7 MR Suite Magnetic Field Specifications

7.1 Magnetic Fringe Field

The following illustrations show the static magnet isogauss plot lines for a 3.0T G3 magnet. This information must be used to evaluate potential site interaction with internal and external magnetic fields, magnetic materials on the site, and to locate personnel and equipment within the site.

The 5 gauss line can expand to 24.61 ft (7.5 m) axially and 19.68 ft (6.0 m) radially for up to 100 seconds in the rare event of a quench.

These isogauss plots show an idealized magnetic field relative to magnet isocenter. The actual field strength can be affected by any of the following:

- Magnetic shielding
- Earth's magnetic field
- Other magnetic fields
- Stationary or moving metal







Illustration 2-6: Magnetic Fringe Field Top View



Illustration 2-7: Magnetic Fringe Field Front View

7.2 Interference from Changing Magnetic Fields

Metal objects moving within the magnet sensitivity lines can produce a field disturbance during clinical imaging. If the metal object is moving it will produce a fluctuating dipole type of field which cause image artifacts. As an example, a car driven inside the moving metal line will act as a dipole and produce a time varying field which change the magnet's main field during the imaging time. The same vehicle may park within the moving metal line and remain parked during clinical scanning without impact to the main field. See Illustration 2-8 and Illustration 2-9.



Illustration 2-8: Magnet Moving Metal Sensitivity Line Plot (Top View)

Illustration 2-9: Magnet Moving Metal Sensitivity Line Plot (Side View)

