for up to 6 hours
- Trolley can be extended to for assembly with an MRI-compatible patient monitor

Tesla^{spy}®

- Continually monitors magnetic field strength
- Triggers an optical and acoustic alarm when maximum allowable magnetic field strength is exceeded
- Long-life battery operation for up to 15 months
- Real-time clock
- Results are stored whenever maximum allowable field strength is exceeded
- Service technicians can retrieve data from non-volatile memory

* available not before Q2/2008

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